

# Comprehensive Annual Financial Report

South Carolina Retirement Systems  
For the fiscal year ended June 30, 2017  
Pension trust funds of the State of South Carolina



*Serving those who serve South Carolina*

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# **Introductory Section**



## **LETTER OF TRANSMITTAL**

December 8, 2017

The Honorable Henry D. McMaster, Governor  
State of South Carolina  
Members of the S.C. State Fiscal Accountability Authority  
S.C. Public Employee Benefit Authority Board

We are pleased to present the *Comprehensive Annual Financial Report (CAFR)* of the South Carolina Retirement Systems (Systems) as administered by the South Carolina Public Employee Benefit Authority (PEBA), for the fiscal year ended June 30, 2017. Section 9-1-300 of the South Carolina Code of Laws requires that a report be published annually showing the fiscal transactions of the Systems, and the CAFR fulfills that statutory requirement. PEBA is considered a division of the primary government of the state of South Carolina; and therefore, financial information for the Retirement Systems' trust funds is also included in the CAFR of the state of South Carolina. Responsibility for both the accuracy of the data, and the completeness and reliability of the presentation, including all disclosures, rests with the management of PEBA. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of the Systems.

The CAFR was prepared to conform to the principles of governmental accounting and reporting set forth by the Governmental Accounting Standards Board (GASB). GASB is an organization established under the Financial Accounting Foundation and establishes and approves governmental standards. GASB is recognized as the official source of generally accepted accounting principles (GAAP) for state and local governments.

Financial transactions of the Systems are reported on the accrual basis of accounting. Sufficient internal accounting controls exist to provide reasonable assurance regarding the safekeeping of assets and fair presentation of the financial statements and supporting schedules, with consideration that the cost of internal control should not exceed anticipated benefits.

The financial statements presented in this CAFR have been independently audited by CliftonLarsonAllen, LLP, under the direction of the State Auditor's Office. CliftonLarsonAllen issued an unmodified opinion, which means that, based upon the financial audit, they concluded that the financial statements were fairly presented in all material respects and are free from material misstatement, in accordance with accounting principles generally accepted in the United States of America.

In accordance with Governmental Auditing Standards, as part of obtaining reasonable assurance about whether the Systems' financial statements are free of material misstatement, CliftonLarsonAllen also considered internal controls over financial reporting and compliance with certain provisions of laws, regulations, contracts, and other matters. Although independent auditors cannot guarantee the accuracy of the statements, they do have a reasonable basis for the opinion they rendered. The independent auditor's report is presented as the first

component of the financial section of this report. Management’s Discussion and Analysis (MD&A), which can also be found in the financial section starting on page 29, provides a narrative introduction to and analysis of the financial statements. This letter of transmittal is meant to complement the MD&A and should be read in conjunction with it.

## Profile of the Systems

PEBA is responsible for administering the South Carolina Retirement Systems’ five defined benefit pension plans. A defined benefit plan is a retirement plan in which contributions are made to fund a level of retirement income at a future retirement date. Specified monthly service retirement benefits, as well as disability benefits and death benefits are provided to eligible members and/or their surviving beneficiaries. The plans’ terms specify the amount of pension benefits to be provided at a future date or after a certain period of time. Monthly benefits are specified as a function of a formula that is based on years of creditable service, average final compensation, and age. PEBA’s administrative and reporting structure is outlined in the Introductory Section of this report.

This report contains information on the following defined benefit pension trust funds:

- The South Carolina Retirement System (SCRS) was established July 1, 1945, to provide retirement and other benefits for teachers and employees of the state and its political subdivisions. SCRS covers employees of state agencies, public school districts, higher education institutions, other participating local subdivisions of government and individuals newly elected to the South Carolina General Assembly at or after the 2012 general election.
- The South Carolina Police Officers Retirement System (PORS) was established July 1, 1962, to provide retirement and other benefits to police officers and firefighters. PORS also covers peace officers, coroners, probate judges and magistrates.
- The Retirement System for Members of the General Assembly of the State of South Carolina (GARS) was established January 1, 1966, to provide retirement and other benefits to members of the General Assembly. Retirement reform legislation closed the GARS plan to individuals newly elected to the South Carolina General Assembly at or after the 2012 general election.
- The Retirement System for Judges and Solicitors of the State of South Carolina (JSRS) was established July 1, 1979, to provide retirement and other benefits to state judges and solicitors. JSRS also covers circuit public defenders.
- The South Carolina National Guard Supplemental Retirement Plan (SCNG) was established July 1, 1975, to provide supplemental retirement benefits to members who served in the South Carolina National Guard.

## Fiscal Year 2017 Highlights

Fiscal year 2017 ended PEBA’s fifth fiscal year of operations as an agency, having been created effective July 1, 2012, by the South Carolina General Assembly. The agency is governed by an 11-member Board of Directors. PEBA is responsible for administration of the various Retirement Systems and retirement programs of the state of South Carolina, including the State Optional Retirement Program and the S.C. Deferred Compensation Program, as well as the state’s employee insurance programs.

## Administrative Activities

PEBA's vision is to serve those who serve South Carolina and the agency does this by focusing efforts in areas that will provide the best service to the customer. Many technology upgrades have provided for enhanced customer experiences. Members with insurance benefits-related questions can now contact a customer service representative via our Live Chat feature, which was previously only used for retirement benefits. Employer and member portal enhancements expanded user capabilities such as electronic payments for employers submitting retirement contributions, electronic document uploads of supporting documentation and online retirement refund status updates. During the fiscal year, PEBA also purchased and implemented a new call management system, which replaced our previous 20-year-old system.

A new informational series, *Navigating Your Benefits*, was developed and launched to assist members in making insurance and retirement decisions through common-language explanations. The series offers a variety of flyers and videos. A new member e-newsletter, *pebapulse*, was implemented to provide up-to-date insurance and retirement information. With increased emphasis on retirement awareness and wellness, new communication pieces were developed to assist members and employers in making informed decisions.

In fiscal year 2017, an employee onboarding program was developed and implemented for PEBA staff. New employees receive a comprehensive review of PEBA basics through the program and then attend two classroom sessions entitled, "The PEBA Way" and also a meet-and-greet with executive staff. In addition to required information security training, an online privacy, security and safety module specific to PEBA was produced and delivered. Mandatory classroom sessions were also conducted to reinforce the significance of this growing concern.

Staff were also provided other numerous opportunities for voluntary self-development. Several online training sessions were offered and two open registration courses were offered throughout the year, including "The PEBA Way" and "Managing Conflict". A Tuition Assistance Policy was developed, implemented and made available to assist interested employees in furthering their education. In addition to regularly hosted lunch-and-learn events, employees were offered the opportunity to participate in book clubs, lunchtime fitness initiatives and other wellness events.

## Public Policy Activities

The Enterprise Risk Management (ERM) and Compliance Department has made strides to improve management of the programs that oversee PEBA's compliance with state and federal regulations as well as the monitoring of those programs. The privacy officer role was structurally reorganized under the ERM Department and a privacy officer was hired to manage PEBA's regulations related to information privacy such as HIPAA. A few of the initiatives that have been implemented include: improving PEBA's processes for internally reporting possible incidents, improving training programs for staff, completing a HIPAA risk assessment for the agency and finalizing a new privacy policy for the agency.

On April 25, 2017, Governor Henry McMaster signed into law the Retirement Funding and Administration Act of 2017, which became effective on July 1, 2017. The legislation has significant impacts on SCRS and PORS by increasing the employer and employee contribution rates, establishing a ceiling on the employee contribution rate, and requiring a scheduled reduction of the funding period. The Act also lowered the assumed rate of return and addressed various governance issues including the assignment of the PEBA Board of Directors as custodian of the retirement trust funds and assignment of the Retirement System Investment Commission (RSIC) and PEBA as co-trustees. The Joint Committee on Pension Systems Review has publicly stated that they will continue their work during fiscal year 2018. PEBA will continue to work with the Joint Committee during its evaluation.

## Operational System Improvements

PEBA continued early initiatives to replace its legacy systems. PEBA hired a project director and issued a request for proposal for a client services vendor to facilitate and support the replacement of our information systems. The client services vendor is an expert in public pension and insurance enterprise system implementation. The client services vendor will begin work in Fall 2017 by reviewing the functional and technical requirements for the new system.

The project is expected to take approximately 5 years to complete and has been named “peba:connect”.

## Summary of Financial Condition

### Actuarial Results

The main funding objective of the pension trust funds is to meet future benefit obligations of retirees and beneficiaries through employee and employer contributions and investment earnings. Each year, the external consulting actuaries determine the actuarial soundness of the plans based on long term obligations and the sufficiency of current contribution levels to fund the liabilities of each plan over a reasonable time frame.

The July 1, 2016, actuarial valuations which were adopted by the PEBA Board in December 2016, determined the actuarial status of each plan and the minimum necessary employee and employer contribution requirements for fiscal year 2017. The market value of assets is less than the actuarial value of assets, so deferred investment losses exist which will be recognized as investment losses in future years. Given both the magnitude of the deferred losses and short-term investment projections, increased funding requirements were recognized. Pension reform legislation was enacted which increases, but also establishes a ceiling for employee contribution rates. Effective July 1, 2017, employee rates increase to a capped rate of 9.00 percent for SCRS and 9.75 percent for PORS. The legislation also increases employer contribution rates effective July 1, 2017 for both SCRS and PORS by 2 percentage points to 13.56 percent and 16.24 percent, respectively. The SCRS and PORS employer contribution rates increased by more than one percentage point for Fiscal Year 2017-18; therefore, in accordance with General Provision 117.151 of the 2017-2018 Appropriations Act, funds were appropriated to PEBA to be credited toward contributions due from all participating employers in SCRS and PORS for Fiscal Year 2017-18. Employer contribution rates are scheduled to continue to increase by a minimum of 1 percentage point each year through July 1, 2022, and further, if the scheduled contributions are not sufficient to meet the funding periods set for the applicable year. The board shall increase the employer contribution rates as necessary to meet the amortization period set in statute.

The funded ratios of the five plans as of July 1, 2016, range from a low of 41.5 percent for SCNG to a high of 66.3 percent for PORS. The funded ratio for SCRS, which represents the largest membership of the five plans, decreased from 62.0 percent to 59.5 percent and similarly PORS decreased from 69.2 percent to 66.3 percent. Declines in funded ratios were primarily due to the continued recognition of deferred investment losses experienced in prior fiscal years, which are recognized in the actuarial value of assets using a modified five-year smoothing technique. The funded ratios were also impacted by increases in the liability because the contributions to the plan attributable to financing the unfunded actuarial accrued liability were less than the interest on the unfunded liability.

The funded ratio of SCNG continues to be very low because at one time, the plan was not funded on an actuarially sound basis. However, since 2006 when the General Assembly transferred administrative responsibility to the Retirement Division, their commitment to ensure the SCNG plan would be sufficiently funded prospectively has been maintained and the funded ratio has steadily improved. Each year recurring funds are set aside in the state’s annual budget to fund SCNG over an amortization period that does not exceed 30 years, so continued future improvement in the funded ratio is expected.

As of July 1, 2016, the unfunded actuarial accrued liability for SCRS increased from \$16.8 billion to \$18.6 billion and PORS increased from \$1.9 billion to \$2.2 billion. The largest source of increase was the result of continual recognition of deferred investment losses in the actuarial value of assets. Absent significant favorable investment experience, those deferred losses will continue to be reflected, or smoothed, in the actuarial value of assets over the next few years. Other non-investment related experience activity such as mortality, salary experience, payroll growth and turnover, which are considered normal within the course of plan experience, contributed to other actuarial gains and losses, as actual experience cannot be precisely predicted and will never exactly match the estimated assumptions.

Actuarial smoothing techniques, which defer investment gains and losses, help to dampen the short-term volatility inherent in investment markets by allowing only a portion of investment gains and losses to be recognized each year. Actual investment returns for fiscal year 2016 were less than the assumed rate of return. Specifically, the return documented in the 2016 valuation was negative .07 percent on a dollar-weighted basis for the plan year ending June 30, 2016 compared to a 7.50 percent assumed rate of return. Using smoothing techniques, all of the Systems recognized a net actuarial loss on investment returns for the valuation year. As of the July 1, 2016 valuation, the market value of SCRS assets was \$3.3 billion less than the actuarial value of those assets, which signifies that the retirement system is in a position of deferred losses. Therefore, unless investment returns in excess of the assumed rate of return are achieved, the future recognition of these deferred losses is expected to increase the unfunded actuarial accrued liability thus additional funding sources are scheduled per recent legislative action.

For additional financial information, refer to management's discussion and analysis, financial statements and schedules included in the financial section and the actuarial section of this report. It is important to note that the actuarial valuations determine the funding of the pension plans; however, under new standards issued by the Governmental Accounting Standards Board (GASB), Statements 67 and 68 completely disconnect the funding of pensions from the accounting and reporting of pensions.

## Investment Performance

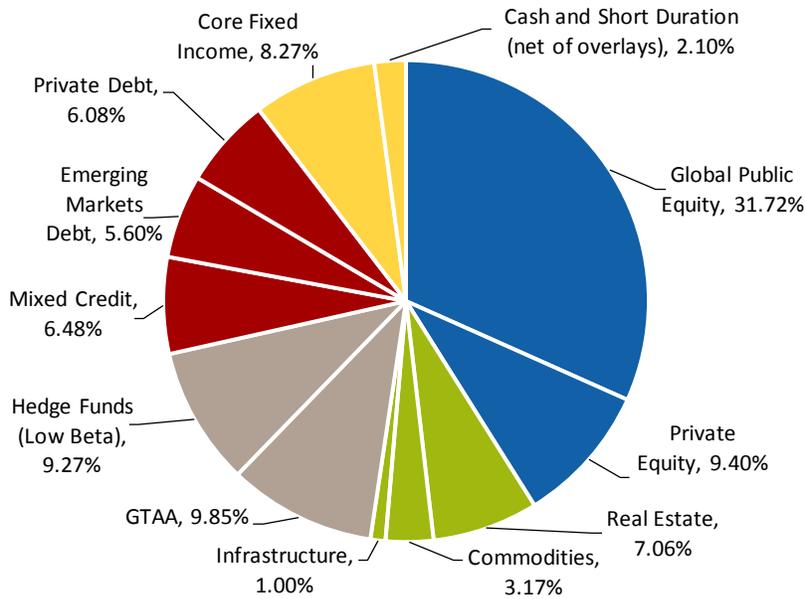
As of June 30, 2017, the custodial bank reported that assets of the pension trust funds, invested and managed by the Retirement System Investment Commission (RSIC), had a fair value of \$30.1 billion. This represents a \$2.1 billion increase, after payment of benefits, over the previous fiscal year end's fair value.

The Plans' assets returned 11.88 percent, net of fees on a time-weighted calculation basis, for the fiscal year ending June 30, 2017, compared to the Policy benchmark's return of 11.82 percent. The three year annualized net of fees return was 4.23 percent, as of the fiscal year end, compared to the Policy benchmark return of 4.49 percent. The five year Plan annualized return and Policy benchmark return were 7.50 percent and 7.11 percent respectively.

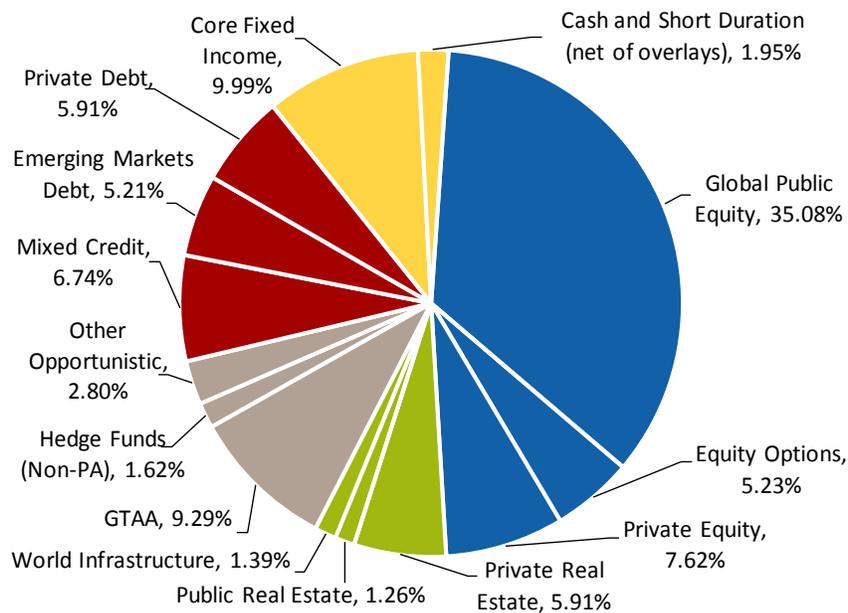
The Plan's actuarial assumed rate of return, as of fiscal year end, was 7.50 percent. Investment performance, in comparison to the actuarial assumed rate of investment return, is a significant factor in the actuarial valuations. The actuarial asset valuation method utilized dampens year-to-year fluctuations, mitigates the effect of annual return volatility in the market and helps provide a consistent estimate for the actuarial value of assets. Detailed investment results for fiscal year 2017 can be found within both the financial and investment sections of this report.

The RSIC provided the charts on pages 15-16, which summarize the asset allocation of the Retirement Systems' trust funds for the prior and most recent fiscal year periods and the RSIC's target allocation in effect as of fiscal year ended June 30, 2017. The Commission approved and implemented a series of changes to the portfolio's target asset allocation which will phase in over a three-year time period. The majority of these changes went into effect in the 2017 fiscal year. The most notable of these changes included the addition to Equity and Real Assets exposures, offset in part by reductions to Hedge Funds and Commodities. During the year, the Commission elected to pursue steeper cuts to its Hedge Fund portfolio than it had originally intended. These changes are expected to occur during Fiscal Year 2018.

## Portfolio Exposure as of June 30, 2016<sup>1</sup>



## Portfolio Exposure as of June 30, 2017<sup>1</sup>

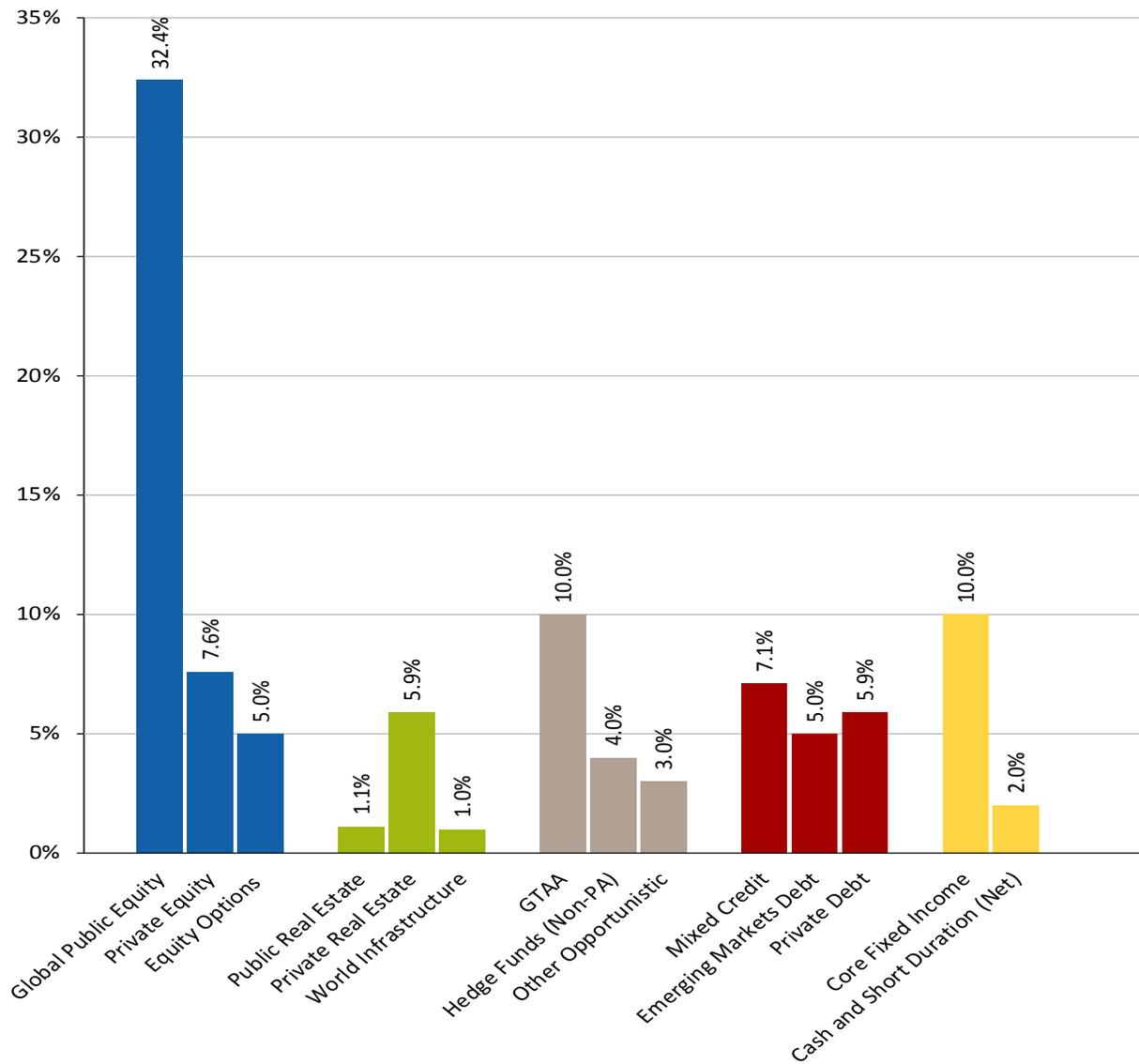


<ul style="list-style-type: none"> <li>■ <b>Global Equity</b> <ul style="list-style-type: none"> <li>Global Public Equity<sup>2</sup></li> <li>Private Equity</li> <li>Equity Options</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Real Assets</b> <ul style="list-style-type: none"> <li>Public Real Estate</li> <li>Private Real Estate</li> <li>World Infrastructure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Opportunistic</b> <ul style="list-style-type: none"> <li>GTAA</li> <li>Hedge Funds (Non-PA)<sup>2</sup></li> <li>Other Opportunistic</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Diversified Credit</b> <ul style="list-style-type: none"> <li>Mixed Credit</li> <li>Emerging Markets Debt</li> <li>Private Debt</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Conservative Fixed Income</b> <ul style="list-style-type: none"> <li>Core Fixed Income<sup>2</sup></li> <li>Cash and Short-Duration (net of overlays)</li> </ul> </li> </ul>	

<sup>1</sup>Asset class exposures include exposure from RSIC's derivative overlay program.

<sup>2</sup>Asset classes in which hedge funds can be used. Total hedge fund exposure cannot exceed 20% of total Plan assets.

## Target Asset Allocation as of June 30, 2017<sup>1</sup>



<ul style="list-style-type: none"> <li><b>Global Equity</b> <ul style="list-style-type: none"> <li>Global Public Equity<sup>2</sup></li> <li>Private Equity</li> <li>Equity Options</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>Real Assets</b> <ul style="list-style-type: none"> <li>Public Real Estate</li> <li>Private Real Estate</li> <li>World Infrastructure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>Opportunistic</b> <ul style="list-style-type: none"> <li>GTAA</li> <li>Hedge Funds (Non-PA)<sup>2</sup></li> <li>Other Opportunistic</li> </ul> </li> </ul>
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<sup>1</sup>Target Asset Allocation reflects the policy targets that were adopted by the Commission and in effect at the end of fiscal year 2017. The target weights to Private Equity, Private Debt, and Private Real Estate are equal to their actual weights, reported by the custodial bank, as of the prior month end.

<sup>2</sup>Asset classes in which hedge funds can be used. Total hedge fund exposure cannot exceed 20% of total Plan assets.

## Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the South Carolina Retirement Systems for its Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2016. This was the 30th consecutive year that the Retirement Systems has achieved this prestigious award. 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 that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to GFOA to determine its eligibility for another certificate.

## Public Pension Standards Award

The South Carolina Retirement Systems received the Public Pension Coordinating Council's Public Pension Standards Award in 2017 for the 14th consecutive year in recognition of meeting professional plan design and administration standards. The Public Pension Coordinating Council is a confederation of the National Association of State Retirement Administrators, the National Conference on Public Employee Retirement Systems, and the National Council on Teacher Retirement.

## Acknowledgments

The compilation of this report reflects the combined efforts of the staff of PEBA functioning under your leadership. The report is intended to provide comprehensive and reliable information about the Retirement Systems, to demonstrate compliance with legal provisions, and to allow for the evaluation of responsible stewardship of the trust funds of the Retirement Systems.

We express our gratitude to the members of the S.C. State Fiscal Accountability Authority, PEBA's Board of Directors, the S.C. General Assembly, the RSIC, the staff, the consultants, and the many people who have worked so diligently to assure the continued successful operation of the Retirement Systems for the members we serve.

Respectfully submitted,

  
Peggy G. Boykin, CPA  
Executive Director

  
Travis J. Turner, CPA, CISA  
Chief Financial Officer

  
Tammy B. Nichols, CPA  
Retirement Finance Director



Government Finance Officers Association

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

Presented to

**South Carolina Employee  
Benefit Authority-South Carolina  
Retirement Systems**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2016**

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award  
For Funding and Administration  
2017***

Presented to

***South Carolina Retirement Systems***

In recognition of meeting professional standards for  
plan funding and administration 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

# Governing Board and Administration as of Issuance

## S.C. Public Employee Benefit Authority Board of Directors

John A. Sowards, *Chairman*

Frank W. Fusco

Stephen M. Heisler

Sheriff Leon Lott

Steve A. Matthews

Joe W. "Rocky" Pearce, Jr.

Audie M. Penn

Charles "Chuck" Richardson

Alex Shissias

David J. Tigges

Ed Walton

## Retirement System Investment Commission<sup>1</sup>

Dr. Rebecca M. Gunnlaugsson, *Chair*

Dr. Ron P. Wilder, *Vice Chair*

Allen R. Gillespie, CFA

Edward N. Giobbe, MBA

Reynolds Williams, J.D., CFP

Peggy G. Boykin, CPA

Vacant – To be appointed by the Governor

Vacant – To be appointed by the State Treasurer

<sup>1</sup>Refer to pages 110-114 for a list of investment managers and fees.

## Custodial Bank

BNY Mellon Asset Servicing

## Investment Consultants

Meketa Investment Group

Albourne America, LLC

## Consulting Actuaries

Gabriel Roeder Smith & Company

## S.C. Public Employee Benefit Authority Executive Management

Peggy G. Boykin, CPA, *Executive Director*

Sarah Nietsch Corbett, CPA, *Chief Operating Officer*

Travis J. Turner, CPA, *Chief Financial Officer*

John E. Page, CIA, CISA, *Director of Internal Audit*

Stephen Van Camp, J.D., *General Counsel*

Gwen Bynoe, *Governmental Affairs*

Robin E. Tester, *Healthcare Policy Director*

James Manning, *Risk Management and Compliance Director*

Heather Muller, *Board Liaison*

## Retirement System Investment Commission Executive Management

Michael Hitchcock, *Chief Executive Officer*

Geoffrey Berg, CFA, *Chief Investment Officer*

Betsy Burn, *Chief Legal Officer*

Andrew Chernick, CPA, CAIA, *Chief Operating Officer*

## S.C. Public Employee Benefit Authority staff responsible for compilation of CAFR

Tammy B. Nichols, CPA, *Retirement Finance Director*

Danielle M. Quattlebaum, CPA, *Retirement Systems Finance*

Faith K. Wright, *Retirement Systems Finance*

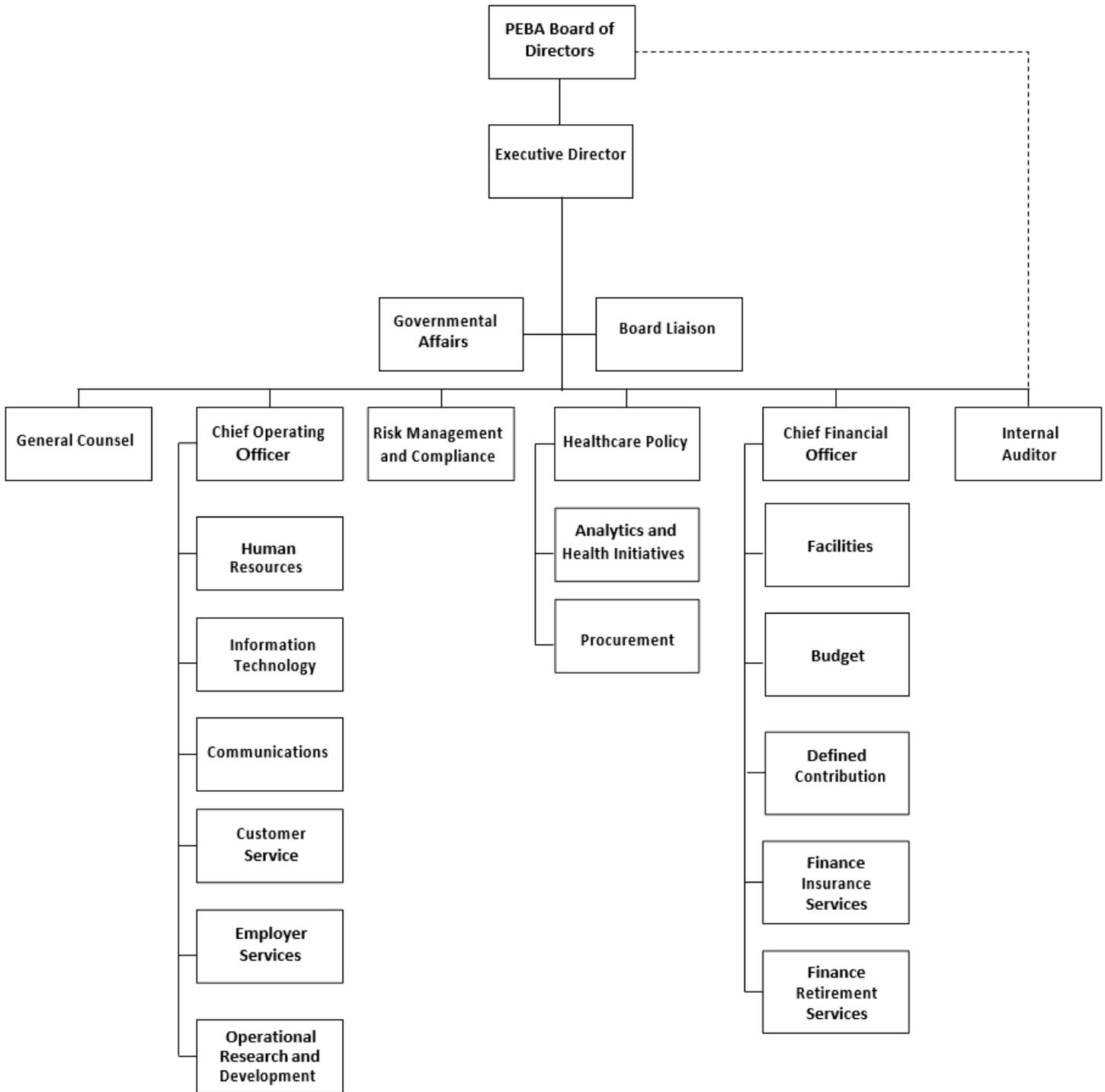
Evan Mitchell, CPA, *Retirement Systems Finance*

Megan B. Lightle, *Communications Director*

Angie Warren, *Communications Manager*

Heather H. Young, *Communications Manager*

## S.C. PEBA Organizational Chart



## Organizational Description

The structural organization of the South Carolina Public Employee Benefit Authority (PEBA) is depicted in the organizational chart on page 21. A brief description of the primary functions performed by each department follows:

### Governmental Affairs

Serves as liaison to the SC General Assembly. Provides research and assistance to legislative staff in the provisions of retirement and health benefits, both in the service of constituents and legislation governing the agency.

### General Counsel

Provides consultation to agency leadership and staff concerning the operation and compliance of governmental employee retirement and insurance benefit plans. Represents the agency in matters at the administrative, trial and appellate levels, and coordinates associated outside legal counsel.

### Chief Operating Officer

Provides leadership and oversight of internal operations and administrative functions to include customer service, employer services, information technology, communications and human resources. Directs operational research and development and the development and implementation of agency strategic plans.

### Risk Management and Compliance

Leads the agency in the development, implementation and monitoring of enterprise compliance programs and policies. Oversees information security and privacy programs. Develops and implements an enterprise risk management framework.

### Healthcare Policy

Directs healthcare policy for the public employee insurance benefits package. Oversees the research, analysis, and pricing of the State Health Plan. Directs contract and plan compliance in offering the most cost effective options while providing maximum benefit within regulatory requirements.

### Chief Financial Officer

Directs the financial activity and financial reporting of the retirement plans and insurance benefits offered to public employees. Provides oversight and leadership to the financial operations of insurance benefits and Other Post Employment Benefit trusts, five defined benefit plans, a defined contribution plan and the deferred compensation program.

### Internal Audit

Responsible to the Board of Directors for providing independent analysis and assurance of agency processes, policies and internal controls

# Financial Section





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## INDEPENDENT AUDITORS' REPORT

The Honorable Henry D. McMaster, Governor  
Mr. George L. Kennedy, CPA, State Auditor

and

Board of Directors  
South Carolina Public Employee Benefit Authority  
Columbia, South Carolina

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the South Carolina Retirement Systems (the Systems), as administered by the South Carolina Public Employee Benefit Authority, which comprise the statement of fiduciary net position as of June 30, 2017, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, as listed in the table of contents.

### **Management's Responsibility for the Financial Statements**

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

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these 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 financial position of the Systems as of June 30, 2017, and the respective changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

***Report on Summarized Comparative Information***

We have previously audited the Systems' 2016 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated October 12, 2016. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2016 is consistent, in all material respects, with the audited financial statements from which it has been derived.

***Emphasis of Matter***

The financial statements include alternative investments valued at \$8.9 billion (approximately 30% percent of total net position). As explained in Note 1, their fair values have been estimated by management in the absence of readily determinable fair values. Management's estimates are based on information provided by the fund managers or the general partners. Our opinion is not modified with respect to this matter.

***Other Matters***

***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the schedules of changes in employers' net pension liability, employers' net pension liability, employers' contributions and investment returns and related notes, as listed in the table of contents, be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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.

***Other Information***

Our audit was conducted for the purpose of forming an opinion on the Systems' financial statements. The other supplementary information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements.

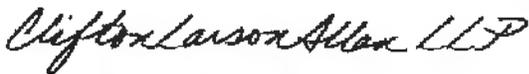
The other supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing

standards generally accepted in the United States of America. In our opinion, the other supplementary information is fairly stated, in all material respects, in relation to the financial statements as a whole.

The introductory, investment, actuarial and statistical sections, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the 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 October 13, 2017 on our consideration of the Systems' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the South Carolina Retirement Systems' 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 Systems' internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland

October 13, 2017

This page contains no other content.

# Management's Discussion and Analysis

This section presents management's discussion and analysis of the financial position and performance for the year ended June 30, 2017, for the South Carolina Retirement Systems' pension trust funds (Systems), and is offered as an introduction and analytical overview. This narrative is intended as a supplement and should be read in conjunction with the financial statements and other information presented in the *Comprehensive Annual Financial Report*.

The Systems' financial statements provide information about the activities of the five defined benefit pension plans administered, which are listed below, in addition to comparative summary information about the activities of the Systems as a whole:

- South Carolina Retirement System (SCRS) - A member contributory multiple-employer plan covering teachers, as well as state and municipal employees;
- Police Officers Retirement System (PORS) - A member contributory multiple-employer plan covering state and local law enforcement personnel and firefighters;
- The Retirement System for Members of the General Assembly (GARS) - A member contributory plan providing benefits to members of the South Carolina General Assembly, which is closed to persons first elected to the South Carolina General Assembly at or after the general election in November 2012;
- The Retirement System for Judges and Solicitors (JSRS) - A member contributory plan covering Judges, Solicitors, Public Defenders and Administrative Law Judges; and
- South Carolina National Guard Supplemental Retirement Plan (SCNG) - A non-contributory supplemental benefit plan for members of the South Carolina National Guard.

## Overview of the Financial Statements

The Systems represents the collective retirement funds that are held in a group trust for the plans and are protected by the state's constitution. PEBA, which was created July 1, 2012, administers the various retirement systems and retirement programs managed by its Retirement Division. PEBA has an 11-member Board of Directors, appointed by the Governor and General Assembly leadership, which serves as co-trustee and co-fiduciary of the systems and the trust funds. By law, the State Fiscal Accountability Authority (SFAA), which consists of five elected officials, also reviews certain PEBA Board decisions regarding the funding of the Systems and serves as a co-trustee of the Systems in conducting that review. Effective on July 1, 2017, the Retirement System Funding and Administration Act of 2017 assigned the PEBA Board of Directors as the Custodian of the Retirement Trust Funds and assigned SC PEBA and the Retirement Systems Investment Commission (RSIC) as co-trustees of the Retirement Trust Funds.

PEBA is considered a division of the primary government of the state of South Carolina and therefore, retirement trust fund financial information is also included in the comprehensive annual financial report of the state. Financial statements prepared on behalf of the Systems, include the following information, for the fiscal year ended June 30, 2017, with combined total comparative information for the fiscal year ended June 30, 2016:

- Statement of Fiduciary Net Position
- Statement of Changes in Fiduciary Net Position
- Notes to the Financial Statements
- Required Supplementary Information
- Other Supplementary Information

The Statement of Fiduciary Net Position presents the Systems' assets and liabilities and the resulting net position restricted for pensions. This statement reflects a year-end snapshot of the Systems' investments, at fair value, along with cash and short-term investments, receivables and other assets and liabilities.

The Statement of Changes in Fiduciary Net Position presents information showing how the Systems' net positions restricted for pensions changed during the year. This statement includes additions for contributions by members and employers and investment earnings (losses) and deductions for retirement benefit payments, refunded contributions, death benefit payments and administrative expenses.

Notes to the Financial Statements are an integral part of the basic financial statements and provide additional information that is necessary in order to gain a comprehensive understanding of data reported in the basic financial statements.

Required Supplementary Information presents schedules pertaining to the employers' net pension liability, changes in employers' net pension liability, employers' contributions, and the money-weighted rate of return on investments. These schedules are intended to provide additional information useful in evaluating the condition of the systems.

Other Supplementary Information includes Schedules of Changes in Fiduciary Net Position by System, as well as Schedules of Administrative Expenses, Professional and Consultant Fees and Investment Fees and Expenses.

## Financial Highlights

- On April 25, 2017, Governor Henry McMaster signed into law the Retirement Funding and Administration Act of 2017 which became effective on July 1, 2017. This legislation increased the employer and employee contribution rates, established a ceiling on the employee contribution rate, lowered the assumed rate of return, required a scheduled reduction of the funding period, and addressed various governance issues including the assignment of the PEBA Board as custodian of the retirement trust funds and assignment of the Retirement System Investment Commission (RSIC) and PEBA as co-trustees. Additional information regarding this legislation is available on our public website.
- Total fiduciary net position for all five defined benefit plans of the Systems combined, increased by \$2.15 billion, which was nearly 8 percent from the prior fiscal year ended June 30, 2016. The net position of the plans is impacted by contributions paid into the plans, investment performance, and benefit payments out of the system. It is important to note that growth in fiduciary net position depends on both investment performance and contributions from employers and employees. The plans are in a net cash outflow position with benefit payments exceeding contributions; therefore, investment performance must first make up this gap before fiduciary net position can grow. The increase in net position from \$28.1 billion to \$30.2 billion was primarily attributable to positive investment performance.
- For the fiscal year ended June 30, 2017, the net of fee investment performance return on a time-weighted basis reported by the custodial bank, the Bank of New York Mellon (BNYM), was 11.88 percent. This net return reflects performance of the Systems, at the aggregate for the pooled investments of the consolidated pension trust funds, after the deduction for manager fees and/or expenses. This fiscal year's performance was well above the prior year's return of negative 0.39 percent and is considered an actuarial gain since it was more than the 7.50 percent actuarial investment rate of return assumed for the plans. The recent pension legislation lowers the assumed rate of return to 7.25 percent effective July 1, 2017. Actuarial valuations are prepared for each of the plans annually for funding purposes, at which time gains and losses from investment performance are recognized using

smoothing methods that help mitigate sharply fluctuating market returns over a long-term period. The smoothing methodology offsets both deferred investment gains and losses against each other and is intended to produce an actuarial asset value that should be fairly consistent with market value during periods of ordinary investment returns. Smoothing investment performance avoids overreaction to inherently volatile conditions that would otherwise overweight the effects of a single year of performance that may potentially be reversed in subsequent years. Actuarial smoothing is intended to result in more stable contribution rates and a more level funded status, and is also a valuable methodology for governmental entities because it permits participating employers to plan their budgets over more than one fiscal year.

- The increase in the dollar amount of employee and employer contributions collected compared to the prior year, is largely attributable to increased contribution rates. Effective July 1, 2016 employee and employer contribution rates for both SCRS and PORS increased by 0.50 percent of pay. This resulted in SCRS employee and employer rates increasing to 8.66 percent and 11.56 percent, respectively, and similarly, the employee and employer contribution rates for PORS increased to 9.24 percent and 14.24 percent. These employer rates are inclusive of contributions for the death benefit plan which are only applicable to participating employers. Pension reform legislation again increases, but also established a ceiling for employee contribution rates. Effective July 1, 2017, employee rates will increase to a capped rate of 9.00 percent for SCRS and 9.75 percent for PORS. The legislation also increases employer contribution rates effective July 1, 2017 for both SCRS and PORS by 2 percentage points to 13.56 percent and 16.24 percent, respectively. Employer contribution rates are scheduled to continue to increase by a minimum of 1 percentage point each year through July 1, 2022, and further, if the scheduled contributions are not sufficient to meet the funding periods set for the applicable year. The board shall increase the employer contribution rates as necessary to meet the amortization period set in statute.
- Annuity benefits increased 8.4 percent from the prior fiscal year. The total number of retired members and beneficiaries receiving monthly retirement benefits from the Systems increased from approximately 161,000 to nearly 164,000 annuitants during the year. Additionally, monthly benefits increased because eligible SCRS and PORS annuitant payees received an annual benefit adjustment equal to the lesser of 1 percent or \$500 on July 1, 2016. Lastly, the largest effect was the surge in the amount of distributions paid to members ending their participation in the Teacher and Employee Retention Incentive (TERI) program which produced an increase of nearly \$138 million in annuity benefits paid in the form of TERI distributions.
- TERI is a deferred retirement option program under SCRS that allows retired members to accumulate annuity benefits on a deferred basis for up to 60 months while continuing employment. Legislation enacted in 2012 closes the TERI program to all participants effective June 30, 2018, so some SCRS members may not be eligible to participate in TERI for the full 60 months. Current TERI participants are required to pay the same pre-tax member contribution rate on compensation earned, in the same manner as active members. TERI participants do not earn additional service credit or interest on their TERI account but are eligible to receive benefit increases in the same manner as other annuitant payees. At the end of the member's TERI participation and upon termination from employment, funds are distributed from the member's accumulated TERI account. The number of members actively participating in TERI decreased from 8,922 at fiscal year-end 2016 to 7,210 at fiscal year-end 2017. There was a decrease in the overall number of members participating in the program at year-end compared to the prior year, which caused a spike in the number of distributions paid as well as an increase in the liability for deferred retirement benefits payable at June 30, 2017. The increase of almost 33 percent occurred because there was a higher volume of TERI distributions payable at fiscal year-end.

- The Systems' investment portfolio participates in a securities lending program, managed by BNYM (Securities Lending Program), whereby securities are loaned for the purpose of generating additional income. As the securities lending agent, BNYM is responsible for making loans of securities on a collateralized basis from the Systems' investment portfolio to various third party broker-dealers and financial institutions. The gross securities lending revenue for the fiscal year was \$773 thousand, a decrease from \$946 thousand in the prior year. As reported by BNYM, at June 30, 2017, the fair value of securities on loan was \$164.65 million, the fair value of the invested cash collateral was \$123.27 million, and the securities lending obligations were \$170.46 million. The reported difference in the value of the invested cash collateral and the securities lending obligations in the securities lending program, is reflected within "Other Liabilities" on the Retirement Systems' Statement of Fiduciary Net Position, consistent with information reported on accounting statements provided by BNYM as both the custodial bank and securities lending agent.
- The Retirement System Investment Commission (Commission as the governing body, RSIC as the agency), created by the General Assembly in 2005 as co-fiduciary for the Systems, has exclusive authority to invest and manage the retirement trust funds' assets. The recent legislation assigns RSIC as co-trustee of the retirement trust funds along with the SC PEBA Board, effective July 1, 2017. The Commission operates pursuant to statutory provisions and under governance policies that allow for a diverse asset allocation and which afford the RSIC and its Chief Investment Officer (CIO) discretion and flexibility to quickly react to changes in market conditions. The investment portfolio is structured to focus on ensuring the long-term stability of the plans, seeking superior returns at acceptable levels of risk.
- The Commission is responsible for establishing and managing a target asset allocation that manages risk, ensures liquidity, and affords flexibility to quickly react to changes in market conditions. The fiscal year 2017 policy allocation, including target weights, ranges and benchmarks for each asset class, was adopted by the Commission on April 21, 2016 for the fiscal year beginning July 1, 2016. The asset allocation features a long-term policy allocation over a 2 year glide path. Additionally, target weights to Private Equity, Private Debt, and Private Real Estate will be their actual weights, reported by the custodial bank, as of the prior month end. The fiscal year 2017 asset allocation policy also introduces a portable alpha strategy which requires a reclassification of hedge funds into two new asset classes; Hedge Funds (Portable Alpha) and Hedge Funds (non-PA). Total hedge funds, across both of these new asset classes, is limited to a maximum of 20 percent of total assets.
- Through June 30, 2017, the Office of the State Treasurer contracted with BNYM to serve as custodial bank for the Retirement Systems' funds. Under a provision of the contract for custody services and in an effort to maintain transparency, BNYM directly invoices the trust funds on a quarterly basis for both custody and other ancillary services utilized. PEBA and the RSIC jointly verify that invoices accurately reflect services rendered and are appropriate for the period before amounts are paid. The trust funds' securities lending revenue account is the initial source from which such costs are paid to the custodial agent. The pension reform legislation, effective July 1, 2017, gives the Commission the exclusive authority to select the custodial bank, provided, however, that PEBA is a third-party beneficiary of the contract with the custodial bank with full rights to information under them.
- All investment manager fees, whether directly invoiced or deducted from the fund Net Asset Value (NAV) on a net of fee basis, are classified and reported as investment expense in the Statement of Changes in Fiduciary Net Position. The RSIC provides the non-invoiced fee information to PEBA on an annual basis so that amounts can be reclassified and reported in the Systems' financial statements. There is no industry standard for reporting pension plan investment fees and expenses;

therefore, in order to compare investment expenses as reported by the Systems with investment management costs reported by other public pension plans, an understanding of the actual fees and expenses included in any comparative report is necessary. Total investment manager fees for fiscal year 2017 were \$302.9 million, which includes both invoiced amounts and amounts deducted on a net of fee basis, but excludes bank fees and investment expenses. Comparatively, total investment manager fees were 23 percent higher than the prior fiscal year 2016 total of \$246.9 million. The increase is largely attributed to higher performance fees as a result of strong performance for the fiscal year in the asset classes that incur performance fees. This strong performance is evidenced in this year's Plan return of 11.88 percent versus negative 0.39 percent the prior fiscal year.

- PEBA is the governing body responsible for administration of both the state's retirement plans and the employee insurance program, and its administrative costs for retirement operations are funded from the retirement trust funds. Administrative expenses for fiscal year 2017 increased 3.5 percent from the prior year. This change resulted from slightly higher wages and benefits for employees, increased information technology costs, increased medical and health services, costs incurred for the Systems' first actuarial audit and other miscellaneous cost increases related to expenses associated with building and facilities maintenance.
- During the year, PEBA drafted, finalized, and issued a request for proposal to secure a client services vendor for oversight project management, program management, detailed requirements definition, testing support, data bridging support, data conversion support, and change management activity associated with our future benefit administration system solution. An intent to award was issued in January 2017, however, the award was protested. The Procurement Review Panel held a hearing on the protest on October 10, 2017 and issued its decision in PEBA's favor which means PEBA will be able to proceed with awarding the client services vendor contract. PEBA also hired a contract project manager to assist with the management of the project, and the project was named "peba:connect." PEBA personnel drafted business requirements and began data analysis in preparation for peba:connect.
- PEBA works closely with our consulting actuary and external audit firm to ensure employers are provided with the information needed to prepare their GAAP based financial statements in compliance with Governmental Accounting Standards Board (GASB) Statements No. 68 and 71. We have a dedicated GASB section on our public website where information has been posted for participating employers and auditors to access financial statement disclosure information related to their proportionate share of the net pension liability, deferred inflows and outflows of resources and pension expense.
- Gabriel Roeder Smith & Company (GRS) is on retainer as the Systems' consulting actuary for the defined benefit retirement plans. South Carolina state statute requires that the actuary complete a valuation of the Systems annually and conduct an experience study at least once in each five year period. The most recent valuation reports were issued as of July 1, 2016. GRS completed an actuarial experience study on the Systems with the report issued as of July 1, 2015. As a result of the experience study, the actuary recommended adjustments to the actuarial assumptions, which included salary increase, payroll growth, mortality, retirement, terminations, refunds, disability, inflation, and asset valuation method. These recommended assumption and method changes were adopted and incorporated into the July 1, 2016 valuations. The experience study also recommended reducing the long-term investment rate of return assumption; however, this assumption is set in state statute by the General Assembly. As part of the Retirement System Funding and Administration Act of 2017, the assumed rate of return was reduced from 7.50 to 7.25 percent effective July 1, 2017. The 7.25 percent assumed rate of return expires on July 1, 2021, and every four years thereafter, and as such, the PEBA Board, in consultation with the

Commission, must propose an assumed annual rate of return based on recommendations of the Board's actuary.

- In addition to the deferred retirement options available in SCRS and JSRS, all of the plans (excluding SCNG) include certain provisions that allow retired members to return to covered employment while also receiving a monthly retirement benefit. For members who return to work for a covered employer after retirement, the employer must pay the corresponding employer contribution for that particular plan, and under SCRS, PORS and JSRS, retired members are also required to pay the same employee contribution as an active member in the same position. TERI participants receive a deferred accrual for the full monthly retirement benefit, with no limit on the amount of wages they may earn from employment. Collectively among the plans, the most recent actuarial valuations reported that approximately 25,000 retirees have returned to covered employment while receiving monthly retirement benefits, either directly or as a TERI participant, thereby making up approximately 9 percent of the total public workforce covered by the Systems. The historical return-to-work provisions, coupled with demographic changes of the membership, caused concern over the long-term stability of the plan so legislation enacted in 2012 addressed retiree return-to-work provisions. Generally, SCRS and PORS members who retire after January 1, 2013, and who have not yet reached age 62 (SCRS) or age 57 (PORS) at retirement, and who have been retired at least 30 calendar days, may return to work for a participating employer, but their receipt of benefits is subject to an earnings limit of \$10,000 on wages earned each calendar year from covered employment.
- Qualified Excess Benefit Arrangement (QEBA) trust funds are maintained for each of the plans administered by the Retirement Division of PEBA. A QEBA is intended to be a qualified governmental excess benefit arrangement within the meaning of Section 415(m)(3) of the Internal Revenue Code and provides the part of a participant's retirement benefit that would have been paid by the Systems had there been no limitations under Code Section 415(b). The QEBA plans are separate and apart from the funds comprising the retirement funds and are not commingled with assets of those funds. The QEBA is not prefunded; therefore, no assets or income are accumulated to pay future benefits. The amount of required contributions necessary to pay benefits under the plans is determined and deposited to the trust funds on an as-needed basis. Employer contributions to fund the excess benefits are not credited or commingled with contributions paid into and accumulated in the retirement funds.
- The GARS was closed to persons first elected to the South Carolina General Assembly at or after the general election in November 2012. Members so elected to the Senate or House of Representatives have the option to join SCRS, the State Optional Retirement Program (State ORP), which is a defined contribution plan, or they may elect to opt out of a plan altogether. As a result of the plan closure, employee contributions to the GARS plan should decrease over time, while employer contributions may experience a general increase over time.

## Condensed Financial Information

The Systems' financial stability and long-term ability to sufficiently fund retirement benefits payable to members in future years is viable because funds are accumulated and invested on a regular and systematic basis. The five defined benefit funds provide lifetime annuity benefits to vested eligible members who serve as employees of state, public school, higher education institution, local and municipal government, state legislative, judicial, and South Carolina National Guard employers.

The Systems' principal sources of revenue are employee contributions, employer contributions and investment earnings. Required annual contributions for the SCNG are funded through an annual state appropriation. Expenses of the Systems consist primarily of payments of monthly annuities to retired members or their

beneficiaries, and refunds of member contributions and interest that are paid subsequent to termination of employment. The defined benefit plans include an incidental death benefit for both active and retired members and an accidental death plan for members of the PORS.

PEBA sponsors the State ORP which is a defined contribution plan administered by four different third party record keepers. The State ORP is an alternative plan available to newly hired employees of state agencies, institutions of higher education, public school districts and individuals first elected to the General Assembly at or after the general election in November 2012. In addition, PEBA is responsible for the South Carolina Deferred Compensation Plan (401k and 457 plans) administered by a third party record keeper. Both State ORP and Deferred Compensation assets are outside the group trust fund of the Systems and are not invested or managed by the RSIC. Summary comparative financial statements of the SC Retirement Systems' pension trust funds are presented on the following page.

## Fiduciary Net Position

As of June 30

(Amounts expressed in thousands)

	<u>2017</u>	<u>2016</u>	<u>Increase / (Decrease)</u>	<u>% Increase / (Decrease)</u>
<b>Assets</b>				
Cash & cash equivalents, receivables, and prepaid expenses	\$ 3,712,085	\$ 4,979,349	\$ (1,267,264)	(25.45%)
Investments, at fair value	27,995,164	24,790,218	3,204,946	12.93%
Securities lending cash collateral invested	123,275	55,737	67,538	121.17%
Capital Assets, net of accumulated depreciation	2,537	2,741	(204)	(7.44%)
<b>Total Assets</b>	<u>31,833,061</u>	<u>29,828,045</u>	<u>2,005,016</u>	<u>6.72%</u>
<b>Liabilities</b>				
Deferred retirement benefits	95,327	71,693	23,634	32.97%
Obligations under securities lending	123,275	55,737	67,538	121.17%
Other accounts payable	1,397,531	1,633,962	(236,431)	(14.47%)
<b>Total Liabilities</b>	<u>1,616,133</u>	<u>1,761,392</u>	<u>(145,259)</u>	<u>(8.25%)</u>
<b>Total Fiduciary Net Position Restricted for Pensions</b>	<u>\$ 30,216,928</u>	<u>\$ 28,066,653</u>	<u>\$ 2,150,275</u>	<u>7.66%</u>

## Changes in Fiduciary Net Position

Years Ended June 30

(Amounts expressed in thousands)

	<u>2017</u>	<u>2016</u>	<u>Increase / (Decrease)</u>	<u>% Increase / (Decrease)</u>
<b>Additions</b>				
Employee contributions	\$ 957,779	\$ 871,936	\$ 85,843	9.85%
Employer contributions	1,375,926	1,262,585	113,341	8.98%
State-appropriated contributions	4,591	4,591	-	0.00%
Net Investment income (loss)	3,269,390	(191,288)	3,460,678	1809.15%
Other income	1,958	1,830	128	6.99%
<b>Total Additions</b>	<u>5,609,644</u>	<u>1,949,654</u>	<u>3,659,990</u>	<u>187.73%</u>
<b>Deductions</b>				
Annuity benefits	3,291,197	3,036,279	254,918	8.40%
Refunds	125,762	112,954	12,808	11.34%
Death benefits	25,133	22,771	2,362	10.37%
Administrative & other expenses	17,277	16,687	590	3.54%
<b>Total Deductions</b>	<u>3,459,369</u>	<u>3,188,691</u>	<u>270,678</u>	<u>8.49%</u>
<b>Increase (Decrease) in Fiduciary Net Position</b>	2,150,275	(1,239,037)	3,389,312	273.54%
Beginning Fiduciary Net Position	28,066,653	29,305,690	(1,239,037)	(4.23%)
<b>Ending Fiduciary Net Position Restricted for Pensions</b>	<u>\$ 30,216,928</u>	<u>\$ 28,066,653</u>	<u>\$ 2,150,275</u>	<u>7.66%</u>

## Analysis of the Plan's Financial Position and Results of Operations

On a combined basis, the defined benefit plans' fiduciary net position was valued at \$30.2 billion at June 30, 2017, passing the milestone of \$30 billion for the first time. This represents an increase of nearly 8 percent in net position from the previous fiscal year-end. The increase in the fiduciary net position from the prior fiscal year was primarily attributable to strong performance of the plan investments which exceeded the impact of net negative cash flows that result from benefit payments exceeding contributions received.

During fiscal year 2017, the total dollar amount of contributions added to the plans increased in accordance with the increase in employer and employee contribution rates, while monthly retirement benefits paid to annuitants also increased compared with the previous fiscal year. As previously referenced, the increase in benefits was attributable to a benefit adjustments granted to eligible SCRS and PORS annuity recipients effective July 1, 2016, an increase in the number of annuitants and a spike in the amount of distributions paid to members ending their participation in the TERI program.

The Plan experienced strong performance for the fiscal year having a net of fee performance return, on a time-weighted basis, of a positive 11.88 percent. The Plan outperformed the policy benchmark, which returned a positive 11.82 percent, by 6 basis points. Additionally, the Plan exceeded the actuarial assumed rate of return of 7.50 percent by 438 basis points.

The Equity asset classes were the highest performing segment on an absolute basis, however, relative to their benchmarks they underperformed. Global Public Equity, which is the largest allocation in the Plan, was the highest performer returning 18.86 percent but falling short of its benchmark by 15 basis points. Private Equity and Equity Options were the next best performers gaining 15.17 percent and 11.49 percent but under performing their benchmarks by 467 basis points and 57 basis points respectively. The Diversified Credit segment of the Plan had the next best performing asset classes with Mixed Credit returning 10.50 percent and outperforming its benchmark by 46 basis points, Private Debt returning 10.01 percent but falling 121 basis points short of its benchmark, and Emerging Debt beating its benchmark by 219 basis points by returning 8.45 percent for the fiscal year. Hedge Funds (non-PA) and Private Real Estate also performed well closing the year with an 8.54 percent return and an 8.22 percent return respectively, however, both fell short of their benchmarks.

The Other Opportunistic asset class, which was comprised entirely of Commodities exposure, had a challenging year returning a negative 5.05 percent but still outperformed the sector as measured by the Bloomberg Commodity Index which returned a negative 6.50 for the fiscal year. The only other asset classes to have negative performance were Public Real Estate closing the year with a negative 2.60 percent return, trailing its benchmark by 90 basis points, and Core Fixed Income which matched its benchmark with a negative 0.31 percent return.

## Actuarial Valuations and Funding Progress

Actuarial valuations are performed annually by an external consulting actuary for each of the five defined benefit plans to ensure applicable contribution rates satisfy the funding parameters specified in Title 9 of the South Carolina Code of Laws. Under these provisions, SCRS and PORS contribution requirements must be sufficient to maintain an amortization period for the financing of the unfunded actuarial accrued liability (UAAL) over a period that does not exceed 30 years. Additionally, the Board is prohibited from decreasing the SCRS and PORS contribution rates until the funded ratio is at least 90 percent. The Retirement System Funding and Administration Act of 2017, which became effective on July 1, 2017, schedules the amortization period to be reduced by one year for each of the next 10 years to 20 years and prohibits the Board from decreasing the

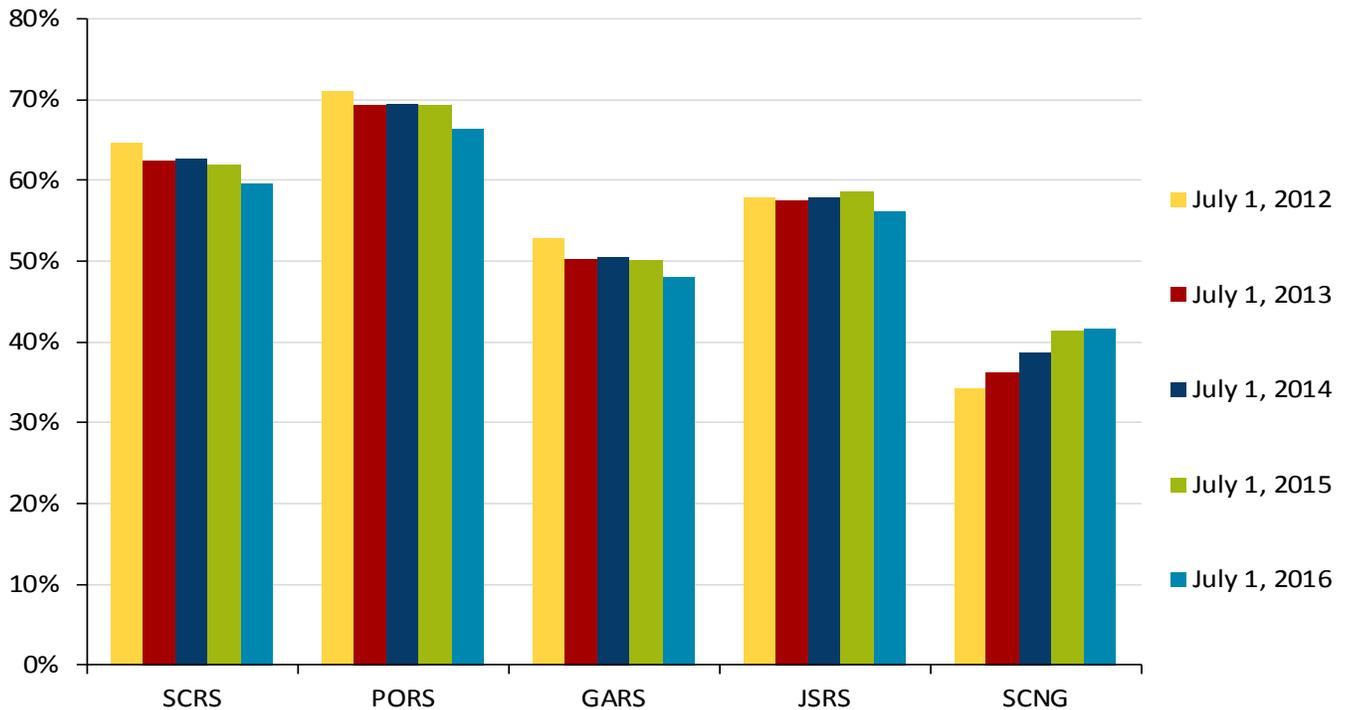
contribution rates until the funded ratio is at least 85 percent. Over time, and provided investment performance meets long-term assumptions and there are no future benefit enhancements, the funded ratio of each system is expected to increase and eventually attain 100 percent.

For the most recently completed valuations, prepared as of July 1, 2016, investment performance for purposes of developing the actuarially determined contribution rate, was recognized using the smoothing method which recognizes each year's investment gain or loss, determined on a market value of assets basis, over a closed five year period at a rate of 20 percent per year. This asset valuation method mitigates the short term impact of market volatility and allows changes in market conditions to be recognized (smoothed) over a longer period of time. In contrast, the actuarial valuation performed for the purpose of providing accounting information under GASB Statement No. 67, plan fiduciary net position is determined on a market value basis. Since the percentage of plan fiduciary net position to the total pension liability in the actuarial valuation prepared for accounting purposes uses the market value of assets rather than the actuarial value of assets, there can be significant short-term volatility in that ratio.

For the actuarial valuations prepared for funding purposes, the funded ratio (the ratio of the actuarial assets to the actuarial accrued liability) is a standard of measure of a plan's funded status. It provides an indication as to whether sufficient assets are accumulated to pay benefits when due; the greater the level of funding, the larger the ratio of assets to liabilities. The funding progress of a retirement system should be reviewed over a multi-year period, such as five to ten years, to identify trends in the system's funded status. The most recent actuarial valuations prepared for funding purposes as of July 1, 2016, showed a slight decrease in funded status for SCRS, PORS, GARS and JSRS while the funded ratio for SCNG stayed relatively level. The changes in the levels of funding do not affect the availability of funds or resources for future use and actuarial projections indicate that unfunded liabilities should be amortized and funded within the guidelines established in Title 9 of the SC Code of Laws. The actuarial funded ratios of the five plans are presented in the graph on the following page. Percentages for GASB Statement No. 67 reporting purposes can be found in the Schedule of Employers' Net Pension Liability beginning on Page 83.

## Actuarial Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)



## Requests for Information

This financial report is designed to provide a general overview of the Retirement Systems' financial activities and position for all interested parties. Questions concerning any of the information provided in this report or requests for additional financial information should be directed to the South Carolina PEBA, Attn: Retirement Systems Finance, 202 Arbor Lake Drive, Columbia, SC 29223. Inquiries may also be made at [www.peba.sc.gov](http://www.peba.sc.gov) or by calling 888.260.9430.

# South Carolina Retirement Systems Statement of Fiduciary Net Position

June 30, 2017

With comparative totals for June 30, 2016

(Amounts expressed in thousands)

	SCRS	PORS	GARS	JSRS	SCNG	TOTAL	2016 TOTAL
<b>ASSETS</b>							
Cash and cash equivalents	\$ 2,252,408	\$ 373,757	\$ 4,637	\$ 15,938	\$ 4,533	\$ 2,651,273	\$ 3,967,278
Receivables							
Due from other systems		397				397	302
Employee and employer contributions	229,633	26,152	42	662	2	256,491	233,308
Accrued investment income	36,851	6,108	44	217	36	43,256	38,738
Unsettled investment sales	644,299	106,647	746	3,729	592	756,013	695,775
Other investment receivables	690	114	1	4		809	40,363
<b>Total receivables</b>	<b>911,473</b>	<b>139,418</b>	<b>833</b>	<b>4,612</b>	<b>630</b>	<b>1,056,966</b>	<b>1,008,486</b>
Investments, at fair value							
Short-term securities	556,942	92,187	645	3,224	512	653,510	791,658
Fixed Income	5,447,691	901,724	6,306	31,535	5,005	6,392,261	5,847,385
Global Public Equity	8,470,968	1,402,149	9,806	49,037	7,782	9,939,742	7,200,985
Global Tactical Asset Allocation	1,760,338	291,378	2,037	10,190	1,618	2,065,561	1,963,716
Alternatives	7,622,442	1,261,697	8,823	44,125	7,003	8,944,090	8,986,474
<b>Total investments</b>	<b>23,858,381</b>	<b>3,949,135</b>	<b>27,617</b>	<b>138,111</b>	<b>21,920</b>	<b>27,995,164</b>	<b>24,790,218</b>
Securities lending cash collateral invested	105,059	17,390	122	608	96	123,275	55,737
Prepaid expenses	3,301	519	4	19	3	3,846	3,585
Capital assets, net of accumulated depreciation	2,281	238	7	11		2,537	2,741
<b>Total assets</b>	<b>27,132,903</b>	<b>4,480,457</b>	<b>33,220</b>	<b>159,299</b>	<b>27,182</b>	<b>31,833,061</b>	<b>29,828,045</b>
<b>LIABILITIES</b>							
Due to other systems		397				397	302
Accounts payable - unsettled investment purchases	1,066,187	176,480	1,234	6,172	980	1,251,053	1,439,720
Investment fees payable	10,881	1,801	12	63	10	12,767	9,439
Obligations under securities lending	105,059	17,390	122	608	96	123,275	55,737
Deferred retirement benefits	95,327					95,327	71,693
Due to Employee Insurance Program	62,733	1,205				63,938	65,258
Benefits payable	3,764	431	2		11	4,208	3,845
Other liabilities	55,726	9,027	61	305	49	65,168	115,398
<b>Total liabilities</b>	<b>1,400,074</b>	<b>206,334</b>	<b>1,431</b>	<b>7,148</b>	<b>1,146</b>	<b>1,616,133</b>	<b>1,761,392</b>
Net Position Restricted for Pensions	\$ 25,732,829	\$ 4,274,123	\$ 31,789	\$ 152,151	\$ 26,036	\$ 30,216,928	\$ 28,066,653

*The accompanying notes are an integral part of these financial statements.*

# South Carolina Retirement Systems

## Statement of Changes in Fiduciary Net Position

Year Ended June 30, 2017

With comparative totals for the year ended June 30, 2016

(Amounts expressed in thousands)

	SCRS	PORS	GARS	JSRS	SCNG	TOTAL	2016 TOTAL
<b>Additions</b>							
Contributions							
Employee	\$ 826,543	\$ 127,840	\$ 468	\$ 2,928	\$ -	\$ 957,779	\$ 871,936
Employer	1,168,847	192,006	4,539	10,534		1,375,926	1,262,585
State appropriated					4,591	4,591	4,591
<b>Total contributions</b>	<b>1,995,390</b>	<b>319,846</b>	<b>5,007</b>	<b>13,462</b>	<b>4,591</b>	<b>2,338,296</b>	<b>2,139,112</b>
Investment Income							
Net appreciation (depreciation) in fair value of investments	2,641,803	431,853	3,130	15,462	2,384	3,094,632	(324,236)
Interest and dividend income	416,925	68,259	510	2,488	395	488,577	394,631
Investment expense	(268,173)	(44,306)	(312)	(1,555)	(246)	(314,592)	(262,629)
Net income (loss) from investing activities	2,790,555	455,806	3,328	16,395	2,533	3,268,617	(192,234)
From securities lending activities:							
Securities lending income	488	80	1	3		572	188
Securities lending borrower rebates	172	28		1		201	758
Net income from securities lending activities	660	108	1	4	-	773	946
<b>Total net investment income (loss)</b>	<b>2,791,215</b>	<b>455,914</b>	<b>3,329</b>	<b>16,399</b>	<b>2,533</b>	<b>3,269,390</b>	<b>(191,288)</b>
Supplemental retirement benefits funded by the State	393	15				408	452
Transfers of contributions from other Systems		1,278	19	253		1,550	1,378
<b>Total additions</b>	<b>4,786,998</b>	<b>777,053</b>	<b>8,355</b>	<b>30,114</b>	<b>7,124</b>	<b>5,609,644</b>	<b>1,949,654</b>
<b>Deductions</b>							
Refunds of contributions to members	105,169	19,964		629		125,762	112,954
Transfers of contributions to other Systems	1,550					1,550	1,378
Regular retirement benefits	2,574,859	352,986	6,678	17,679	4,425	2,956,627	2,839,393
Deferred retirement benefits	332,414					332,414	194,844
Supplemental retirement benefits	393	15				408	452
Death Benefits	22,677	2,104	59	293		25,133	22,771
Accidental death benefits		1,748				1,748	1,590
Depreciation	236	32		1		269	310
Administrative expenses	13,233	2,117	17	78	13	15,458	14,999
<b>Total deductions</b>	<b>3,050,531</b>	<b>378,966</b>	<b>6,754</b>	<b>18,680</b>	<b>4,438</b>	<b>3,459,369</b>	<b>3,188,691</b>
Net increase (decrease) in Net Position	1,736,467	398,087	1,601	11,434	2,686	2,150,275	(1,239,037)
Net Position Restricted for Pensions							
Beginning of year	23,996,362	3,876,036	30,188	140,717	23,350	28,066,653	29,305,690
End of year	\$ 25,732,829	\$ 4,274,123	\$ 31,789	\$ 152,151	\$ 26,036	\$ 30,216,928	\$ 28,066,653

The accompanying notes are an integral part of these financial statements.

# South Carolina Retirement Systems

## Notes to Financial Statements

### I. Basis of Presentation and Summary of Significant Accounting Policies

#### Description of the Entity

The South Carolina Public Employee Benefit Authority (PEBA) was created by the S.C. General Assembly effective July 1, 2012. PEBA is a state agency responsible for the administration and management of the state's employee insurance programs and retirement systems.

The governing board of the authority is a board of directors consisting of 11 members. The membership composition is as follows:

- three non-representative members appointed by the Governor;
- two members appointed by the President Pro Tempore of the Senate, one a non-representative member and one a representative member who is either an active or retired member of the South Carolina Police Officers Retirement System (PORS);
- two members appointed by the Chairman of the Senate Finance Committee, one a non-representative member and one a representative member who is a retired member of the South Carolina Retirement System (SCRS);
- two members appointed by the Speaker of the House of Representatives, one a non-representative member and one a representative member who must be a state employee who is an active contributing member of SCRS;
- two members appointed by the Chairman of the House Ways and Means Committee, one a non-representative member and one a representative member who is an active contributing member of SCRS employed by a public school district.

Non-representative members of the PEBA board may not belong to the classes of employees and retirees from which representative members must be appointed. Individuals appointed to the PEBA board must possess certain qualifications.

Members of the PEBA board serve for terms of two years and until their successors are appointed and qualify. Vacancies on the PEBA Board must be filled within 60 days in the manner of the original appointment for the unexpired portion of the term. Terms commence on July 1 of even numbered years. The Retirement System Funding and Administration Act effective July 1, 2017, changed the PEBA board members' terms to four years, on a staggered schedule.

The financial statements of the South Carolina Retirement Systems (Systems) presented herein contain the following funds:

#### Pension Trust Funds

- South Carolina Retirement System (SCRS)
- South Carolina Police Officers Retirement System (PORS)
- Retirement System for Members of the General Assembly of the State of South Carolina (GARS)
- Retirement System for Judges and Solicitors of the State of South Carolina (JSRS)
- South Carolina National Guard Supplemental Retirement Plan (SCNG)

Each pension trust fund operates on an autonomous basis; funds may not be utilized for any purpose other than for the benefit of each plan's participants.

The Systems are part of the state of South Carolina's primary government and are included in the *Comprehensive Annual Financial Report of the State of South Carolina*. In making this

determination, factors of financial accountability, governance and fiduciary responsibility of the state were considered.

### Plan Descriptions

The South Carolina Retirement System (SCRS), a cost-sharing multiple-employer defined benefit pension plan, was established effective July 1, 1945, pursuant to the provisions of Section 9-1-20 of the South Carolina Code of Laws for the purpose of providing retirement allowances and other benefits for public school districts and employees of the state and political subdivisions thereof.

The South Carolina Police Officers Retirement System (PORS), a cost-sharing multiple-employer defined benefit pension plan, was established effective July 1, 1962, pursuant to the provisions of Section 9-11-20 of the South Carolina Code of Laws for the purpose of providing retirement allowances and other benefits for police officers and firemen of the state and its political subdivisions.

The Retirement System for Members of the General Assembly of the State of South Carolina (GARS), a single-employer defined benefit pension plan, was created effective January 1, 1966, pursuant to the provisions of Section 9-9-20 of the South Carolina

Code of Laws to provide retirement allowances and other benefits for members of the General Assembly. Retirement reform legislation closed the plan to individuals newly elected to the Senate or House of Representatives on or after the general election of 2012.

The Retirement System for Judges and Solicitors of the State of South Carolina (JSRS), a single-employer defined benefit pension plan, was created effective July 1, 1979, pursuant to the provisions of Section 9-8-20 of the South Carolina Code of Laws for the purpose of providing retirement allowances and other benefits for judges, solicitors, circuit public defenders of the state and administrative law court judges.

The South Carolina National Guard Supplemental Retirement Plan (SCNG), a single-employer defined benefit pension plan, was created effective July 1, 1975, and is governed by the provisions of Section 9-10-30 of the South Carolina Code of Laws for the purpose of providing supplemental retirement benefits to certain members who served in the South Carolina National Guard.

A summary of information related to participating employers and members follows (dollars amounts expressed in thousands). This information was reported in the most recent actuarial valuation reports dated July 1, 2016.

	<u>State<sup>1</sup></u>	<u>School</u>	<u>Other</u>	<u>Total</u>
<b>SCRS</b>				
Number of Employers	31	117	576	724
Annual Covered Payroll for Active Members	\$2,321,521	\$3,357,550	\$2,211,836	\$7,890,907
Average Number of:				
Active Contributing Members	51,018	84,916	54,989	190,923
Retirees and beneficiaries currently receiving benefits				137,855
Terminated members entitled to but not yet receiving benefits <sup>2</sup>				169,806
Total SCRS Membership				<u>498,584</u>
<b>PORS</b>				
Number of Employers	17	1	269	287
Annual Covered Payroll for Active Members	\$361,065	\$ -	\$775,337	\$1,136,402
Average Number of:				
Active Contributing Members	9,134		17,517	26,651
Retirees and beneficiaries currently receiving benefits				17,288
Terminated members entitled to but not yet receiving benefits <sup>2</sup>				15,001
Total PORS Membership				<u>58,940</u>
<b>GARS</b>				
Number of Employers	1			1
Annual Covered Payroll for Active Members	\$2,316			\$2,316
Average Number of:				
Active Members	102			102
Retirees and beneficiaries currently receiving benefits	358			358
Terminated members entitled to but not yet receiving benefits	32			32
Total GARS Membership	<u>492</u>			<u>492</u>
<b>JSRS</b>				
Number of Employers	1			1
Annual Covered Payroll for Active Members	\$21,958			\$21,958
Average Number of:				
Active Members (160 positions)	157			157
Retirees and beneficiaries currently receiving benefits	210			210
Terminated members entitled to but not yet receiving benefits	2			2
Total JSRS Membership	<u>369</u>			<u>369</u>
<b>SCNG</b>				
Number of Employers	1			1
Annual Covered Payroll for Active Members <sup>3</sup>	N/A			N/A
Average Number of:				
Active Members	12,253			12,253
Retirees and beneficiaries currently receiving benefits	4,709			4,709
Terminated members entitled to but not yet receiving benefits	1,969			1,969
Total SCNG Membership	<u>18,931</u>			<u>18,931</u>

<sup>1</sup> Although there are 89 SCRS and 26 PORS state agencies that report separately, the State is considered the primary government and therefore, all state agencies are included as a single employer. Quasi-State Agencies and Institutions of Higher Education are counted as separate employers and included within the "State" category.

<sup>2</sup> Employee Class not determinable from data.

<sup>3</sup> Annual covered payroll is not applicable for SCNG because it is a non-contributory plan.

## Membership

Membership requirements are prescribed in Title 9 of the South Carolina Code of Laws. A brief summary of the requirements under each system is presented below.

### SCRS

Generally, all employees of covered employers are required to participate in and contribute to the system as a condition of employment. This plan covers general employees and teachers and individuals newly elected to the South Carolina General Assembly beginning with the November 2012 general election. A member of the system with an effective date of membership prior to July 1, 2012, is a Class Two member. A member of the system with an effective date of membership on or after July 1, 2012, is a Class Three member.

### State ORP

As an alternative to membership in SCRS, newly hired state, public school and higher education employees and individuals newly elected to the S.C. General Assembly beginning with the November 2012 general election have the option to participate in the State Optional Retirement Program (State ORP), which is a defined contribution plan. State ORP participants direct the investment of their funds into an account administered by one of four third party administrators. The Retirement Systems assumes no liability for State ORP benefits. Rather, the benefits are the liability of the four third party administrators. For this reason, State ORP assets are not considered part of the Systems for financial statement purposes.

Contributions to the State ORP are at the same rates as SCRS. A direct remittance is required from the employers to the investment providers for the employee contribution (8.66 percent) and a portion of the employer contribution (5 percent). A direct remittance is also required to SCRS for a portion of the employer contribution (6.41 percent) and a death benefit contribution (0.15 percent), which is retained by SCRS. The activity for the State ORP is as follows:

## State ORP Activity

Year Ended June 30, 2017

*(Dollar amounts expressed in thousands)*

Active Contributing Participants	28,291
Annual Covered Payroll	\$1,422,607
Employer Contributions Retained by SCRS	\$91,189
Death Benefit Contributions Retained by SCRS	\$2,134
Employee Contributions to Investment Providers	\$123,198
Employer Contributions to Investment Providers	\$71,130

### PORS

To be eligible for PORS membership, an employee must be required by the terms of his employment, by election or appointment, to preserve public order, protect life and property and detect crimes in the state; to prevent and control property destruction by fire; be a coroner in a full-time permanent position; or be a peace officer employed by the Department of Corrections, the Department of Juvenile Justice or the Department of Mental Health. Probate judges and coroners may elect membership in PORS. Magistrates are required to participate in PORS for service as a magistrate. PORS members, other than magistrates and probate judges, must also earn at least \$2,000 per year and devote at least 1,600 hours per year to this work, unless exempted by statute. A member of the system with an effective date of membership prior to July 1, 2012, is a Class Two member. A member of the system with an effective date of membership on or after July 1, 2012, is a Class Three member.

### GARS

Members of the Senate and the House of Representatives who were first elected to office prior to November 2012 are required to participate in and contribute to the system upon taking office as a member of the S.C. General Assembly; however, the GARS plan is closed to individuals newly elected to the Senate or the House of Representatives on or after the general election of 2012.

**JSRS**

All solicitors, circuit public defenders, judges of a Circuit, Family or Administrative Law Court and justices of the Court of Appeals and Supreme Court are required to participate in and contribute to the system upon taking office.

**SCNG**

Membership consists of individuals who serve in the South Carolina National Guard.

**Pension Benefits**

Benefit terms are prescribed in Title 9 of the South Carolina Code of Laws. PEBA does not have the authority to establish or amend benefit terms without a change in the code of laws. Key elements of the benefit calculation include the benefit multiplier, years of service and average final compensation/current annual salary. A brief summary of benefit terms for each system is presented below.

**SCRS**

A Class II member who has separated from service with at least five years of earned service is eligible for a monthly pension at age 65 or with 28 years credited service regardless of age. A member may elect early retirement with reduced pension benefits payable at age 55 with 25 years of service credit. A Class III member who has separated from service with at least eight years of earned service is eligible for a monthly pension subject to the Rule of 90 requirement that the total of the member's age and the member's creditable service equals at least 90 years. Both Class II and Class III members are eligible to receive a reduced deferred annuity at age 60 if they satisfy the five- or eight-year earned service requirement, respectively. An incidental death benefit is also available to beneficiaries of active and retired members of employers who participate in the death benefit program.

The annual retirement allowance of eligible retirees or their surviving annuitants is increased by the lesser of one percent or five hundred dollars every July 1. Only those annuitants in receipt of a benefit on July 1 of the preceding year are eligible to

receive the increase. Members who retire under the early retirement provisions at age 55 with 25 years of service are not eligible for the benefit adjustment until the second July 1 after reaching age 60 or the second July 1 after the date they would have had 28 years of service credit had they not retired.

**PORS**

A Class II member who has separated from service with at least five years of earned service is eligible for a monthly pension at age 55 or with 25 years of service regardless of age. A Class III member who has separated from service with at least eight years of earned service is eligible for a monthly pension at age 55 or with 27 years of service regardless of age. Both Class II and Class III members are eligible to receive a deferred annuity at age 55 with five or eight years earned service, respectively. An incidental death benefit is also available to beneficiaries of active and retired members of employers who participate in the death benefit program. Accidental death benefits are also provided upon the death of an active member working for a covered employer whose death was a natural and proximate result of an injury incurred while in the performance of duty.

The retirement allowance of eligible retirees or their surviving annuitants is increased by the lesser of one percent or five hundred dollars every July 1. Only those annuitants in receipt of a benefit on July 1 of the preceding year are eligible to receive the increase.

**GARS**

A member is eligible for a monthly pension at age 60 or with 30 years credited service. A member who has attained age 70 or has 30 years of service is eligible to retire and draw an annuity while continuing to serve in the General Assembly. A member is eligible to receive a deferred annuity with eight years of service. An incidental death benefit is also provided to beneficiaries of deceased members. Retirees receive increases in benefits based upon increases in the current salary of their respective active positions. GARS is closed to new members and persons newly elected to the General

Assembly must elect membership in SCRS or State ORP or may elect non-membership.

#### **JSRS**

A pension benefit is payable at age 70 with 15 years' service, age 65 with 20 years' service, 25 years' service regardless of age for a judge or 24 years of service for a solicitor or a circuit public defender regardless of age. A judge is vested in the system after attaining 10 years of earned service in the position of judge, and a solicitor or a circuit public defender is vested in the system after attaining eight years of earned service. A member who has reached maximum eligibility is eligible to retire and draw an annuity while continuing to serve. An incidental death benefit is also provided to members. Retirees receive increases in benefits based upon increases in the current salary of their respective active positions.

#### **SCNG**

A monthly pension is payable at age 60 provided the member was honorably discharged from active duty with at least 20 years of total creditable military service. Of the 20 years total creditable military service, at least 15 must have been served in the South Carolina National Guard. Additionally, the final 10 years of military service must have been served in the South Carolina National Guard. No cost-of-living increases are provided to SCNG retirees.

## Summary of Significant Accounting Policies

### **Fund Structure**

The Systems' accounts are maintained in accordance with the principles of fund accounting. This is the procedure whereby resources for various purposes are classified for accounting and reporting purposes into funds that are in accordance with specified activities or objectives. Separate pension trust funds (fiduciary fund type) are used to account for the activities of the five public employee retirement systems administered by PEBA.

### **Adoption of New Accounting Standard**

Governmental Accounting Standards Board (GASB) Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73* is effective for financial statements for periods beginning after June 15, 2016 and has been implemented in the financial statements prepared by PEBA's Retirement Division for the fiscal year ended June 30, 2017. This statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements.

### **Basis of Accounting**

All funds are accounted for using the economic resources measurement focus and the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when incurred. Benefit and refund expenses are recognized when due and payable in accordance with the terms of the plan.

### **Administrative Expenses**

Administrative expenses are the responsibility of PEBA and all accounting and corresponding disclosures relating to administrative expenses of the pension trust funds are included in the financial statements of the Systems.

Administrative expenses for the Retirement Division of PEBA are funded by the trust funds and are allocated to each of the systems based on its respective portion of total assets in order to pay for actual expenses incurred during the year.

Administrative expenses of the Systems include the Retirement Division's portion of PEBA employee salaries and associated employee benefits, costs for contractual services and operating expenses.

## Cash and Cash Equivalents

The Systems classify cash on deposit in financial institutions and cash on deposit in the state's internal cash management pool as cash and cash equivalents. The Systems also classify certain short-term highly liquid securities as cash equivalents if the date of maturity is three months or less from the date of acquisition. Forward contracts, foreign currencies and cash held in the strategic partnership accounts are also classified as cash and cash equivalents.

## Contributions

Employee, employer, and state-appropriated contributions are recognized in the period in which they are due, pursuant to formal commitments as well as statutory requirements. Substantially all contributions receivable are collected within 30 days of year-end.

## Investments

The Retirement System Investment Commission (Commission as the governing body, RSIC as the agency), created by the General Assembly in 2005 as co-fiduciary for the Retirement Systems, has exclusive authority for investing and managing all assets held in trust for the South Carolina Retirement Systems. Funds of the Systems are invested subject to the terms, conditions, limitations, and restrictions imposed by Section 16, Article X of the South Carolina Constitution and Section 9-1-1310 (B) and Title 9 Chapter 16 of the South Carolina Code of Laws. The funds and assets of the various state retirement systems are not funds of the State, but are instead held in trust as provided in Section 9-16-20.

The RSIC is structured as a separate state agency reporting to a body of appointed and ex officio Commissioners. Effective July 1, 2017, the Retirement System Funding and Administration Act of 2017 changed the composition of the Commission from seven members to eight members as provided in Section 9-16-315 of the South Carolina Code of Laws. The Commission employs a Chief Executive Officer (CEO) who serves as the agency head of the RSIC, reporting directly to

the Commission, with functions and duties assigned by the Commission. The CEO is the central source of authority and accountability for administrative decisions. In addition, the Commission employs a Chief Investment Officer (CIO) who reports to the CEO for day to day oversight and strategic planning objectives and who serves as the central source of authority and accountability for all investment decisions delegated to him or her by the Commission and state law. The Commission also engages external investment consultants, who are accountable to the Commission, to work collaboratively with RSIC staff to fulfill the duties of investing the Systems' portfolio.

As with PEBA, administrative costs of the RSIC are paid from the Systems, and its budget is funded entirely from the trust fund. Costs include Commissioner, investment and administrative staff compensation, as well as other contractual services and other operating expenses. The allocation of those administrative costs is based upon a proration of such costs in proportion to the assets that each system bears to the total assets of all of the systems for the most recently completed fiscal year.

The Commission has adopted a Statement of Investment Objectives and Policies (SIOP) in order to establish investment and performance objectives, policies and guidelines, roles, responsibilities and delegation of authority for the investment and management of assets of the Systems. The SIOP is reviewed by the Commission at least annually to determine its continued applicability. The SIOP provides the framework pursuant to which the CIO and staff develop the Annual Investment Plan (AIP), which provides a formal plan for investing the Systems' assets to achieve the Commission's investment objectives and mission. As required by Section 9-16-320, the AIP must be submitted to the Commission no later than April 1 of each year, and the Commission must meet no later than May 1 of each year to adopt the proposed AIP for the following fiscal year. The Commission may amend the SIOP and AIP during the fiscal year as it deems appropriate.

The Commission manages Systems' assets with a long-term horizon and seeks to earn an appropriate risk-adjusted return in consideration of the specific goals, needs and circumstances of the Systems and in the exclusive interest of members of the Systems. Among the decisions the Commission can make, asset allocation has the most significant impact on the portfolio's return, risk profile and cost and is reviewed annually as part of the development of the AIP. Based on the Commission's determination of the appropriate risk tolerance for the Portfolio and its long-term return expectations, it has authorized the following Policy Asset Allocation, including target allocations and ranges for each asset class that were adopted by the Commission for the fiscal year beginning July 1, 2016.

Asset Class	Policy Allocation	Minimum	Maximum
<b>Equity</b>	<b>45.0%</b>	<b>42.0%</b>	<b>52.0%</b>
Global Equity <sup>1,2</sup>	31.0%	22.0%	36.0%
Private Equity <sup>2,3</sup>	9.0%	6.0%	12.0%
Equity Options Strategies	5.0%	0.0%	6.0%
<b>Conservative Fixed Income</b>	<b>12.0%</b>	<b>10.0%</b>	<b>16.0%</b>
Cash & Short Duration	2.0%	0.0%	7.0%
Core Bonds	10.0%	5.0%	15.0%
<b>Diversified Credit</b>	<b>18.0%</b>	<b>15.0%</b>	<b>21.0%</b>
Mixed Credit <sup>1,2</sup>	6.0%	4.0%	8.0%
Private Debt <sup>1,2,3</sup>	7.0%	4.0%	10.0%
Emerging Markets Debt <sup>1</sup>	5.0%	3.0%	7.0%
<b>Opportunistic</b>	<b>17.0%</b>	<b>9.0%</b>	<b>19.0%</b>
GAA <sup>1</sup>	10.0%	3.0%	12.0%
Hedge Funds (Non-PA) <sup>1</sup>	4.0%	0.0%	8.0%
Other Opportunistic Strategies <sup>1</sup>	3.0%	0.0%	5.0%
<b>Real Assets</b>	<b>8.0%</b>	<b>8.0%</b>	<b>14.0%</b>
Real Estate-REITs <sup>2</sup>	2.0%	0.0%	3.0%
Real Estate-Private <sup>2,3</sup>	5.0%	4.0%	10.0%
World Infrastructure	1.0%	0.0%	5.0%

<sup>1</sup>Asset classes in which hedge funds can be used, including for portable alpha implementation, up to a maximum of 20% of total assets.

Portable Alpha Strategies are capped at 12% of total assets.

<sup>2</sup>The target weights to Private Equity, Private Debt and Real Estate will be equal to their actual weights as of prior month end. Private Equity and Public Equity will combine for 40% of the entire portfolio. Private Debt and Mixed Credit will combine for 13% of the entire portfolio. Private Real Estate and Real Estate (REITs) will combine for 7% of the entire portfolio.

<sup>3</sup>Staff and Consultant will notify the Commission if Private Markets assets exceed 25% of total assets.

At June 30, 2017, the Systems held no investments (other than those issued or explicitly guaranteed by the U.S. government) in any one organization that represent 5 percent or more of the plans' fiduciary net position.

For the year ended June 30, 2017, the annual money weighted rate of return on plan investments was 11.88 percent. The money weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

As a fiduciary acting on behalf of the Systems, the Commission enters into individual agreements with various investment managers to invest plan assets. As of June 30, 2017, legal agreements were in place with 134 investment managers.

Effective July 1, 2017, the Retirement System Funding and Administration Act of 2017 assigned the PEBA Board as custodian of the retirement trust funds and designated PEBA and RSIC as co-trustees of the retirement trust funds. The legislation also gave the Commission the exclusive authority to select the custodial bank provided that PEBA is a third-party beneficiary of the contract with the custodial bank, with full rights to information.

BNYM serves as custodial bank of the funds of the Retirement Systems. Assets also include investments not custodied at BNYM, such as funds held in partnerships, commingled accounts, or private market asset classes. The custodial bank provides consolidated recordkeeping services which reflects these securities not held in the custodian's vault or for which the custodian or its nominee is not the registered owner (non-custody securities).

For financial statement purposes, investments of the pension trust funds are reported at fair value in the Statement of Fiduciary Net Position. Short term securities categorized as cash or cash equivalents are reported at fair value. The Systems hold domestic and global equity securities which are traded on organized exchanges. Equity securities which are held by the custodian are valued by the custodian using the last reported price on a trade-

date basis. The Systems hold domestic and global fixed income securities. The custodian values those fixed income assets which are held in custody based upon prices received from external pricing sources and in accordance with the custodian's pricing policy. Commingled funds, which may contain equity and/or fixed income securities are priced based upon the manager's pricing policy and a Net Asset Value (NAV) is provided to the custodian. Private market investments typically utilize a limited partnership structure and private equity funds normally invest in companies that are not publicly traded on a stock exchange. The fair values of alternative investments including private equity, private debt, hedge funds, real estate and commodities, for which daily market values are not readily ascertainable, are valued in good faith based on the most recent financial information available for the underlying companies and reported by the investment managers at the measurement date, adjusted for subsequent cash flow activities through June 30, 2017. The issue of valuation of investments is a joint responsibility of PEBA and RSIC. Staff from both offices serve on a joint valuation committee which oversees and reviews the valuations provided by the custodian and/or the external investment managers. The estimated fair value of these investments is intended to approximate, but at times may differ, from values that would have been used had a liquid public market existed.

Investments are combined in a commingled investment pool, with each system owning a percentage of the pool and receiving proportionate investment income in accordance with their respective ownership percentage. Investment income includes realized and unrealized appreciation (depreciation) in the fair value of investments, interest income earned, dividend income earned, less investment expense, plus income from securities lending activities, less deductions for securities lending expenses.

While some investment managers submit invoices for their investment management fees, a significant number of investment managers provide account

valuations on a net of fee basis. For greater transparency, the RSIC makes a good faith attempt to account for netted fee amounts that are not necessarily readily separable. Through a concerted effort with Conifer Financial Services, administrator for the RSIC, the collection, aggregation, and reasonability testing enables RSIC to provide the Retirement Division of PEBA with a collection of investment fees and expenses that would not otherwise be disclosed. The RSIC provides the netted fee information to PEBA on an annual basis so that amounts can be reclassified and reported in the financial statements on the Investment expense line of the Statement of Changes in Fiduciary Net Position. The non-invoiced investment expenses include amounts for investment management fees, performance fees (including carried interest allocations), and other investment expenses such as organizational expenses in limited partnership structures. The total netted fee amounts reported also reflect the impact of any offsets which have the effect of reducing this total. There is no industry standard for reporting pension plan investment fees and expenses, therefore, in order to compare investment expense as reported by the Systems with investment management costs reported by other public pension plans, an understanding of the actual fees and expenses included in any comparative reports is necessary. Additionally, investment plan composition directly influences the fee structure of a plan and adjustments for differences in plan asset allocation are necessary before conclusions can be reached from such comparisons.

## Capital Assets

Capital Assets are valued at historical cost or at estimated historical cost if actual historical cost data is not available. The costs of normal maintenance and repairs that do not significantly add to the value of an asset or materially extend the asset's useful life are not capitalized. An individual asset is capitalized and reported if it has an estimated useful life of at least two years and a historical cost as follows: more than \$5 thousand for machinery and equipment; more than \$100

thousand for buildings. All land and non-depreciable land improvements are capitalized and reported, regardless of cost. Depreciation is recorded using

the straight line method over the useful life of 40 years for the building and a useful life of 2 to 25 years for equipment. Land is not depreciated.

## II. Contributions and Reserves

Contributions to each of the Plans are prescribed in Title 9 of the South Carolina Code of Laws. The board may increase the percentage rate in SCRS and PORS employer and employee contributions on the basis of the actuarial valuations, but any such increase may not result in a differential between the employee and employer contribution rate that exceeds 2.9 percent of earnable compensation for SCRS and 5 percent for PORS. An increase in the contribution rates adopted by the board may not provide for an increase of more than one-half of one percent in any one year. If the scheduled employee and employer contributions provided in statute or the rates last adopted by the board are insufficient to maintain a thirty year amortization schedule of the unfunded liabilities of the plans, the board shall increase the contribution rates in equal percentage amounts for the employer and employee as necessary to maintain the thirty-year amortization period; this increase is not limited to one-half of one percent per year.

If the most recent annual actuarial valuation of the Systems for funding purposes shows a ratio of the actuarial value of system assets to the actuarial accrued liability of the system (the funded ratio) that is equal to or greater than ninety percent, then the board, effective on the following July first, may decrease the then current contribution rates upon making a finding that the decrease will not result in a funded ratio of less than ninety percent. Any decrease in contribution rates must maintain the 2.9 and 5 percent differentials between the SCRS and PORS employer and employee contribution rates respectively. If contribution rates are decreased pursuant to this provision, and the most recent annual actuarial valuation of the system shows a funded ratio of less than ninety percent, then effective on the following July first, and annually thereafter as necessary, the board shall

increase the then current contribution rates until a subsequent annual actuarial valuation of the system shows a funded ratio that is equal to or greater than 90 percent.

The Retirement System Funding and Administration Act increases employer contribution rates to 13.56 percent for SCRS and 16.24 percent for PORS, effective July 1, 2017. It also removes the 2.9 percent and 5 percent differential and increases and establishes a ceiling on employee contribution rates at 9 percent and 9.75 percent for SCRS and PORS respectively. The employer contribution rates will continue to increase annually by 1 percent through July 1, 2022. The legislation’s ultimate scheduled employer rate is 18.56 percent for SCRS and 21.24 percent for PORS. The amortization period is scheduled to be reduced one year for each of the next 10 years to a twenty year amortization schedule. The recent pension reform legislation also changes the long term funded ratio requirement from ninety to eighty-five.

Following are the employee and employer contribution rates applicable for fiscal year 2017:

System	Employee Rate	Employer Rate
SCRS	8.66%	11.56% <sup>1</sup>
PORS	9.24%	14.24% <sup>2</sup>
GARS	11%	\$4,539,000 <sup>3</sup>
JSRS	10%	47.97% <sup>1</sup>
SCNG	Non-contributory	\$4,590,798

<sup>1</sup> Includes incidental death benefit contribution rate of 0.15%

<sup>2</sup> Includes incidental death benefit and accidental death benefit contribution rate of 0.20% each

<sup>3</sup> Includes incidental death benefit contributions as determined by the Systems’ actuary

Employer contributions for the GARS and SCNG are determined by the Systems’ actuary on an annual basis. SCNG employer contributions are provided annually by state appropriations.

In accordance with South Carolina State Statute, an additional employer contribution surcharge of 5.33 percent of covered payroll was added to the contribution rate applicable to state and local governments, and public school entities covered by the state's retiree health and dental insurance benefits. This assessment is for the purpose of providing retiree health and dental insurance coverage and is not a part of the actuarially established contribution rates for retirement funding purposes. Functioning as a collecting agent, SCRS and PORS collected (amounts expressed in thousands) \$427,156 and \$22,539 respectively in retiree insurance surcharges (\$75,415 of which was applicable to the State ORP) and remitted these funds to the South Carolina Retiree Health Insurance Trust Fund.

The Fiduciary Net Position of each plan is required to be reserved in the following accounts:

The **Employer Fund** is credited with all employer retirement contributions and investment earnings of the Employee and Employer Funds. Upon retirement, all member account balances and contributions are transferred to the Employer Fund as all annuities and administrative expenses of the Systems are paid from this fund. Annual state appropriations to the SCNG are also credited to the Employer Fund to provide funding for the payment of annuities and administrative expenses.

The **Employee Fund** is credited with all contributions made by active members of the Systems. Interest is credited to each active member's individual account at an annual rate of 4 percent by transferring funds from the Employer Fund to the Employee Fund. At termination of employment prior to retirement, employee contributions and accumulated interest may be refunded from this fund to the member. At retirement, employee contributions and interest are transferred from the Employee Fund to the Employer Fund for subsequent payment of benefits.

The **Death Benefit Fund**, an incidental death program within SCRS and PORS, is the fund to which participating employers contribute for the purpose of providing a death benefit to active and retired members of the Systems. Employer contributions and investment earnings are credited to this fund. Death benefit payments and administrative expenses are paid from this fund. The assets in the Death Benefits Fund are not held separately in a dedicated trust for the sole purpose of paying death benefits to beneficiaries of deceased members. These benefits are considered allowable within the defined benefit plans and are held within the pension trust funds.

The **Accidental Death Fund** (PORS only) is the fund to which participating employers contribute for the purpose of providing annuity benefits to beneficiaries of members of PORS killed in the actual performance of their duties. This fund and its benefits are independent of any other retirement benefit available to the beneficiary. Employer contributions and investment earnings are credited to this fund. Monthly survivor annuities and administrative expenses are paid from this fund.

The **Qualified Excess Benefit Arrangement (QEBA) Fund** is the fund from which annuity benefits are paid when a benefit recipient exceeds IRC Section 415(b) limits on the amount an individual may receive annually from a qualified defined benefit pension plan. Employer contributions are credited to this fund on an as-needed basis in an amount equivalent to the amount of funds necessary to pay benefits out of the QEBA fund due to IRC Section 415(b) limitations. Accordingly, the QEBA fund currently has no reserve balance.

Balances in the respective reserves at June 30, 2017, were as follows (amounts expressed in thousands):

	SCRS	PORS	GARS	JSRS	SCNG	Total
Employee Fund	\$ 7,938,850	\$ 1,034,549	\$ 6,852	\$ 26,703	\$ -	\$ 9,006,954
Employer Fund	17,669,644	3,139,081	24,937	125,448	26,036	20,985,146
Death Benefit Fund	124,335	42,956				167,291
Accidental Death Fund		57,537				57,537
QEBA Fund						-
<b>Totals</b>	<b>\$ 25,732,829</b>	<b>\$ 4,274,123</b>	<b>\$ 31,789</b>	<b>\$ 152,151</b>	<b>\$ 26,036</b>	<b>\$ 30,216,928</b>

### III. Deposits and Investments

#### Deposit and Investment Risk Disclosures

The tables presented on Pages 59-62 include disclosures of credit and interest rate risk in accordance with Governmental Accounting Standards Board Statement 40 and are designed to inform financial statement users about investment risks which could affect the Systems' ability to meet its obligations. These tables classify investments by risk type, while the financial statements disclose investments by asset class. The table amounts were provided by the custodian bank and agree to the Statement of Fiduciary Net Position.

#### Custodial Credit Risk

##### Deposits

Custodial credit risk for deposits is the risk that in the event of a bank failure, the Systems' deposits may not be recovered. As prescribed by South Carolina state statute, the State Treasurer is the custodian of all deposits and is responsible for securing all deposits held by banks. These deposits are secured by deposit insurance, surety bonds, collateral securities, or letters of credit to protect the state against loss in the event of insolvency or liquidation of the institution or for any other cause. Deposits are insured by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000 or collateralized with securities held by the state or its agent in the South Carolina State Treasurer's name as custodian. The Retirement System Funding and Administration Act of 2017 designates the PEBA board as custodian effective July 1, 2017.

The Systems' deposits at June 30, 2017, were as follows (amounts expressed in thousands):

	Carrying Amount
SCRS	\$27,278
PORS	3,031
GARS	62
JSRS	73
SCNG	53
<b>Total</b>	<b>\$30,497</b>

Actual bank balances at June 30, 2017, totaled \$30,583 (amount expressed in thousands).

As of June 30, 2017, cash held by the custodian, in broker and strategic partnerships accounts as well as forward contracts and foreign currencies totaled \$408.5 million. These balances are classified as cash and cash equivalents on the Statement of Fiduciary Net Position.

##### Investments

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the Systems will not be able to recover the value of the investments or collateral securities that are in the possession of an outside party. Investing for the Systems is governed by Section 16, Article X of the South Carolina Constitution and Section 9-1-1310(B) and Title 9 Section 16 of the South Carolina Code of Laws. Funds held in trust for the Retirement Systems may be invested and reinvested in a variety of instruments including, but not limited to, fixed income instruments of the United States, foreign fixed income obligations, swaps, forward contracts, futures and options, domestic and international equity securities, private equity, real estate, and fund of funds.

The following table presents the fair value of investments as of June 30, 2017:

## Statement of Invested Assets

June 30, 2017

(Amounts expressed in thousands)

Investment Type	Fair Value	Investment Type	Fair Value
<b>Short Term Investments</b>		<b>Fixed Income Allocation</b>	
Short Term Investment Funds (U.S. Regulated)	\$ 1,323,167	<b>U.S. Government</b>	
Repurchase Agreements	307,428	U.S. Government Treasuries <sup>1</sup>	\$ 266,452
Certificates of Deposit	30,515	U.S. Government Agencies	578,079
Commercial Paper	656,904	<b>Mortgage Backed</b>	
Discount Notes	26,032	Government National Mortgage Association	72,534
U. S. Treasury Bills	272,129	Federal National Mortgage Association	29,044
Global Short Term	3,440	Federal Home Loan Mortgage Association	6,546
Corporate Bonds	5,679	Federal Home Loan Mortgage Association (Multiclass)	14,629
Strategic Partnership Short Duration	239,713	Collateralized Mortgage Obligations	25,027
Options - Cash	740	<b>Municipals</b>	13,486
Futures - Cash	76	<b>Corporate</b>	
<b>Total Short Term Investments</b>	<b>\$ 2,865,823</b>	Corporate Bonds	2,755,797
		Mixed Credit	7,882
<b>Equity Allocation</b>		Asset Backed Securities	430,715
<b>Global Public Equity<sup>2</sup></b>		<b>Private Placements</b>	944,290
Common Stocks	\$ 8,452,520	<b>Yankee Bonds</b>	928
Real Estate Investment Trusts	705,235	<b>Emerging Debt</b>	1,245,242
Preferred	52,730	<b>Options - Fixed Income</b>	851
Convertible Preferred	1,458	<b>Futures - Fixed Income</b>	(1,377)
Options - Equity	753,471	<b>Swaps - Fixed Income</b>	2,136
Futures - Equity	(24,645)	<b>Total Fixed Income</b>	<b>\$ 6,392,261</b>
Swaps - Equity	(1,027)		
<b>Total Global Public Equity</b>	<b>\$ 9,939,742</b>		
<b>Global Tactical Asset Allocation</b>			
Commingled Funds Balanced	\$ 2,065,561		
<b>Total Global Tactical Asset Allocation</b>	<b>\$ 2,065,561</b>		
<b>Alternatives</b>			
Hedge Funds	\$ 3,033,440		
Private Equity Limited Partnerships	2,322,317		
Private Debt	1,782,647		
Real Estate	1,814,011		
Swaps - Commodities	(8,325)		
<b>Total Alternative Investments</b>	<b>\$ 8,944,090</b>		
		<b>Total Invested Assets</b>	<b>\$ 30,207,477</b>
		<b>Invested Securities Lending Collateral</b>	\$ 123,275

### Reconciliation of Statement of Invested Assets (listed above) to the Statement of Fiduciary Net Position

<b>Total Invested Assets</b>	\$ 30,207,477
<b>Short Term Investments classified as Cash &amp; Cash Equivalents on Statement of Fiduciary Net Position</b>	
Short Term Investment Funds (U.S. Regulated)	(1,323,167)
Repurchase Agreements	(307,428)
Certificates of Deposit	(9,400)
Commercial Paper	(562,222)
Discount Notes	(9,280)
Options - Cash	(740)
Futures - Cash	(76)
<b>Total Investments on Statement of Fiduciary Net Position</b>	<b>\$ 27,995,164</b>

<sup>1</sup> U.S. Government Treasuries includes Notes, Bonds, and Treasury Inflation Protected Securities (TIPS).

<sup>2</sup> RSIC's Public Equity benchmark as of 6/30/2017 is the MSCI All Country World Investable Market Index. The Benchmark is comprised of 52.24% MSCI US Equity, 36.52% MSCI EAFE + CAD, and 11.24% MSCI EM Equity. As of June 30, 2017, RSIC had a NAV of \$4,850,149,291 in Global Equity managers that invest to the MSCI World. The MSCI World is comprised of 59.32% MSCI US and 40.68% MSCI EAFE + CAD.

## Fair Value Measurements

The Systems categorize fair value measurements within the fair value hierarchy established by GASB Statement No. 72, *Fair Value Measurement and Application*. The valuation technique uses a three level hierarchy of inputs to measure the fair value of the asset and gives the highest priority to unadjusted quoted prices in active markets (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). These classifications are summarized as follows:

Level 1 Inputs: Quoted prices (unadjusted) for identical assets or liabilities in active markets that a reporting entity can access at the measurement date.

Level 2 Inputs: Inputs other than quoted prices included within Level 1 that are observable for an asset or liability, either directly or indirectly.

Level 3 Inputs: Unobservable inputs for an asset or liability.

In the event that inputs used to measure the fair value of an asset or liability fall into different levels in the fair value hierarchy, the overall level of the fair value hierarchy in its entirety is determined based on the lowest level input that is significant to the entire valuation. These levels are not necessarily an indication of risk but are based upon the pricing transparency of the investment. In determining the appropriate levels, the Systems performed a detailed analysis of the assets and liabilities that are subject to GASB Statement No. 72.

Fair value of certain investments that do not have a readily determinable fair value is established using net asset value (or its equivalent) as a practical expedient. These investments are not categorized according to the fair value hierarchy.

Investments classified according to the fair value hierarchy are valued according to the pricing policy established by the Plan's custodian bank. Pricing is based primarily on prices from several third-party vendors or other specified alternative sources which are considered to be reliable. Where available, the custodian bank uses more than one vendor for securities of each asset type, class or issue. The price received from a primary source is used in valuation unless a tolerance check, or price challenge, results in the use of a price from a secondary vendor. The Systems may override prices provided by the custodian bank if it is deemed necessary or appropriate.

The Systems have the following recurring fair value measurements as of June 30, 2017 (amounts in thousands):

Investments by Fair Value Level	At 6/30/2017	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Short Term Investments</b>				
Short Term Investment Funds (U. S. Regulated)	\$ 1,323,167	\$ 1,323,167	\$ -	\$ -
Repurchase Agreements	307,428		26,600	280,828
Certificates of Deposit	30,515		30,515	
Commercial Paper	656,904		656,904	
Discount Notes	26,032		26,032	
U. S. Treasury Bills	272,129	272,129		
Global Short Term	3,440		3,440	
Corporate Bonds	5,679		5,679	
<b>Total Short Term Investments</b>	<b>\$ 2,625,294</b>	<b>\$ 1,595,296</b>	<b>\$ 749,170</b>	<b>\$ 280,828</b>
<b>Equity Allocation</b>				
<b>Global Public Equity</b>				
Common Stocks	\$ 4,201,014	\$ 4,201,014	\$ -	\$ -
Real Estate Investment Trusts	705,235	705,235		
Preferred	52,730	6,114	46,616	
Convertible Preferred	1,458		1,458	
<b>Total Global Public Equity</b>	<b>\$ 4,960,437</b>	<b>\$ 4,912,363</b>	<b>\$ 48,074</b>	<b>\$ -</b>
<b>Fixed Income Allocation</b>				
<b>U. S. Government</b>				
U.S. Government Treasuries	266,452	266,452	\$ -	\$ -
U.S. Government Agencies	578,079		578,079	
<b>Mortgage Backed</b>				
Government National Mortgage Association	72,534		72,534	
Federal National Mortgage Association	29,044		29,044	
Federal Home Loan Mortgage Association	6,546		6,546	
Federal Home Loan Mortgage Association (Multiclass)	14,629		14,629	
Collateralized Mortgage Obligations	25,027		25,027	
<b>Municipals</b>				
	13,486		13,486	
<b>Corporate</b>				
Corporate Bonds	2,755,797		2,127,617	628,180
Asset Backed Securities	430,715		430,715	
<b>Private Placements</b>				
	944,290		944,290	
<b>Yankee Bonds</b>				
	928		928	
<b>Total Fixed Income</b>	<b>\$ 5,137,527</b>	<b>\$ 266,452</b>	<b>\$ 4,242,895</b>	<b>\$ 628,180</b>
<b>Total Investments by Fair Value Level</b>	<b>\$ 12,723,258</b>	<b>\$ 6,774,111</b>	<b>\$ 5,040,139</b>	<b>\$ 909,008</b>
<b>Investments measured at the net asset value (NAV)</b>				
Strategic Partnership Short Duration	\$ 239,713			
Global Equity	4,251,506			
Global Tactical Asset Allocation	2,065,561			
Mixed Credit	7,882			
Emerging Debt	1,245,242			
Hedge Funds	3,033,440			
Private Equity	2,322,317			
Private Debt	1,782,647			
Real Estate	1,814,011			
<b>Total investments measured at the NAV</b>	<b>\$ 16,762,319</b>			
<b>Total investments measured at fair value</b>	<b>\$ 29,485,577</b>			
<b>Investment derivative instruments</b>				
<b>Short Term Investments</b>				
Options - Cash	\$ 740	\$ 764	\$ (24)	
Futures - Cash	76	76		
<b>Equity Investments</b>				
Options - Equity	753,471		753,471	
Futures - Equity	(24,645)	(24,645)		
Swaps - Equity	(1,027)		(1,027)	
<b>Fixed Income Investments</b>				
Options - Fixed Income	851	746	105	
Futures - Fixed Income	(1,377)	(1,377)		
Swaps - Fixed Income	2,136		2,136	
<b>Alternative Investments</b>				
Swaps - Commodities	(8,325)		(8,325)	
<b>Total investment derivative instruments</b>	<b>\$ 721,900</b>	<b>\$ (24,436)</b>	<b>\$ 746,336</b>	<b>\$ -</b>
<b>Total Invested Assets</b>	<b>\$ 30,207,477</b>			

## Investments Measured at the Net Asset Value (NAV):

	Fair Value	Unfunded Commitments <sup>1</sup>	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Strategic Partnership Short Duration	\$ 239,713	\$ -	Monthly	5 - 10 days
Global Equity	4,251,506		Daily/Monthly	5 - 30 days
Global Tactical Asset Allocation	2,065,561		Monthly/Quarterly	5 - 14 days
Mixed Credit	7,882		Monthly	5 - 30 days
Emerging Debt	1,245,242		Daily/Monthly	10 - 15 days
Hedge Funds	3,033,440		Monthly/Quarterly	2 - 90 days
Private Equity	2,322,317	921,804	Illiquid	Illiquid
Private Debt	1,782,647	1,656,108	Illiquid	Illiquid
Real Estate	1,814,011	812,614	Illiquid	Illiquid
<b>Total investments measured at the NAV</b>	<b>\$ 16,762,319</b>			

<sup>1</sup> For purposes of this table, amounts are reported in thousands in US Dollars. The Private Equity Category includes €132,604,029 and AUD \$55,400,000 that have been converted to USD.

**Strategic Partnership Short Duration Funds.** This investment type contains one fund that invests primarily in short duration debt instruments which generally have a one to three year maturity. The fair values of the investments have been determined using the percent ownership of the NAV of the fund. Redemptions are generally allowed monthly, provided adequate notice.

**Global Equity Funds.** This investment type includes nine funds that invest primarily in global developed and emerging equity public markets instruments. The fair values of the investments in this type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund. Redemptions are generally allowed monthly, provided adequate notice.

**Global Tactical Asset Allocation Funds.** This investment type includes four funds that may be invested in liquid securities and instruments, including but not limited to equities, fixed income securities, bank loans, commodities, futures, swaps, forwards, options and currencies. The fair values of the investments in this type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund. Redemptions are allowed monthly, provided adequate notice, except for one fund that may require a longer redemption timeframe and may be subject to gates and/or lock-ups.

**Mixed Credit Funds.** This investment type includes one fund that generally invests in high yield, bank loan and structured credit instruments. The fair values of the investments in this type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund. Redemptions are generally allowed monthly, provided adequate notice.

**Emerging Debt Funds.** This investment type includes four funds that generally invest in debt securities issued in any currency and may hold foreign currency. The fair values of the investments in this type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund. Redemptions are generally allowed monthly, provided adequate notice, and one fund charges a redemption fee.

**Hedge Funds.** This investment type includes 15 funds that generally invest in hedge fund strategies that seek alpha in equity or credit markets, or seek to minimize embedded market beta. There are eight of these funds, or approximately 55 percent of the value of this investment type, invested through strategic partnership investments which may consist of underlying investments in more than one hedge fund. The fair values of the investments in this type have been determined using NAV per share of the investments or percent ownership of

the NAV of the fund. Redemptions are generally allowed monthly, provided adequate notice; however, it is common that funds have authority to require longer redemption timeframes and/or make the redemption subject to gates in order to mitigate any detrimental impact to the fund.

**Private Equity Funds.** This investment type includes 44 funds that consist of investments in limited partnerships or co-investments and five funds that are strategic partnership investments. Strategic partnerships may consist of underlying investments in more than one limited partnership or co-investment fund. The private equity investments span the venture capital, growth equity, fund of funds, secondaries, energy and buyout strategies. Private equity is considered an illiquid investment strategy as funds generally have a life span of seven to 10 years. The nature of investments in this type is that distributions are received through the liquidation of the underlying assets of the fund. The fair values of the investments in this type have been determined using percent ownership of the NAV of the fund. Due to the nature of the valuation of the underlying fund investments, it is probable that the investments of this type will be sold at an amount different from the percent ownership of the NAV of the fund.

**Private Debt Funds.** This investment type includes 24 funds that consist of investments in limited partnerships and five funds that are strategic partnership investments. Strategic partnerships may consist of underlying investments in more than one limited partnership or co-investment fund. The private debt investments span the direct lending, distressed, energy, mezzanine, mortgages, opportunistic and other strategies. Private Debt is considered an illiquid investment strategy as funds generally have a life span of seven to 10 years. The nature of investments in this type is that distributions are received through the liquidation of the underlying assets of the fund. The fair values of the investments in this type have been determined using percent ownership of the NAV of the fund. Due to the nature of the valuation of the underlying fund investments, it is probable that the investments of this type will be sold at an amount different from the percent ownership of the NAV of the fund.

**Real Estate Funds.** This investment type includes 27 funds that consist of investments in limited partnerships or co-investments and four funds that are strategic partnership investments. Strategic partnerships may consist of underlying investments in more than one limited partnership or co-investment fund. The real estate investments span the core, diversified, real estate debt, timber, value add and opportunistic strategies. Real Estate is considered an illiquid investment strategy as funds generally have a life span of seven to 10 years. The nature of investments in this type is that distributions are received through the liquidation of the underlying assets of the fund. The fair values of the investments in this type have been determined using percent ownership of the NAV of the fund. Due to the nature of the valuation of the underlying fund investments, it is probable that the investments of this type will be sold at an amount different from the percent ownership of the NAV of the fund.

## 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 RSIC has no formal interest rate risk policy, interest rate risk is observed within the portfolio using effective duration (option adjusted duration), which is a measure of the price sensitivity of a bond or a portfolio of bonds to interest rate movements given a 100 basis point change in interest rates. Effective duration takes into account that expected cash flows will fluctuate as interest rates change and provides a measure of risk that changes proportionately with market rates. Investment guidelines may specify the degree of interest rate risk taken versus the benchmark within each fixed income portfolio. Disclosures for interest rate risk at June 30, 2017, are noted below (amounts expressed in thousands).

Investment Type	Fair Value Total	Fair Value Duration Not Available	Fair Value Duration Available	Effective Duration (option adjusted duration)
<b>Short Term Investments</b>				
Short Term Investment Funds (U.S. Regulated)	\$ 1,323,167	\$ -	\$ 1,323,167	0.08
Repurchase Agreements	307,428		307,428	0.07
Invested Securities Lending Collateral	123,275		123,275	0.01
Certificates of Deposit	30,515		30,515	0.39
Commercial Paper	656,904	5,000	651,904	0.11
Discount Notes	26,032		26,032	0.21
U. S. Treasury Bills	272,129		272,129	0.24
Global Short Term	3,440		3,440	0.13
Corporate Bonds	5,679		5,679	0.16
Strategic Partnership Short Duration	239,713		239,713	0.06
Options - Cash	740		740	(23.83)
Futures - Cash	76		76	0.25
<b>Total Short Term Investments</b>	<b>2,989,098</b>	<b>5,000</b>	<b>2,984,098</b>	
<b>Equity Allocation</b>				
Preferred	52,730	5,362	47,368	6.70
Convertible Preferred	1,458		1,458	9.52
<b>Total Equity Investments</b>	<b>54,188</b>	<b>5,362</b>	<b>48,826</b>	
<b>Fixed Income Allocation</b>				
<b>U. S. Government</b>				
U.S. Government Treasuries	266,452		266,452	9.50
U. S. Government Agencies	578,079	5,741	572,338	0.68
<b>Mortgage Backed</b>				
Government National Mortgage Association	72,534		72,534	2.82
Federal National Mortgage Association	29,044		29,044	3.14
Federal Home Loan Mortgage Corporation	6,546		6,546	4.31
Federal Home Loan Mortgage Association (FHLMC Multiclass)	14,629		14,629	5.98
Collateralized Mortgage Obligations	25,027		25,027	5.00
<b>Municipals</b>	13,486		13,486	7.07
<b>Corporate</b>				
Corporate Bonds	2,755,797	630,604	2,125,193	3.71
Mixed Credit	7,882	7,882		
Asset Backed Securities	430,715	33,022	397,693	1.42
<b>Private Placements</b>	944,290	188,030	756,260	2.59
<b>Yankee Bonds</b>	928		928	14.60
<b>Emerging Debt</b>	1,245,242		1,245,242	5.59
<b>Options - Fixed Income</b>	851	745	106	(188.77)
<b>Futures - Fixed Income</b>	(1,377)		(1,377)	(1.13)
<b>Swaps - Fixed Income</b>	2,136	(535)	2,671	(5.75)
<b>Total Fixed Income</b>	<b>\$ 6,392,261</b>	<b>\$ 865,489</b>	<b>\$ 5,526,772</b>	
<b>Total Invested Assets</b>	<b>\$ 9,435,547</b>	<b>\$ 875,851</b>	<b>\$ 8,559,696</b>	
<b>Total Portfolio Effective Duration (option adjusted duration)</b>				<b>2.51</b>

## Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the holders of its securities. Each individual portfolio within fixed income is managed in accordance with investment guidelines that are specific as to permissible credit quality ranges, exposure levels within individual quality tiers and average credit quality. Within high yield portfolios, a quality rating of lower than C is not permissible in any of the fixed income guidelines except in those circumstances of downgrades subsequent to purchase, in which case the investment manager is responsible for communicating the downgrade to the Commission's consultant and staff. The Systems' fixed income investments at June 30, 2017, were rated by Moody's and are presented below (amounts expressed in thousands).

### Credit Risk

June 30, 2017

(Amounts expressed in thousands)

Investment Type and Fair Value	AAA	AA	A	BAA	BA
<b>Short Term Investments</b>					
Short Term Investment Funds (U. S. Regulated)	\$ 1,323,167	\$ -	\$ -	\$ -	\$ -
Repurchase Agreements					
Invested Securities Lending Collateral					
Certificates of Deposit		11,500	9,400		
Commercial Paper		200,386		428,621	
Discount Notes	26,032				
Global Short Term					
Corporate Bonds		5,005			
Strategic Partnership Short Duration					
Options - Cash					
Futures - Cash					
<b>Equity Investments</b>					
Preferred				14,371	18,242
Convertible Preferred				1,458	
<b>Fixed Income Allocation<sup>2</sup></b>					
<b>Mortgage Backed:</b>					
Federal National Mortgage Association	29,044				
Federal Home Loan Mortgage Association	6,546				
Federal Home Loan Mortgage Association (Multiclass)	14,629				
Collateralized Mortgage Association	25,027				
<b>Municipals</b>	2,401	2,370		1,123	
<b>Corporate:</b>					
Corporate Bonds	138,628	161,222	393,559	414,166	277,428
Mixed Credit					
Asset Backed Securities	110,311	17,350	62,538	39,921	79,223
<b>Private Placements</b>	84,638	114,595	172,506	61,202	71,879
<b>Yankee Bonds</b>				928	
<b>Emerging Debt</b>					
<b>Options - Fixed Income</b>					
<b>Futures - Fixed Income</b>					
<b>Swaps - Fixed Income</b>					
<b>Totals</b>	<b>\$ 1,760,423</b>	<b>\$ 512,428</b>	<b>\$ 638,003</b>	<b>\$ 961,790</b>	<b>\$ 446,772</b>

Chart continued on Page 61

<sup>1</sup>The column labeled Not Rated by S&P or Moody's represents securities that were either not rated or had a withdrawn rating.

<sup>2</sup>U.S. Treasury Bills, Notes and Bonds, Agencies and Government National Mortgage Association securities with a fair value of \$1.19 billion are not included because they are not subject to credit risk.

### Credit Risk

#### Not Rated

B	CAA	CA	Int'l and EMD Commingled Funds or held in Strategic Partnerships	Rated by S&P; not by Moody's	Not rated by S&P or Moody's <sup>1</sup>	TOTAL
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,323,167
					307,428	307,428
					123,275	123,275
					9,615	30,515
					27,897	656,904
						26,032
					3,440	3,440
					674	5,679
			239,713			239,713
					740	740
					76	76
				14,003	6,114	52,730
						1,458
						29,044
						6,546
						14,629
						25,027
				7,592		13,486
351,365	66,957	2,755		350,163	599,554	2,755,797
			7,882			7,882
7,698	4,748			67,329	41,597	430,715
90,357	60,588			181,960	106,565	944,290
						928
			1,245,242			1,245,242
					851	851
					(1,377)	(1,377)
					2,136	2,136
<b>\$ 449,420</b>	<b>\$ 132,293</b>	<b>\$ 2,755</b>	<b>\$ 1,492,837</b>	<b>\$ 621,047</b>	<b>\$ 1,228,585</b>	<b>\$ 8,246,353</b>

## Concentration of Credit Risk – Investments

Concentration of credit risk is the risk of loss attributed to the magnitude of investment in a single issuer. The Systems’ policy for reducing this risk is to comply with the Statement of Investment Objectives and Policies as amended and adopted by the Commission which states that “except that no limitations on issues and issuers shall apply to obligations of the U.S. Government and Federal Agencies, the domestic fixed income portfolio shall contain no more than 6 percent exposure to any single issuer.” As of June 30, 2017, there is no single issuer exposure within the portfolio that comprises

5 percent or more of the overall portfolio. Therefore, there is no concentration of credit 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 Systems participates in foreign markets to diversify assets, reduce risk and enhance returns. Currency forwards are used to manage currency fluctuations and are permitted by investment policy. Policy forbids speculating in forwards and other derivatives.

The table below presents the Systems’ exposure to foreign currency risk in U.S. dollars at June 30, 2017, (amounts expressed in thousands):

Currency	Cash & Cash Equivalents	Forward Contracts	Futures Contracts	Private Equity	Preferred Securities	Fixed Income	Equity	Total
Australian Dollar	\$ 902	\$ 75,569	\$ 311	\$ 32,153	\$ -	\$ -	\$ 100,400	\$ 209,335
Brazil Real	144	869				8,675		9,688
Canadian Dollar	1,922	95,058	(1,733)			(210)	169,766	264,803
Danish Krone	332	(78,915)				76,816	24,238	22,471
Euro Currency	5,641	215,923	(13,313)	176,507	6,114	249,744	450,656	1,091,272
Hong Kong Dollar	2,274	40,489	(174)				69,182	111,771
Israeli Shekel	183						4,348	4,531
Japanese Yen	5,949	264,204	1,048			(177)	345,645	616,669
Mexican New Peso	3,768	(3,517)					4,506	4,757
New Taiwan Dollar		(32,405)						(32,405)
New Zealand Dollar	299						4,580	4,879
Norwegian Krone	79	(96)					14,289	14,272
Pound Sterling	(19)	193,942	(4,077)			9,880	261,706	461,432
Russian Ruble (New)	(768)	(202)						(970)
Singapore Dollar	476	(14,825)					16,505	2,156
South African Rand		124						124
South Korean Won		(23,110)						(23,110)
Swedish Krona	2,014	23,122	(678)			5,029	52,149	81,636
Swiss Franc	354	4,665					101,988	107,007
<b>Totals</b>	<u>\$ 23,550</u>	<u>\$ 760,895</u>	<u>\$(18,616)</u>	<u>\$208,660</u>	<u>\$ 6,114</u>	<u>\$349,757</u>	<u>\$ 1,619,958</u>	<u>\$2,950,318</u>

## Derivatives

Derivatives are financial instruments for which the value is derived from underlying assets or data. All of the Systems’ derivatives are considered investments. Excluding futures, derivatives generally take the form of contracts in which two parties agree to make payments at a later date based on the value of specific assets or indices. Through certain collective trust funds, the Systems may invest in various derivative financial

instruments such as futures and options thereon; forward foreign currency contracts, options, interest rate, currency, equity, index, credit default, total return swaps, interest-only strips, and CMOs to enhance the performance and reduce volatility. To comply with the requirements of multiple exchanges, cash and securities in the amount of \$107.1 and \$306.9 million, respectively, were held in trust by the clearing brokers on June 30, 2017. The Systems’ derivatives, consisting of futures,

options, forward contracts and swaps are presented in the tables on Pages 63-68. Investments in limited partnerships and commingled funds may include derivatives that are not shown in the derivative totals.

Derivatives directly managed by the Investment Commission are used primarily to facilitate changes to the asset allocation of the total plan and for their low cost of implementation. The Commission uses derivatives for several reasons:

- **Asset Allocation:** In many cases, synthetic exposures (using derivatives) are placeholders until managers are hired and funded. In time, the Commission may

substitute traditional managers for much of the synthetic exposure currently in the portfolio. Efficient Market Theory dictates that in some asset classes, synthetics are the best way to achieve exposure.

- **Risk Management:** Derivatives allow investors the ability to swiftly and efficiently increase or decrease exposures in order to manage portfolio risk.
- **Cost:** A synthetic (derivative) solution is often the least expensive way to gain exposure to an asset class or to manage portfolio risk. Derivatives are more beneficial in each of the three major measures of cost: commission costs, market impact of trading and opportunity costs.

## Futures

Futures are contractual obligations that require the buyer (seller) to buy (sell) assets at a predetermined date at a predetermined price. These contracts are standardized and trade on an organized exchange with gains and losses settled daily thereby significantly reducing credit and default risk. Gains and losses are included in the net appreciation/ (depreciation) in the fair value of investments total of the Statement of Changes in Fiduciary Net Position.

The tables below present classification information on the Systems' derivatives at June 30, 2017, (amounts expressed in thousands):

	<u>Changes in Fair Value</u>	
	<u>Classification</u>	<u>Gain/(Loss)</u>
Futures Contracts	Net appreciation/(depreciation)	\$ (63,729)
Forward Contracts	Net appreciation/(depreciation)	18,304
Swaps	Net appreciation/(depreciation)	1,631
Options	Net appreciation/(depreciation)	(27,580)

	<u>Fair Value</u>			
	<u>Forward Contracts</u>	<u>Futures</u>	<u>Options</u>	<u>Swaps</u>
Cash and Cash Equivalents	\$ (7,023)	\$ 76	\$ 740	\$ -
Fixed Income		(1,377)	851	2,136
Equity		(24,645)	753,471	(1,027)
Alternatives				(8,325)
<b>Totals</b>	<u>\$ (7,023)</u>	<u>\$ (25,946)</u>	<u>\$ 755,062</u>	<u>\$ (7,216)</u>

At June 30, 2017, the Systems had the following exposure via futures contracts (dollar amounts expressed in thousands):

<b>Futures Contracts</b>	<b>Expiration</b>	<b>Long/Short</b>	<b>Quantity</b>	<b>Notional Value<sup>1</sup></b>
90DAY EURODOLLAR FUTURE (CME)	EXP MAR 18	Short	(158)	\$ (38,884)
90DAY EURODOLLAR FUTURE (CME)	EXP JUN 18	Short	(342)	(84,102)
90DAY EURODOLLAR FUTURE (CME)	EXP DEC 17	Short	(110)	(27,094)
90DAY EURODOLLAR FUTURE (CME)	EXP DEC 18	Short	(148)	(36,334)
<b>Total Cash &amp; Cash Equivalents</b>				<b>(186,414)</b>
SPI 200 INDEX FUTURE (SFE)	EXP SEP 17	Long	671	72,687
S&P/TSE 60 INDEX FUTURE (MSE)	EXP SEP 17	Long	691	94,624
DAX INDEX FUTURE (EUX)	EXP SEP 17	Long	295	103,630
EURO STOXX 50 FUTURE (EUX)	EXP SEP 17	Long	2,784	108,944
IBEX 35 INDEX FUTURE (MFM)	EXP JUL 17	Long	329	39,047
CAC 40 EURO INDEX FUTURE (EOP)	EXP JUL 17	Long	2,025	118,171
S & P/MIB INDEX FUTURE (MIL)	EXP SEP 17	Long	244	28,524
AMSTERDAM INDEX FUTURE(E0E)	EXP JUL 17	Long	347	40,092
HANG SENG INDEX FUTURE (HKG)	EXP JUL 17	Long	257	42,115
TOPIX INDEX FUTURE (OSE)	EXP SEP 17	Long	1,708	244,966
FTSE 100 INDEX FUTURE (ICF)	EXP SEP 17	Long	1,893	178,087
OMX INDEX FUTURE (SSE)	EXP JUL 17	Long	1,548	29,416
S & P 500 EMINI IND FUT (CME)	EXP SEP 17	Long	14,603	1,767,620
<b>Total Equity</b>				<b>2,867,923</b>
US TREAS BD FUTURE (CBT)	EXP SEP 17	Long	46	7,070
US TREAS BD FUTURE (CBT)	EXP SEP 17	Long	75	11,527
US TREAS BD FUTURE (CBT)	EXP SEP 17	Long	398	61,168
US ULTRA BOND (CBT)	EXP SEP 17	Long	435	72,156
US ULTRA BOND (CBT)	EXP SEP 17	Long	16	2,654
US 10YR ULTRA FUTURE (CBT)	EXP SEP 17	Long	5	674
US 10YR ULTRA FUTURE (CBT)	EXP SEP 17	Long	114	15,369
US 10 YR TREAS NTS FUTURE(CBT)	EXP SEP 17	Long	1,619	203,235
US 10 YR TREAS NTS FUTURE(CBT)	EXP SEP 17	Long	1,454	182,523
US 10 YR TREAS NTS FUTURE(CBT)	EXP SEP 17	Short	(56)	(7,030)
US 5YR TREAS NTS FUTURE (CBT)	EXP SEP 17	Long	2,619	308,612
US 5YR TREAS NTS FUTURE (CBT)	EXP SEP 17	Long	1,625	191,483
US 5YR TREAS NTS FUTURE (CBT)	EXP SEP 17	Short	(172)	(20,268)
US 2YR TREAS NTS FUT (CBT)	EXP SEP 17	Long	1,116	241,178
US 2YR TREAS NTS FUT (CBT)	EXP SEP 17	Long	141	30,471
EURO-OAT FUTURE (EUX)	EXP SEP 17	Short	(354)	(59,949)
CANADA 10YR BOND FUTURE (MSE)	EXP SEP 17	Long	28	3,030
EURO-BUND FUTURE (EUX)	EXP SEP 17	Long	52	9,600
JPN 10Y BOND FUTURE (OSE)	EXP SEP 17	Short	(18)	(24,048)
LONG GILT FUTURE (ICF)	EXP SEP 17	Short	(116)	(18,921)
<b>Total Fixed Income</b>				<b>1,210,534</b>
<b>Total</b>				<b>\$ 3,892,043</b>

<sup>1</sup> Notional value is the nominal or face amount that is used to calculate payments made on derivative instruments (futures, forwards, swaps and options). This amount generally does not change hands and is thus referred to as notional. The notional amount represents the economic equivalent to an investment in the physical securities represented by the derivative contract.

## Forwards

Forwards are contractual obligations that require the delivery of assets at a fixed price on a predetermined date. These contracts are “over-the-counter” (OTC) instruments, meaning they are not traded on an organized exchange. Currency forwards gains and losses are included in the net

appreciation/(depreciation) in the fair value of investments total of the Statement of Changes in Fiduciary Net Position.

At June 30, 2017, the Systems had the following forward exposures, listed by counterparty (amounts expressed in thousands):

<b>Broker</b>	<b>Notional Value</b>	<b>Fair Value</b>	<b>Counterparty Exposure</b>
Bank of America	\$ 78,818	\$ (2,377)	3.63%
Bank of Montreal	178,668	520	8.23%
BNP Paribas	503,108	(2,744)	23.16%
BNY Mellon	251,107	(2,751)	11.56%
Brown Brothers Harriman	12,202	(223)	0.56%
Citibank	23,103	(166)	1.07%
Credit Suisse International London	25,083	396	1.15%
Deutsche Bank London	4,187	(1)	0.19%
Goldman Sachs	83,851	(1,562)	3.86%
HSBC Bank PLC London	3,248	5	0.15%
JP Morgan Chase Bank	87,105	68	4.01%
Merrill Lynch International London	819	(3)	0.04%
Morgan Stanley	2,575	(104)	0.12%
Royal Bank of Canada	178,609	579	8.22%
Standard Chartered Bank London	198,519	350	9.14%
State Street Boston Capital Market	179,053	401	8.24%
Toronto Dominion	5,849	(3)	0.27%
UBS AG/Stamford	356,353	592	16.40%
<b>Totals</b>	\$ 2,172,257	\$ (7,023)	100%

## Swaps

The Systems has entered into various swap agreements to manage plan exposure. Swaps are OTC agreements to exchange a series of cash flows according to specified terms. The underlying asset can be an interest rate, an exchange rate, a commodity price or any other index.

Total return swaps are primarily used to efficiently achieve a target asset allocation. Exposures to an asset class are typically gained by paying a reference rate such as LIBOR, plus or minus a spread, in exchange for the risk and returns of a desired market index. Similarly, exposures can be reduced by receiving a reference rate in exchange for the economic risks and returns of an index.

Counterparty risk, or default risk, is the risk that a party will not honor its contractual obligations. The Systems seeks to actively manage its counterparty risk by thorough analysis and evaluation of all potential counterparties by investment staff and the independent overlay manager. Risk is further minimized through diversification among counterparties with high credit ratings and collateralizing unrealized gains and losses. The Systems currently does not participate in a master netting agreement. Unrealized gains and losses are not netted across instrument types and are included in the net appreciation/(depreciation) in the fair value of investments total of the Statement of Changes in Fiduciary Net Position. The table below reflects the counterparty credit ratings at June 30, 2017, for currency forwards, swap agreements, and options (amounts in thousands):

Quality rating	Forwards	Swaps	Options <sup>1</sup>	Total
Aa2	\$ 2	\$ -	\$ -	\$ 2
Aa3	468	(6,836)		(6,368)
A1	(8,104)	(2,991)	764	(10,331)
A2	350	(397)		(47)
A3	(104)		82	(22)
Baa1	(3)		745	742
Baa2	(1)			(1)
Not rated by Moody's; rated A by Fitch	369			369
<b>Total subject to credit risk</b>	<b>\$ (7,023)</b>	<b>\$ (10,224)</b>	<b>\$ 1,591</b>	<b>\$ (15,656)</b>
Centrally cleared:				
Chicago Mercantile Exchange Inc.	\$ -	\$ 1,768	\$ -	\$ 1,768
Chicago Board Options Exchange			(8,538)	(8,538)
Intercontinental Exchange		(1,223)		(1,223)
LCH Ltd		2,463		2,463
<b>Total not subject to credit risk</b>	<b>\$ -</b>	<b>\$ 3,008</b>	<b>\$ (8,538)</b>	<b>\$ (5,530)</b>
<b>Totals</b>	<b>\$ (7,023)</b>	<b>\$ (7,216)</b>	<b>\$ (6,947)</b>	<b>\$ (21,186)</b>

<sup>1</sup> Options held in commingled accounts are not included in this table.

At June 30, 2017, the Systems held swaps as shown in the tables below (amounts expressed in thousands):

Counterparty	Total Return Swaps	SCRS Pays	SCRS Receives	Maturity Date	Current Notional	Fair Value <sup>1</sup>	Gain/Loss Since Trade
Bank of America	Russell 2000 Proxy	Russell 2000 Index Total Return	3MT Bill - 29 bps	3/29/2018	\$ (232,592)	\$ 25	\$ (5,592)
Barclays	Barclays US Agg Proxy	1M US Dollar + 10 bps	LBUSTRUU Index	2/28/2018	357,207	(359)	7,207
Barclays	Barclays US Agg Proxy	1M US Dollar - 8 bps	LBUSTRUU Index	9/29/2017	495,155	(497)	(4,845)
Barclays	Barclays US Credit Proxy	1M US Dollar - 15 bps	LUCRTRUU Index	9/29/2017	200,399	397	399
BNP	Russell 2000 Proxy	Russell 2000 Index Total Return	3MT Bill - 27 bps	4/30/2018	(65,000)	(580)	(0)
Goldman Sachs	BCOM F3 Preroll w/Gemini Micro	45 bps	ABGS1006 Index	8/30/2017	110,764	(868)	10,764
Goldman Sachs	BCOM F3 Preroll w/Gemini Micro	45 bps	ABGS1006 Index	9/5/2017	82,537	(4,079)	7,536
JP Morgan	JPM Enhanced Beta + SSP Proxy	3MT-Bill + 46.9 bps	JMABEBSP Index	8/31/2017	217,766	(557)	3,205
JP Morgan	JPM Palmetto Equinox Proxy TR	46.9 bps	JMABEQXT Index	9/29/2017	101,132	(938)	1,132
JP Morgan	Bloomberg Select Petroleum	9.97 bps	BCOMRPE Index	5/31/2018	49,814	(1,830)	(186)
JP Morgan	JPM Palmetto Equinox Proxy TR	3MT-Bill + 46.9 bps	JMABEQXT Index	5/31/2018	64,478	(340)	648
Societe Generale	SocGen Congestion Commodities	19 bps	SGCOP26E Index	3/29/2018	221,530	(397)	(6,347)
					<u>\$ 1,603,190</u>	<u>\$ (10,023)</u>	<u>\$ 13,921</u>

Counterparty	Fixed Income Swaps	SCRS Pays	SCRS Receives	Maturity Date	Current Notional	Fair Value <sup>1</sup>
Credit Suisse AG	Credit Default Swaps	Variable Rate	Fixed Rate	9/17/2058	\$ 12,500	\$ (171)
JPMorgan Chase Bank	Credit Default Swaps	Variable Rate	Fixed Rate	9/17/2058	2,200	(30)
					<u>\$ 14,700</u>	<u>\$ (201)</u>
Chicago Mercantile Exchange	Credit Default and Interest Rate Swaps	Fixed / Variable Rate	Fixed / Variable Rate	various	\$ 547,287	\$ 1,768
Intercontinental Exchange	Credit Default Swaps	Variable Rate	Fixed Rate	various	136,186	2,463
LCH Ltd	Interest Rate Swaps	Fixed	Variable Rate	various	128,221	(1,223)
					<u>\$ 811,694</u>	<u>\$ 3,008</u>

<sup>1</sup>Fair Value is the amount reasonably expected to be received if the underlying positions were liquidated on the following business day.

## Options

Options are exchange traded agreements between two parties for a future transaction on an underlying asset at a reference or strike price. The buyer of an option has the right, but not the obligation, to transact. The seller of an option has

the obligation to transact if forced by the buyer. The price of an option is derived by taking the difference in the underlying asset and the strike price plus a premium for the remaining time until expiration. At June 30, 2017, the Systems had the following option positions (amounts expressed in thousands):

Option Contracts	Underlying Security	Expiration	Quantity	Fair Value <sup>1</sup>
Put July 17 001.263 ED 07/03/17	USD/GBP SPOT OPTION 2017	July 2017	(3,100,000)	\$ (19)
Put July 17 001.264 ED 07/03/17	USD/GBP SPOT OPTION 2017	July 2017	(800,000)	(5)
Call Mar 18 098.75 ED 03/19/18	90DAY EURODOLLAR FUTURE MAR 18	March 2018	(444)	(17)
Put Dec 19 097.625 ED 12/16/19	90DAY EURODOLLAR FUT DEC 19	December 2019	1,229	745
Put Mar 18 098.250 ED 03/19/18	90DAY EURODOLLAR FUTURE MAR 18	March 2018	444	36
<b>Total Cash &amp; Cash Equivalents</b>				<b>740</b>
Put July 17 101.87109375 ED70617	COMMIT TO PUR FNMA SF MTG	July 2017	(20,000,000)	(1)
Put Aug 18 002.800 ED 082018	IRS P USD 5Y 22BPS R 2.8%	August 2018	(21,600,000)	(99)
Put Aug 18 002.905 ED 082018	IRS P USD 30Y 98BPS R 2.905%	August 2018	4,900,000	181
Put Aug 18 002.800 ED 08/20/18	IRS P USD 5Y 22BPS R 2.8%	August 2018	(6,900,000)	(31)
Put Aug 18 002.940 ED 08/20/18	IRS P USD 30Y 97BPS R 2.94%	August 2018	1,600,000	55
Put Sept 17 084.000 ED 09/15/17	ISHARES IBOX USD HIGH YIELD	September 2017	7,494	307
Call Sept 17 127.000 ED 091517	ISHARES 20+ YEAR TREASURY BO	September 2017	6,358	846
Call Sept 17 130.000 ED 091517	ISHARES 20+ YEAR TREASURY BO	September 2017	(6,358)	(407)
<b>Total Fixed Income</b>				<b>851</b>
Put July 17 2435.000 ED 070717	S&P 500 INDEX SPX	July 2017	(370)	(618)
Put July 17 2420.000 ED 072117	S&P 500 INDEX (SPX)	July 2017	(1,129)	(2,077)
Put July 17 2430.000 ED 071417	S&P 500 INDEX SPX	July 2017	(371)	(686)
Put July 17 2435.000 ED 072817	S&P 500 INDEX SPX	July 2017	(371)	(1,013)
Call Aug 17 2420.000 ED 083117	S&P 500 INDEX SPX	August 2017	(1,120)	(4,144)
<b>Total Equity</b>				<b>(8,538)</b>
<b>Total</b>				<b>\$ (6,947)</b>

<sup>1</sup> Options held in commingled accounts are not included in this table.

## Alternative Investments

The Alternative Investment category includes the following asset classes: private equity, hedge funds, private debt, real estate and commodities.

Private equity, private debt and real estate investments are typically structured as limited partnerships. In this structure, the Systems is one of several limited partners, while the investment manager serves as the general partner. Investing in such limited partnerships legally obligates the Systems to invest the committed amount until the investment is fully funded or the contractual investment period has expired. Hedge fund and commodities investments are typically on subscription basis with a single, initial investment with no further commitment.

The Systems established several strategic partnerships to gain access to deal flow, to receive favorable economics and to efficiently take advantage of market opportunities. Investments within the strategic partnership accounts may include allocations to any asset class including those considered alternative investments. Assets of Strategic Partnerships are reported within their respective asset class totals.

The Commission's intent is to access superior risk-adjusted returns through investing in alternative investment asset classes. Due to their low correlation to traditional asset classes, alternative investments diversify the portfolio and help reduce the risk associated with volatility of returns.

## Commitments

The Commission, on behalf of the Systems, has entered into contractual agreements with numerous alternative investment managers and is committed for future funding of private equity, private debt and real estate investments. At June 30, 2017, the Systems' commitments, including commitments within Strategic Partnerships, are shown in the following table (amounts expressed in thousands):

	<b>Total Commitment</b>	<b>Amount Funded to Date</b>	<b>Remaining Unfunded Commitment</b>
<b>Limited Partnerships USD</b>			
Private Equity	\$ 4,082,263	\$ 3,354,186	\$ 728,077
Private Debt	4,918,202	3,262,094	1,656,108
Real Estate	3,224,963	2,412,972	811,991
Real Assets	30,000	29,377	623
<b>Totals</b>	<b>\$ 12,255,428</b>	<b>\$ 9,058,629</b>	<b>\$ 3,196,799</b>
<b>Limited Partnerships Euros</b>			
Private Equity	€ 345,750	€ 213,146	€ 132,604
<b>Totals</b>	<b>€ 345,750</b>	<b>€ 213,146</b>	<b>€ 132,604</b>
<b>Limited Partnerships AUD</b>			
Private Equity	\$ 100,000	\$ 44,600	\$ 55,400
<b>Totals</b>	<b>\$ 100,000</b>	<b>\$ 44,600</b>	<b>\$ 55,400</b>

## Securities Lending

The Systems' investment portfolio currently participates in a securities lending program, managed by BNYM ("Securities Lending Program"), whereby securities are loaned for the purpose of generating additional income. BNYM is responsible for making loans of securities on a collateralized basis from the Systems' investment portfolio to various third party broker-dealers and financial institutions. The fair value of the required cash collateral must initially meet or exceed 102.0 percent of the fair value of the securities loaned for U. S. securities and 105.0 percent for Non-U. S. securities, providing a margin against a decline in the fair value of collateral. If the collateral value falls below 100.0 percent, the borrower must post additional collateral. In conjunction with generating revenue, the collateral pool seeks to maintain a net asset value (NAV) of \$1.00, which is determined by dividing the fair value of the assets by the cost of those assets.

There are no restrictions on the amount of securities that may be loaned and conservative investment guidelines continue to be maintained within the Securities Lending Program. The re-investment of the cash collateral is restricted to short duration, very low risk securities and is monitored by RSIC on an ongoing basis. The types of securities available for loan during the year ended June 30, 2017 included U.S. Government securities, U.S. Government agencies, Corporate bonds, Non-U. S. Fixed Income and Non-U. S. equities. The contractual agreement in place at fiscal year-end between the State Treasurer as custodian and BNYM provides indemnification in the event the borrower fails to return the securities lent or fails to pay the Systems income distribution by the securities' issuers while the securities are on loan. Indemnification is also provided if the investment of

cash collateral results in investment loss. Cash and U.S. Government securities are received as collateral for these loans. Collateral securities cannot be pledged or sold without a borrower default. Cash collateral received is invested, and accordingly, investments made with cash collateral are reported as an asset. A corresponding liability is recorded as the Systems must return the cash collateral to the borrower upon the expiration of the loan.

At June 30, 2017, the fair value of securities on loan was \$164.65 million. The fair value of the invested cash collateral was \$123.27 million, securities lending obligations were \$170.46 million with the difference reported within "Other Liabilities" on the Statement of Fiduciary Net Position. The gross securities lending revenue for the fiscal year was \$773 thousand, a decrease from \$946 million in the prior year. Since November 2008, gains and losses from the Securities Lending Program have been excluded from the Total Plan performance calculations.

With regard to counterparty credit risk, the Systems' cash collateral invested is held by the counterparty and is uninsured. All securities loaned can be terminated on demand by either the Systems or the borrower. At year end the average number of days the loans were outstanding was one day. The average weighted maturity of investments made with cash collateral was three days. At June 30, 2017, there had been no losses resulting from borrower defaults and the Systems had no credit risk exposure to borrowers because the amounts the Systems owed the borrowers exceeded the amounts the borrowers owed the Systems.

The following table presents the fair value (amounts expressed in thousands) of the underlying securities and the total collateral received for securities on loan at June 30, 2017:

	<u>SCRS</u>	<u>PORS</u>	<u>GARS</u>	<u>JSRS</u>	<u>SCNG</u>	<u>06/30/17 TOTALS</u>	<u>06/30/16 TOTALS</u>
<b>Securities lent for cash collateral</b>							
Corporate bonds	\$ 13,085	\$ 2,166	\$ 15	\$ 76	\$ 12	\$ 15,354	\$ 25,808
Global Public Equity	121,287	20,076	141	702	111	142,317	75,368
Global Fixed Income	5,950	985	7	34	6	6,982	
<b>Total</b>	<b>\$ 140,322</b>	<b>\$ 23,227</b>	<b>\$ 163</b>	<b>\$ 812</b>	<b>\$ 129</b>	<b>\$ 164,653</b>	<b>\$ 101,176</b>
<b>Securities lent for non-cash collateral</b>							
Corporate Bonds	\$ 6,347	\$ 1,050	\$ 7	\$ 37	\$ 6	\$ 7,447	\$ -
Global Public Equity	79,848	13,217	93	462	73	93,693	45,003
<b>Total</b>	<b>\$ 86,195</b>	<b>\$ 14,267</b>	<b>\$ 100</b>	<b>\$ 499</b>	<b>\$ 79</b>	<b>\$ 101,140</b>	<b>\$ 45,003</b>
<b>Cash collateral invested as follows</b>							
Repurchase agreements	\$ 105,059	\$ 17,390	\$ 122	\$ 608	\$ 96	\$ 123,275	\$ 55,737
<b>Total</b>	<b>\$ 105,059</b>	<b>\$ 17,390</b>	<b>\$ 122</b>	<b>\$ 608</b>	<b>\$ 96</b>	<b>\$ 123,275</b>	<b>\$ 55,737</b>
<b>Securities received as collateral</b>							
U.S. Government securities	\$ 88,525	\$ 14,653	\$ 103	\$ 513	\$ 81	\$ 103,875	\$ 45,287
<b>Total</b>	<b>\$ 88,525</b>	<b>\$ 14,653</b>	<b>\$ 103</b>	<b>\$ 513</b>	<b>\$ 81</b>	<b>\$ 103,875</b>	<b>\$ 45,287</b>

#### IV. Transfers between Systems

Transfers between systems are statutorily authorized internal transfers of contributions and service credit from one retirement system to another retirement system that result from members voluntarily initiating the transfer when certain conditions are met.

Transfers made within the Systems administered by PEBA during the fiscal year ended June 30, 2017, were as follows (amounts expressed in thousands):

<b>Transfers from:</b>	<b>Transfers to:</b>					
	<b>SCRS</b>	<b>PORS</b>	<b>GARS</b>	<b>JSRS</b>	<b>SCNG</b>	<b>Total</b>
<b>SCRS</b>	\$ -	\$ 1,278	\$ 19	\$ 253	\$ -	\$ 1,550
<b>PORS</b>						-
<b>GARS</b>						-
<b>JSRS</b>						-
<b>SCNG</b>						-
<b>Total</b>	<b>\$ -</b>	<b>\$ 1,278</b>	<b>\$ 19</b>	<b>\$ 253</b>	<b>\$ -</b>	<b>\$ 1,550</b>

The following schedule reflects amounts due to or due from other systems as of June 30, 2017, (amounts expressed in thousands):

<b>Due from:</b>	<b>Due to:</b>					
	<b>SCRS</b>	<b>PORS</b>	<b>GARS</b>	<b>JSRS</b>	<b>SCNG</b>	<b>Total</b>
<b>SCRS</b>	\$ -	\$ 397	\$ -	\$ -	\$ -	\$ 397
<b>PORS</b>						-
<b>GARS</b>						-
<b>JSRS</b>						-
<b>SCNG</b>						-
<b>Total</b>	<b>\$ -</b>	<b>\$ 397</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 397</b>

## V. Related Party Transactions

The pension plans provide pension and other benefits to employees of all state agencies. Revenues attributed to these agencies are recorded in the financial statements as employee and employer contributions and constitute approximately 33 percent of combined contribution revenues. In addition, the Systems received custodial and related services from the Office of the South Carolina State Treasurer through FY 2017. The Retirement System Funding and Administration Act of 2017 designated the PEBA Board rather than the State Treasurer as custodian effective July 1, 2017.

At June 30, 2017, liabilities of approximately \$63.9 million were due to the Employee Insurance

Program. Employee and employer contributions receivable of approximately \$50 million were due from other state departments and agencies.

The SCNG Supplemental Retirement Plan received state-appropriated contributions in the amount of \$4.6 million during the fiscal year.

The Retirement System Investment Commission is a separate state agency; however, the administrative costs of the Commission are funded by transfers from the Systems' trust funds. Transfers in the amount of approximately \$9 million were made to the Commission during the fiscal year.

## VI. Deferred Retirement Option Plans

The TERI program, implemented effective January 1, 2001, is a deferred retirement option plan available to active SCRS members eligible for service retirement on or after January 1, 2001. When a member enters TERI, the member's status changes from an active member to a retiree even though the employee continues to work at his regular job and earn his regular salary for a period of up to five years. TERI participants continue to contribute at the same rate as active members. No additional service credit is earned during this period and participants are ineligible for disability retirement benefits. During the TERI participation period, the retiree's monthly benefits are accumulated in the trust account. Upon termination of employment at the end of the TERI period, funds are distributed and the retiree may elect a payment method to either roll over their funds into a qualified retirement plan or to receive a single-sum distribution (or a combination thereof). No interest is paid on the participant funds accumulated in the TERI account.

Legislation enacted in 2012 closes the TERI program to all members effective June 30, 2018.

As of June 30, 2017, a total of 7,210 members were actively participating in the TERI program and the benefits held in trust totaled \$643,050,425.

A deferred retirement option plan also exists under the Retirement System for Judges and Solicitors (JSRS). A member who has not yet reached the age of 60 years, but who is eligible to retire and receive the maximum monthly benefit, may retire and continue to serve as a judge, a solicitor or a circuit public defender. The member's normal monthly retirement benefit is deferred and placed in the system's trust fund on behalf of the member. Upon reaching the age of 60 years, the balance of the member's deferred retirement benefit is distributed to the member. As of June 30, 2017, the benefits held in trust totaled \$208,045.

## VII. Capital Assets

Capital assets at June 30, 2017, consist of the following amounts (expressed in thousands).

<b>Asset Class (at Cost)</b>	<b>Beginning Balances 7/1/2016</b>	<b>Additions</b>	<b>Deletions</b>	<b>Ending Balances 6/30/2017</b>
Land	\$ 582	\$ -	\$ -	\$ 582
Building	4,749			4,749
Equipment	2,005	65		2,070
Total Capital Assets	<u>7,336</u>	<u>65</u>	<u>-</u>	<u>7,401</u>
<b>Accumulated Depreciation</b>				
Building	2,823	119		2,942
Equipment	1,772	150		1,922
Total Accumulated Depreciation	<u>4,595</u>	<u>269</u>	<u>-</u>	<u>4,864</u>
<b>Capital Assets, Net</b>	<u>\$ 2,741</u>	<u>\$ (204)</u>	<u>\$ -</u>	<u>\$ 2,537</u>

## VIII. Compensated Absences

As state employees, most full-time permanent employees of SC PEBA's Retirement Division earn 15 days of annual leave and 15 days of sick leave per year during their first ten years of service. After ten years of service is complete, most employees earn an additional 1.25 days of annual leave for each year of service over ten until they reach a maximum of 30 days per year. Sick leave earnings remain at 15 days per year regardless of years of service. Employees may carry forward up to 45 days of annual leave and 180 days of sick leave from one calendar year to the next. Upon termination of employment, employees are eligible to receive payment for up to 45 days of accumulated unused annual leave at the pay rate then in effect. Employees are not eligible to receive payment for accumulated unused sick leave upon termination. As of June 30, 2017, the total amount accrued for unused annual leave for PEBA's Retirement Division

employees was \$919,033, and the associated liability is included in Other Liabilities on the Statement of Fiduciary Net Position.

## IX. Participation in Pension Plans

Generally, all employees of PEBA are required to participate in the South Carolina Retirement System or the Optional Retirement Program as a condition of employment. Additional information related to membership, benefits and contribution requirements is contained within these notes to the financial statements.

Employer contributions for Retirement Division staff are paid by PEBA and are allocated to the pension trust funds along with all other administrative expenses. Administrative expenses of the Systems are funded by investment earnings. For the year ended June 30, 2017, PEBA's actual contributions to the South Carolina Retirement System (SCRS) for Retirement Division staff were \$972,651.

## X. Net Pension Liability

The total pension liability of each defined benefit pension plan summarized below was determined based on the most recent actuarial valuation, which was conducted using membership data as of July 1, 2016, projected forward to the end of the fiscal year, and financial information as of June 30, 2017, using generally accepted actuarial procedures. Information included in the following schedule is based on the certification provided by our consulting actuary, Gabriel Roeder Smith & Company. A Schedule of Employers' Net Pension Liability is intended to provide information about whether the plan fiduciary net positions are increasing or decreasing over time relative to the total pension liability. This schedule as well as a Schedule of Changes in the Employers' Net Pension Liability is presented in the Required Supplementary Information (RSI) section.

The net pension liability (i.e. the Systems' total pension liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of June 30, 2017, is as follows (dollar amounts expressed in thousands):

	Total Pension Liability	Plan Fiduciary Net Position	Employers' Net Pension Liability	Plan Fiduciary Net Position as a % of the Total Pension Liability
SCRS	\$ 48,244,437	\$ 25,732,829	\$ 22,511,608	53.3%
PORS	7,013,684	4,274,123	2,739,561	60.9%
GARS	74,728	31,789	42,939	42.5%
JSRS	299,039	152,151	146,888	50.9%
SCNG	67,222	26,036	41,186	38.7%

Actuarial valuations of the ongoing plan involve estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and future salary increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. South Carolina state statute requires that an actuarial experience study be completed at least once in each five-year period. An experience report on the Systems was most recently issued as of July 1, 2015.

The following table provides a summary of the actuarial assumptions and methods used to calculate the Total Pension Liability as of June 30, 2017. Please note, the Total Pension Liability as of June 30, 2017, is based on the July 1, 2016, actuarial valuation, with the exception of the use of a 7.25 percent assumed rate of return. A 7.25 percent assumed rate of return was used to determine the Total Pension Liability as of June 30, 2017, as a result of the enactment of the Retirement System Funding and Administration Act of 2017, which included a provision to reduce the assumed rate of return from 7.50 percent to 7.25 percent effective July 1, 2017.

	SCRS	PORS	GARS	JSRS	SCNG
Actuarial cost method	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Actuarial assumptions:					
Investment rate of return <sup>1</sup>	7.25%	7.25%	7.25%	7.25%	7.25%
Projected salary increases	3.0% to 12.5% (varies by service) <sup>1</sup>	3.5% to 9.5% (varies by service) <sup>1</sup>	None	2.75% <sup>1</sup>	None
Benefit adjustments	lesser of 1% or \$500 annually	lesser of 1% or \$500 annually	None	2.75%	None

<sup>1</sup>Includes inflation at 2.25%

The post-retiree mortality assumption is dependent upon the member’s job category and gender. The base mortality assumption, the 2016 Public Retirees of South Carolina Mortality table (2016 PRSC), was developed using the System’s mortality experience. These base rates are adjusted for future improvement in mortality using published Scale AA projected from the year 2016.

Former Job Class	Males	Females
Educators and Judges	2016 PRSC Males multiplied by 92%	2016 PRSC Females multiplied by 98%
General Employees and Members of the General Assembly	2016 PRSC Males multiplied by 100%	2016 PRSC Females multiplied by 111%
Public Safety, Firefighters and members of the South Carolina National Guard	2016 PRSC Males multiplied by 125%	2016 PRSC Females multiplied by 111%

The long-term expected rate of return on pension plan investments is based upon 30 year capital market assumptions. The long-term expected rate of returns represent assumptions developed using an arithmetic building block approach primarily based on consensus expectations and market based inputs. Expected returns are net of investment fees. The expected returns, along with the expected inflation rate, form the basis for the target asset allocation adopted at the beginning of the 2017 fiscal year. The long-term expected rate of return is produced by weighting the expected future real rates of return by the target allocation percentage and adding expected inflation and is summarized in the table on the following page. For actuarial purposes, the 7.25 percent assumed annual investment rate of return used in the calculation of the total pension liability includes a 5.00 percent real rate of return and a 2.25 percent inflation component.

Allocation / Exposure	Policy Target	Expected Arithmetic Real rate of Return	Long Term Expected Portfolio Real Rate of Return
<b>Global Equity</b>	<b>45.0%</b>		
Global Public Equity <sup>1,2</sup>	31.0%	6.72%	2.08%
Private Equity <sup>2,3</sup>	9.0%	9.60%	0.86%
Equity Options Strategies	5.0%	5.91%	0.30%
<b>Real Assets</b>	<b>8.0%</b>		
Real Estate (Private) <sup>2,3</sup>	5.0%	4.32%	0.22%
Real Estate (REITs) <sup>2</sup>	2.0%	6.33%	0.13%
Infrastructure	1.0%	6.26%	0.06%
<b>Opportunistic</b>	<b>17.0%</b>		
GTAA/Risk Parity <sup>1</sup>	10.0%	4.16%	0.42%
Hedge Funds (non-PA) <sup>1</sup>	4.0%	3.82%	0.15%
Other Opportunistic Strategies <sup>1</sup>	3.0%	4.16%	0.12%
<b>Diversified Credit</b>	<b>18.0%</b>		
Mixed Credit <sup>1,2</sup>	6.0%	3.92%	0.23%
Emerging Markets Debt <sup>1</sup>	5.0%	5.01%	0.25%
Private Debt <sup>1,2,3</sup>	7.0%	4.37%	0.31%
<b>Conservative Fixed Income</b>	<b>12.0%</b>		
Core Fixed Income	10.0%	1.60%	0.16%
Cash and Short Duration (Net)	2.0%	0.92%	0.02%
Total Expected Return	100.0%		5.31%
Inflation for Actuarial Purposes			2.25%
			<u>7.56%</u>

<sup>1</sup>Portable Alpha Strategies will be capped at 12% of total assets; and Hedge funds (including all hedge funds used in portable alpha implementation) would be capped at 20% of total assets.

<sup>2</sup>The target weights to Private Equity, Private Debt and Real Estate will be equal to their actual weights as of prior month end. Private Equity and Public Equity will combine for 40 percent of entire portfolio. Private Debt and Mixed Credit will combine for 13 percent of the entire portfolio. Private Real Estate and Real Estate (REITs) will combine for 7 percent of the entire portfolio.

<sup>3</sup>Staff and Consultant will notify the Commission if Private Markets assets exceed 25% of total assets.

The discount rate used to measure the total pension liability was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that contributions from participating employers in SCRS and PORS will be made based on the actuarially determined rates based on provisions in the South Carolina Code of Laws. The contributions required for JSRS, GARS, and the SCNG are based on PEBA's current funding policy which include the change in funding in future years as a result of the enactment of the Retirement System Funding and Administration Act of 2017. Based on those assumptions, the System's fiduciary net position was projected to be available to make all the 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.

In accordance with GASB Statement No. 67 regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the following table presents the net pension liability of the participating employers calculated using the discount rate of 7.25 percent, as well as what the employers’ net pension liability would be if it were calculated using a discount rate that is 1.00 percent lower (6.25 percent) or 1.00 percent higher (8.25 percent) than the current rate.

## Discount Rate Sensitivity Analysis

*(Amounts expressed in thousands)*

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
<b>SCRS</b>	\$ 29,014,371	\$ 22,511,608	\$ 18,565,959
<b>PORS</b>	3,698,928	2,739,561	1,983,880
<b>GARS</b>	49,589	42,939	37,535
<b>JSRS</b>	180,690	146,888	120,045
<b>SCNG</b>	50,043	41,186	34,443

## XI. Death Benefit Program

In addition to monthly pension benefits provided through the Systems, a death benefit program is available to employers. For participating employers, incidental death benefits are provided for both active and retired members. These benefits are funded through separate death benefit programs within SCRS and PORS on a cost-sharing, multiple-employer basis. The assets in the death benefits fund are not held separately in a dedicated trust for the sole purpose of paying death benefits to beneficiaries of deceased members. These benefits are considered allowable within the defined benefit plans and are held within the pension trust funds. Coverage is provided to eligible active and retired working members as well as non-working retirees under the governing statute. Funding for the plans is collected as a percent of covered payroll as determined by the Systems’ actuary and approved by the governing board. The current employer contribution rates for the programs are 0.15 percent and 0.20 percent of payroll for SCRS and PORS respectively. These contributions fund both the active and retiree death benefits.

### Active Death Benefits

An incidental death benefit is payable upon the death of an SCRS, State ORP or PORS contributing member who worked for a participating employer at the time of death. The member must have been in service and had at least one full year of membership or must have died as a result of an injury arising in the course of performing his duties regardless of length of membership. The incidental death benefit is equal to the annual earnable compensation of the member at the time of death and is payable apart and separate from the payment of pension benefits.

## Retiree Death Benefits

Retired members of SCRS and PORS whose last employer prior to retirement is covered by the program, and who met applicable service credit requirements, are also protected under the state-sponsored death benefit program. Upon the death of a retired member, the beneficiary of a non-working retiree will receive a benefit payment of \$2,000, \$4,000 or \$6,000 based on the member's total creditable service at the time of retirement.

Members who work after retirement by either participating in the TERI program or by returning to covered employment as a working retiree are

## XII. Litigation

In addition to the litigation mentioned below, controversies or disputes between the South Carolina Retirement Systems and its members arising out of the provisions of Title 9 of the South Carolina Code of Laws (Retirement provisions) are resolved through the "South Carolina Retirement Systems Claims Procedures Act" established by S.C. Code Ann. §9-21-10 et seq. Claims brought pursuant to the Claims Procedures Act generally involve matters pertinent to the individual member or beneficiary. Claims may not be brought on behalf of a class under the Claims Procedures Act.

*Marc S. Kirschner, as Litigation Trustee for the Tribune Litigation Trust v. Dennis J. Fitzsimmons, et al.*, United States District Court Southern District of New York, Case No. 1:11-cv-02652. This case is a bankruptcy litigation matter filed on December 20,

## XIII. Pension Reform Legislation

The Retirement System Funding and Administration Act of 2017 was signed into law April 25, 2017, by Governor Henry McMaster. The Act became effective on July 1, 2017. A summary of the legislation is below.

This legislation represents the culmination of many individual's and organization's efforts, as well as the ongoing work of the General Assembly's Joint Committee on Pension Systems Review. It is designed to accelerate the state's ability to fully

eligible for an increased level of death benefits. Beneficiaries of working retirees are provided with a death benefit equal to the amount of the member's annual earnable compensation in lieu of the standard \$2,000, \$4,000 or \$6,000 retired member benefit.

All benefits provided by the Systems are included in the actuarial valuation, including the incidental death benefit program for SCRS, PORS, GARS and JSRS. The July 1, 2016 actuarial valuations reflect the inclusion of the assets and liabilities of the incidental death benefit program and accidental death benefits for PORS.

2011, and has been stayed since shortly after it was filed. The Plaintiff attempted to serve a summons on the South Carolina Retirement System in August 2013. SCRS is a defendant as a result of selling Tribune Company stock in connection with a leveraged buyout of the Tribune Company in 2007. Through this lawsuit the creditors of the Tribune Company are attempting to claw-back funds received by SCRS in connection with the sale of the stock. The plaintiff has asserted a claim of approximately two million dollars against SCRS. The South Carolina Retirement System Investment Commission contests the amount the plaintiff alleges SCRS received, contends that there are persuasive arguments favoring dismissal, and has engaged counsel to represent SCRS in this matter.

fund the unfunded liabilities of its retirement systems. It is also intended to create a cushion against adverse investment experience in the future.

The legislation lowered the retirement systems' assumed rate of return from 7.50 percent to 7.25 percent and reduced the maximum amortization period for the retirement systems from 30 years to 20 years over a ten-year schedule. The legislation also increased contribution rates for employees and

employers, with employee contribution rates capped. SCRS employee contributions rose from 8.66 percent to 9 percent and PORS contribution rates rose from 9.24 to 9.75 percent.

The SCRS employer contribution rate rose from 11.56 to 13.56 percent, and the PORS employer rate rose from 14.24 percent to 16.24 percent. Following this two-percent increase, the employer rates for each of these systems will rise 1 percent every year until July 1, 2022. The scheduled final employer rates are 18.56 percent for SCRS and 21.24 percent for PORS.

Finally, the legislation addressed various governance issues including the assignment of the PEBA Board as custodian of the Retirement Trust Funds and assignment of RSIC and PEBA as co-trustees.

The Joint Committee on Pension Systems Review has publicly stated that they will continue their work during fiscal year 2018 by evaluating plan design. PEBA will continue to work with the Joint Committee during its evaluation.

## South Carolina Retirement Systems Required Supplementary Information

### Schedule of Changes in the Employers' Net Pension Liability<sup>1</sup>

Years Ended June 30  
(Amounts expressed in thousands)

	SCRS				PORS			
	2017	2016	2015	2014	2017	2016	2015	2014
<b>Total pension liability</b>								
Service Cost	\$ 804,057	\$ 763,357	\$ 744,197	\$ 739,021	\$ 166,682	\$ 156,567	\$ 154,102	\$ 149,606
Interest	3,318,051	3,231,572	3,148,090	3,021,004	473,059	453,696	435,329	417,950
Benefit Changes								
Difference between actual and expected experience	54,584	46,714	(44,636)	638,745	5,044	11,582	6,771	64,336
Assumption Changes	1,746,649				333,190			
Benefit Payments	(3,035,119)	(2,782,738)	(2,705,547)	(2,571,049)	(376,801)	(360,656)	(344,410)	(331,783)
<b>Net Change in Total Pension Liability</b>	<b>2,888,222</b>	<b>1,258,905</b>	<b>1,142,104</b>	<b>1,827,721</b>	<b>601,174</b>	<b>261,189</b>	<b>251,792</b>	<b>300,109</b>
<b>Total Pension Liability - Beginning</b>	<b>45,356,215</b>	<b>44,097,310</b>	<b>42,955,206</b>	<b>41,127,485</b>	<b>6,412,510</b>	<b>6,151,321</b>	<b>5,899,529</b>	<b>5,599,420</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 48,244,437</b>	<b>\$ 45,356,215</b>	<b>\$ 44,097,310</b>	<b>\$ 42,955,206</b>	<b>\$ 7,013,684</b>	<b>\$ 6,412,510</b>	<b>\$ 6,151,321</b>	<b>\$ 5,899,529</b>
<b>Plan Fiduciary Net Position</b>								
Contributions - Employer	\$ 1,168,847	\$ 1,072,659	\$ 1,022,478	\$ 962,798	\$ 192,006	\$ 175,223	\$ 166,451	\$ 155,608
Contributions - Member	826,543	754,153	716,107	652,631	127,840	115,188	106,854	96,004
Refunds of contributions to members	(105,169)	(93,694)	(95,104)	(90,250)	(19,964)	(19,178)	(17,453)	(16,184)
Retirement benefits	(2,907,273)	(2,668,385)	(2,590,299)	(2,461,559)	(352,986)	(337,928)	(323,252)	(311,593)
Death benefits	(22,677)	(20,659)	(20,144)	(19,240)	(3,852)	(3,550)	(3,705)	(4,007)
Net Investment Income	2,791,215	(165,394)	374,152	3,517,324	455,914	(24,636)	58,705	538,386
Administrative Expense	(13,469)	(13,149)	(12,554)	(11,765)	(2,149)	(2,055)	(1,938)	(1,820)
Net transfers to affiliated systems	(1,550)	(997)	(1,329)	(2,470)	1,278	1,147	1,061	2,260
<b>Net Change in Plan Fiduciary Net Position</b>	<b>1,736,467</b>	<b>(1,135,466)</b>	<b>(606,693)</b>	<b>2,547,469</b>	<b>398,087</b>	<b>(95,789)</b>	<b>(13,277)</b>	<b>458,654</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>23,996,362</b>	<b>25,131,828</b>	<b>25,738,521</b>	<b>23,191,052</b>	<b>3,876,036</b>	<b>3,971,825</b>	<b>3,985,102</b>	<b>3,526,448</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 25,732,829</b>	<b>\$ 23,996,362</b>	<b>\$ 25,131,828</b>	<b>\$ 25,738,521</b>	<b>\$ 4,274,123</b>	<b>\$ 3,876,036</b>	<b>\$ 3,971,825</b>	<b>\$ 3,985,102</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 22,511,608</b>	<b>\$ 21,359,853</b>	<b>\$ 18,965,482</b>	<b>\$ 17,216,685</b>	<b>\$ 2,739,561</b>	<b>\$ 2,536,474</b>	<b>\$ 2,179,496</b>	<b>\$ 1,914,427</b>

<sup>1</sup> Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

## South Carolina Retirement Systems Required Supplementary Information (continued)

### Schedule of Changes in the Employers' Net Pension Liability<sup>1</sup>

Years Ended June 30  
(Amounts expressed in thousands)

	GARS				JSRS			
	2017	2016	2015	2014	2017	2016	2015	2014
<b>Total pension liability</b>								
Service Cost	\$ 488	\$ 493	\$ 553	\$ 572	\$ 6,186	\$ 5,886	\$ 5,760	\$ 5,571
Interest	5,293	5,301	5,380	5,437	20,404	20,022	19,440	18,857
Benefit Changes							666	
Difference between actual and expected experience	(348)	798	(294)	(2,585)	(995)	(3,085)	(1,138)	(3,240)
Assumption Changes	2,330				13,790			
Benefit Payments	(6,737)	(6,656)	(6,660)	(6,861)	(18,602)	(17,191)	(16,836)	(16,684)
<b>Net Change in Total Pension Liability</b>	<b>1,026</b>	<b>(64)</b>	<b>(1,021)</b>	<b>(3,437)</b>	<b>20,783</b>	<b>5,632</b>	<b>7,892</b>	<b>4,504</b>
<b>Total Pension Liability - Beginning</b>	<b>73,702</b>	<b>73,766</b>	<b>74,787</b>	<b>78,224</b>	<b>278,256</b>	<b>272,624</b>	<b>264,732</b>	<b>260,228</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 74,728</b>	<b>\$ 73,702</b>	<b>\$ 73,766</b>	<b>\$ 74,787</b>	<b>\$ 299,039</b>	<b>\$ 278,256</b>	<b>\$ 272,624</b>	<b>\$ 264,732</b>
<b>Plan Fiduciary Net Position</b>								
Contributions - Employer	\$ 4,539	\$ 4,501	\$ 4,275	\$ 4,063	\$ 10,534	\$ 10,202	\$ 10,109	\$ 9,659
Contributions - Member	468	292	369	384	2,928	2,303	3,153	2,448
Refunds of contributions to members		(22)		(41)	(629)	(60)		
Retirement benefits	(6,678)	(6,625)	(6,639)	(6,799)	(17,679)	(16,989)	(16,832)	(16,675)
Death benefits	(59)	(9)	(21)	(20)	(293)	(143)	(4)	(10)
Net Investment Income	3,329	(266)	500	4,545	16,399	(871)	2,216	19,962
Administrative Expense	(17)	(18)	(18)	(17)	(79)	(75)	(71)	(68)
Net transfers to affiliated systems	19	(147)	(18)	15	253	(3)	286	195
<b>Net Change in Plan Fiduciary Net Position</b>	<b>1,601</b>	<b>(2,294)</b>	<b>(1,552)</b>	<b>2,130</b>	<b>11,434</b>	<b>(5,636)</b>	<b>(1,143)</b>	<b>15,511</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>30,188</b>	<b>32,482</b>	<b>34,034</b>	<b>31,904</b>	<b>140,717</b>	<b>146,353</b>	<b>147,496</b>	<b>131,985</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 31,789</b>	<b>\$ 30,188</b>	<b>\$ 32,482</b>	<b>\$ 34,034</b>	<b>\$ 152,151</b>	<b>\$ 140,717</b>	<b>\$ 146,353</b>	<b>\$ 147,496</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 42,939</b>	<b>\$ 43,514</b>	<b>\$ 41,284</b>	<b>\$ 40,753</b>	<b>\$ 146,888</b>	<b>\$ 137,539</b>	<b>\$ 126,271</b>	<b>\$ 117,236</b>

<sup>1</sup> Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

## South Carolina Retirement Systems Required Supplementary Information (continued)

### Schedule of Changes in the Employers' Net Pension Liability<sup>1</sup>

Years Ended June 30  
(Amounts expressed in thousands)

	SCNG			
	2017	2016	2015	2014
<b>Total pension liability</b>				
Service Cost	\$ 696	\$ 689	\$ 690	\$ 697
Interest	4,589	4,594	4,481	4,417
Benefit Changes				
Difference between actual and expected experience	(843)	(992)	612	(262)
Assumption Changes	4,161			
Benefit Payments	(4,426)	(4,310)	(4,249)	(4,248)
<b>Net Change in Total Pension Liability</b>	4,177	(19)	1,534	604
<b>Total Pension Liability - Beginning</b>	63,045	63,064	61,530	60,926
<b>Total Pension Liability - Ending (a)</b>	<u>\$ 67,222</u>	<u>\$ 63,045</u>	<u>\$ 63,064</u>	<u>\$ 61,530</u>
<b>Plan Fiduciary Net Position</b>				
Contributions - Employer	\$ 4,591	\$ 4,591	\$ 4,591	\$ 4,586
Contributions - Member				
Refunds of contributions to members				
Retirement benefits	(4,425)	(4,310)	(4,249)	(4,248)
Death benefits				
Net Investment Income	2,533	(121)	313	2,806
Administrative Expense	(13)	(12)	(11)	(10)
Net transfers to affiliated systems				
<b>Net Change in Plan Fiduciary Net Position</b>	2,686	148	644	3,134
<b>Plan Fiduciary Net Position - Beginning</b>	23,350	23,202	22,558	19,424
<b>Plan Fiduciary Net Position - Ending (b)</b>	<u>\$ 26,036</u>	<u>\$ 23,350</u>	<u>\$ 23,202</u>	<u>\$ 22,558</u>
<b>Net Pension Liability - Ending (a) - (b)</b>	<u>\$ 41,186</u>	<u>\$ 39,695</u>	<u>\$ 39,862</u>	<u>\$ 38,972</u>

<sup>1</sup> Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

## South Carolina Retirement Systems Required Supplementary Information (continued)

### Schedule of Employers' Net Pension Liability<sup>1</sup>

(Dollar amounts expressed in thousands)

	Total Pension Liability	Plan Fiduciary Net Position	Employers' Net Pension Liability (Asset)	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	Projected Covered Payroll <sup>2</sup>	Net Pension Liability as a Percentage of Covered Payroll
<b>SCRS</b>						
6/30/2017	\$ 48,244,437	\$ 25,732,829	22,511,608	53.3%	\$ 8,213,042	274.1%
6/30/2016	45,356,215	23,996,362	21,359,853	52.9%	7,765,588	275.1%
6/30/2015	44,097,310	25,131,828	18,965,482	57.0%	7,539,996	251.5%
6/30/2014	42,955,206	25,738,521	17,216,685	59.9%	7,434,820	231.6%
<b>PORS</b>						
6/30/2017	7,013,684	4,274,123	2,739,561	60.9%	1,187,195	230.8%
6/30/2016	6,412,510	3,876,036	2,536,474	60.4%	1,105,703	229.4%
6/30/2015	6,151,321	3,971,825	2,179,496	64.6%	1,076,885	202.4%
6/30/2014	5,899,529	3,985,102	1,914,427	67.5%	1,033,189	185.3%
<b>GARS</b>						
6/30/2017	74,728	31,789	42,939	42.5%	2,316	1,853.7%
6/30/2016	73,702	30,188	43,514	41.0%	2,338	1,861.0%
6/30/2015	73,766	32,482	41,284	44.0%	2,601	1,587.5%
6/30/2014	74,787	34,034	40,753	45.5%	2,688	1,516.2%
<b>JSRS</b>						
6/30/2017	299,039	152,151	146,888	50.9%	21,958	668.9%
6/30/2016	278,256	140,717	137,539	50.6%	21,267	646.7%
6/30/2015	272,624	146,353	126,271	53.7%	20,815	606.6%
6/30/2014	264,732	147,496	117,236	55.7%	20,407	574.5%
<b>SCNG</b>						
6/30/2017	67,222	26,036	41,186	38.7%	Not Applicable <sup>3</sup>	Not Applicable <sup>3</sup>
6/30/2016	63,045	23,350	39,695	37.0%	Not Applicable <sup>3</sup>	Not Applicable <sup>3</sup>
6/30/2015	63,064	23,202	39,862	36.8%	Not Applicable <sup>3</sup>	Not Applicable <sup>3</sup>
6/30/2014	61,530	22,558	38,972	36.7%	Not Applicable <sup>3</sup>	Not Applicable <sup>3</sup>

<sup>1</sup> Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

<sup>2</sup> Projected covered payroll is based on the actuarial valuation associated with the measurement date and includes payroll for members earning but not yet receiving benefits.

<sup>3</sup> The contributions and benefits associated with the SCNG are not determined as a function of payroll.

## South Carolina Retirement Systems Required Supplementary Information (continued)

### Schedule of Employers' Contributions

(Dollar amounts expressed in thousands)

	Actuarially Determined Contributions <sup>1</sup>	Amount of Contributions Recognized	Difference Between Actuarially Determined Contributions <sup>2</sup> and Contributions Recognized	Projected Covered Payroll <sup>3</sup>	Percentage of Contributions to Covered Payroll
<b>SCRS</b>					
6/30/2017	\$ 1,168,847	\$ 1,168,847	\$ -	\$ 8,213,042	14.2%
6/30/2016	1,072,659	1,072,659		7,765,588	13.8%
6/30/2015	1,022,478	1,022,478		7,539,996	13.6%
6/30/2014	962,798	962,798		7,434,820	12.9%
6/30/2013	948,157	948,157		7,356,231	12.9%
6/30/2012	824,652	824,652		7,687,558	10.7%
6/30/2011	808,343	808,343		7,769,820	10.4%
6/30/2010	818,523	818,523		7,761,808	10.5%
6/30/2009	827,502	827,502		7,559,172	10.9%
6/30/2008	774,269	774,269		7,093,181	10.9%
<b>PORS</b>					
6/30/2017	192,006	192,006		1,187,195	16.2%
6/30/2016	175,223	175,223		1,105,703	15.8%
6/30/2015	166,451	166,451		1,076,885	15.5%
6/30/2014	155,608	155,608		1,033,189	15.1%
6/30/2013	143,389	143,389		1,019,241	14.1%
6/30/2012	134,299	134,299		1,087,587	12.3%
6/30/2011	129,314	129,314		1,076,467	12.0%
6/30/2010	123,163	123,163		1,084,154	11.4%
6/30/2009	124,148	124,148		1,060,747	11.7%
6/30/2008	114,095	114,095		992,849	11.5%
<b>GARS<sup>4</sup></b>					
6/30/2017	4,539	4,539		2,316	196.0%
6/30/2016	4,501	4,501		2,338	192.5%
6/30/2015	4,275	4,275		2,601	164.4%
6/30/2014	4,063	4,063		2,688	151.2%
6/30/2013	2,831	2,831		3,854	73.5%
6/30/2012	2,532	2,532		3,854	65.7%
6/30/2011	2,414	2,414		3,854	62.6%
6/30/2010	2,598	2,598		3,854	67.4%
6/30/2009	2,495	2,495		3,854	64.7%
6/30/2008	2,440	2,440		3,854	63.3%

Schedule of Employers' Contributions continued on next page

## South Carolina Retirement Systems Required Supplementary Information (continued)

### Schedule of Employers' Contributions (cont.)

(Dollar amounts expressed in thousands)

	Actuarially Determined Contributions <sup>1</sup>	Amount of Contributions Recognized	Difference Between Actuarially Determined Contributions <sup>2</sup> and Contributions Recognized	Projected Covered Payroll <sup>3</sup>	Percentage of Contributions to Covered Payroll
<b>JSRS</b>					
6/30/2017	\$ 10,534	\$ 10,534	\$ -	\$ 21,958	48.0%
6/30/2016	10,202	10,202		21,267	48.0%
6/30/2015	10,109	10,109		20,815	48.6%
6/30/2014	9,659	9,659		20,407	47.3%
6/30/2013	8,667	8,667		19,221	45.1%
6/30/2012	8,414	8,414		18,661	45.1%
6/30/2011	8,414	8,414		18,661	45.1%
6/30/2010	8,414	8,414		18,661	45.1%
6/30/2009	8,414	8,414		18,661	45.1%
6/30/2008	7,613	7,613		16,407	46.4%
<b>SCNG<sup>5</sup></b>					
6/30/2017	4,509	4,591	(82)	Not Applicable	Not Applicable
6/30/2016	4,570	4,591	(21)	Not Applicable	Not Applicable
6/30/2015	4,591	4,591		Not Applicable	Not Applicable
6/30/2014	4,586	4,586		Not Applicable	Not Applicable
6/30/2013	4,539	4,539		Not Applicable	Not Applicable
6/30/2012	3,937	3,937		Not Applicable	Not Applicable
6/30/2011	3,905	3,905		Not Applicable	Not Applicable
6/30/2010	3,945	3,945		Not Applicable	Not Applicable
6/30/2009	4,052	4,052		Not Applicable	Not Applicable
6/30/2008	3,923	3,923		Not Applicable	Not Applicable

<sup>1</sup> The actuarially determined contribution rate for SCRS and PORS is determined in accordance with the SC State Code of Laws. The contribution rate for JSRS is based on the funding policy maintained by the SC Public Employee Benefit Authority. Includes employer contributions on employee payroll of members in TERI as well as contributions remitted to SCRS on the payroll of employees participating in State ORP.

<sup>2</sup> The actuarially determined contributions are based on the funding policy maintained by the SC Public Employee Benefit Authority.

<sup>3</sup> Projected covered payroll is based on the actuarial valuation associated with the measurement date and includes payroll for members earning but not yet receiving benefits.

<sup>4</sup> GARS was closed to new members beginning with the 2012 general election.

<sup>5</sup> Benefits for members in the SCNG are not a function of pay. For years prior to June 30, 2010, the Annual Pension Cost (APC) for SCNG includes both the Annual Required Contribution (ARC) and the discounted present value of the balance of the Net Pension Obligation (NPO). For fiscal years ended June 30, 2010 forward, the APC was calculated as part of the actuarial valuation and includes in the ARC.

## South Carolina Retirement Systems Required Supplementary Information (continued)

### Schedule of Investment Returns<sup>1</sup>

Fiscal Year Ending June 30	Annual Money Weighted Rate of Return, Net of Investment Expense
2017	11.88%
2016	(.47)
2015	1.59
2014	15.30

<sup>1</sup>Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

### Notes to Required Supplementary Information

The following table provides a summary of the actuarial methods and significant assumptions used in calculations of the actuarially determined contributions for each of the individual plans administered by PEBA.

#### Summary of Actuarial Methods and Significant Assumptions

	SCRS	PORS	GARS	JSRS	SCNG
Valuation date	07/01/15	07/01/15	07/01/14	07/01/14	07/01/15
Actuarial cost method	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Amortization method	Level percent of pay	Level percent of pay	Level dollar	Level percent of pay	Level dollar
Amortization period	30 years variable, but not to exceed 30 years <sup>2</sup>	27 years variable, but not to exceed 30 years <sup>2</sup>	13 years, closed	28 years variable, but not to exceed 30 years	17 years, closed
Asset Valuation method	5-Year Smoothed	5-Year Smoothed	5-Year Smoothed	5-Year Smoothed	5-Year Smoothed
Actuarial assumptions:					
Inflation rate	2.75%	2.75%	2.75%	2.75%	2.75%
Projected salary increases	3.5% plus step-rate increases for members with less than 25 years of service <sup>1</sup>	4.0% plus step-rate increases for members with less than 12 years of service <sup>1</sup>	None	3.00% <sup>1</sup>	None
Investment rate of return	7.50% <sup>2</sup>	7.50% <sup>2</sup>	7.50% <sup>2</sup>	7.50% <sup>2</sup>	7.50% <sup>2</sup>
Benefit adjustments	lesser of 1% or \$500 annually	lesser of 1% or \$500 annually	None	3.00%	None

<sup>1</sup>Includes inflation at 2.75%.

<sup>2</sup> Pension reform legislation enacted effective July 1, 2017 lowered the investment rate of return from 7.50 to 7.25 percent and schedules the amortization period to be reduced one year for each of the next 10 years, to 20 years.

# South Carolina Retirement Systems

## Schedule of Changes in Fiduciary Net Position

SCRS Pension Trust Fund  
Year Ended June 30, 2017

With comparative totals for the year ended June 30, 2016

(Amounts expressed in thousands)

	EMPLOYEE FUND	EMPLOYER FUND	DEATH BENEFIT FUND	QEBA FUND	TOTAL	2016 TOTAL
<b>Additions</b>						
Employee contributions						
State department employees	\$ 222,319	\$ 28,492	\$ -	\$ -	\$ 250,811	\$ 231,688
Public school employees	312,382	40,239			352,621	323,222
Other political subdivision employees	208,323	14,788			223,111	199,243
Employer contributions						
State department employees		383,187	5,665	642	389,494	353,805
Public school employees		482,692	6,604		489,296	454,782
Other political subdivision employees		286,799	3,258		290,057	264,072
<b>Total contributions</b>	<u>743,024</u>	<u>1,236,197</u>	<u>15,527</u>	<u>642</u>	<u>1,995,390</u>	<u>1,826,812</u>
Investment Income						
Net appreciation (depreciation) in fair value of investments		2,628,819	12,984		2,641,803	(279,345)
Interest and dividend income		414,880	2,045		416,925	337,913
Investment expense		(266,855)	(1,318)		(268,173)	(224,772)
Net income (loss) from investing activities		<u>2,776,844</u>	<u>13,711</u>		<u>2,790,555</u>	<u>(166,204)</u>
From securities lending activities:						
Securities lending income		486	2		488	161
Securities lending borrower rebates		172			172	649
Net income from securities lending activities		<u>658</u>	<u>2</u>		<u>660</u>	<u>810</u>
Total net investment income (loss)		<u>2,777,502</u>	<u>13,713</u>		<u>2,791,215</u>	<u>(165,394)</u>
Supplemental retirement benefits funded by the State		393			393	434
Transfers of contributions from other Systems						177
<b>Total additions</b>	<u>743,024</u>	<u>4,014,092</u>	<u>29,240</u>	<u>642</u>	<u>4,786,998</u>	<u>1,662,029</u>
<b>Deductions</b>						
Refunds of contributions to members	105,169				105,169	93,694
Transfers of contributions to other Systems	1,055	495			1,550	1,174
Regular retirement benefits		2,574,217		642	2,574,859	2,473,541
Deferred retirement benefits		332,414			332,414	194,844
Supplemental retirement benefits		393			393	434
Death Benefits		(96)	22,773		22,677	20,659
Depreciation		235	1		236	271
Administrative expenses		13,168	65		13,233	12,878
<b>Total deductions</b>	<u>106,224</u>	<u>2,920,826</u>	<u>22,839</u>	<u>642</u>	<u>3,050,531</u>	<u>2,797,495</u>
Interfund transfers according to statutory requirements						
Contributions by members at retirement	(404,589)	404,589				
Interest credited to members' accounts	259,197	(259,197)				
Net interfund transfers	<u>(145,392)</u>	<u>145,392</u>				
Net increase (decrease) in Net Position	491,408	1,238,658	6,401		1,736,467	(1,135,466)
Net Position Restricted for Pensions						
Beginning of year	7,447,442	16,430,986	117,934		23,996,362	25,131,828
End of year	<u>\$ 7,938,850</u>	<u>\$ 17,669,644</u>	<u>\$ 124,335</u>	<u>\$ -</u>	<u>\$ 25,732,829</u>	<u>\$ 23,996,362</u>

# South Carolina Retirement Systems

## Schedule of Changes in Fiduciary Net Position

PORS Pension Trust Fund  
Year Ended June 30, 2017

With comparative totals for the year ended June 30, 2016

(Amounts expressed in thousands)

	EMPLOYEE FUND	EMPLOYER FUND	DEATH BENEFIT FUND	ACCIDENTAL DEATH FUND	QEBA FUND	TOTAL	2016 TOTAL
<b>Additions</b>							
Employee contributions							
State department employees	\$ 37,885	\$ 2,049	\$ -	\$ -	\$ -	\$ 39,934	\$ 35,606
Public school employees	27	409				436	8,605
Other political subdivision employees	78,733	8,737				87,470	70,977
Employer contributions							
State department employees		58,069	838	\$ 838	2	59,747	54,366
Public school employees		655	9	9		673	604
Other political subdivision employees		128,107	1,789	1,690		131,586	120,253
Total contributions	<u>116,645</u>	<u>198,026</u>	<u>2,636</u>	<u>2,537</u>	<u>2</u>	<u>319,846</u>	<u>290,411</u>
Investment Income							
Net appreciation (depreciation) in fair value of investments		421,961	4,231	5,661		431,853	(42,672)
Interest and dividend income		66,700	667	892		68,259	54,003
Investment expense		(43,291)	(434)	(581)		(44,306)	(36,096)
Net income (loss) from investing activities		<u>445,370</u>	<u>4,464</u>	<u>5,972</u>		<u>455,806</u>	<u>(24,765)</u>
From securities lending activities:							
Securities lending income		78	1	1		80	26
Securities lending borrower rebates		28				28	103
Net income from securities lending activities		<u>106</u>	<u>1</u>	<u>1</u>		<u>108</u>	<u>129</u>
Total net investment income (loss)		<u>445,476</u>	<u>4,465</u>	<u>5,973</u>		<u>455,914</u>	<u>(24,636)</u>
Supplemental retirement benefits funded by the State		15				15	18
Transfers of contributions from other Systems	783	495				1,278	1,174
<b>Total additions</b>	<u>117,428</u>	<u>644,012</u>	<u>7,101</u>	<u>8,510</u>	<u>2</u>	<u>777,053</u>	<u>266,967</u>
<b>Deductions</b>							
Refunds of contributions to members	19,964					19,964	19,178
Transfers of contributions to other Systems							27
Regular retirement benefits		352,984			2	352,986	337,928
Supplemental retirement benefits		15				15	18
Death Benefits			2,104			2,104	1,960
Accidental death benefits				1,748		1,748	1,590
Depreciation		32				32	37
Administrative expenses		2,068	21	28		2,117	2,018
<b>Total deductions</b>	<u>19,964</u>	<u>355,099</u>	<u>2,125</u>	<u>1,776</u>	<u>2</u>	<u>378,966</u>	<u>362,756</u>
Interfund transfers according to statutory requirements							
Contributions by members at retirement	(66,252)	66,252					
Interest credited to members' accounts	34,615	(34,615)					
Net interfund transfers	<u>(31,637)</u>	<u>31,637</u>					
Net increase (decrease) in Net Position	65,827	320,550	4,976	6,734		398,087	(95,789)
Net Position Restricted for Pensions							
Beginning of year	968,722	2,818,531	37,980	50,803		3,876,036	3,971,825
End of year	<u>\$ 1,034,549</u>	<u>\$ 3,139,081</u>	<u>\$ 42,956</u>	<u>\$ 57,537</u>	<u>\$ -</u>	<u>\$ 4,274,123</u>	<u>\$ 3,876,036</u>

## South Carolina Retirement Systems

### Schedule of Changes in Fiduciary Net Position

GARS Pension Trust Fund  
Year Ended June 30, 2017

*With comparative totals for the year ended June 30, 2016*

*(Amounts expressed in thousands)*

	<u>EMPLOYEE FUND</u>	<u>EMPLOYER FUND</u>	<u>TOTAL</u>	<u>2016 TOTAL</u>
<b>Additions</b>				
Contributions				
Employee contributions - State departments	\$ 468	\$ -	\$ 468	\$ 292
Employer contributions - State departments		4,539	4,539	4,501
Total contributions	<u>468</u>	<u>4,539</u>	<u>5,007</u>	<u>4,793</u>
Investment Income				
Net appreciation (depreciation) in fair value of investments		3,130	3,130	(422)
Interest and dividend income		510	510	420
Investment expense		(312)	(312)	(265)
Net income (loss) from investing activities		<u>3,328</u>	<u>3,328</u>	<u>(267)</u>
From securities lending activities:				
Securities lending income		1	1	
Securities lending borrower rebates				1
Net income from securities lending activities		<u>1</u>	<u>1</u>	<u>1</u>
Total net investment income (loss)		<u>3,329</u>	<u>3,329</u>	<u>(266)</u>
Transfers of contributions from other Systems	19		19	
<b>Total additions</b>	<u>487</u>	<u>7,868</u>	<u>8,355</u>	<u>4,527</u>
<b>Deductions</b>				
Refunds of contributions to members				22
Transfers of contributions to other Systems				147
Regular retirement benefits		6,678	6,678	6,625
Death benefits		59	59	9
Depreciation				1
Administrative expenses		17	17	17
<b>Total deductions</b>		<u>6,754</u>	<u>6,754</u>	<u>6,821</u>
Interfund transfers according to statutory requirements				
Contributions by members at retirement	(1,167)	1,167		
Interest credited to members' accounts	198	(198)		
Net interfund transfers	<u>(969)</u>	<u>969</u>		
Net increase (decrease) in Net Position	(482)	2,083	1,601	(2,294)
Net Position Restricted for Pensions				
Beginning of year	7,334	22,854	30,188	32,482
End of year	<u>\$ 6,852</u>	<u>\$ 24,937</u>	<u>\$ 31,789</u>	<u>\$ 30,188</u>

# South Carolina Retirement Systems

## Schedule of Changes in Fiduciary Net Position

JSRS Pension Trust Fund  
Year Ended June 30, 2017

*With comparative totals for the year ended June 30, 2016*

*(Amounts expressed in thousands)*

	EMPLOYEE FUND	EMPLOYER FUND	QEBA FUND	TOTAL	2016 TOTAL
<b>Additions</b>					
Contributions					
Employee contributions - State departments	\$ 2,641	\$ 287	\$ -	\$ 2,928	\$ 2,303
Employer contributions - State departments		10,381	153	10,534	10,202
Total contributions	<u>2,641</u>	<u>10,668</u>	<u>153</u>	<u>13,462</u>	<u>12,505</u>
Investment Income					
Net appreciation (depreciation) in fair value of investments		15,462		15,462	(1,577)
Interest and dividend income		2,488		2,488	2,000
Investment expense		(1,555)		(1,555)	(1,299)
Net income (loss) from investing activities		<u>16,395</u>		<u>16,395</u>	<u>(876)</u>
From securities lending activities:					
Securities lending income		3		3	1
Securities lending borrower rebates		1		1	4
Net income from securities lending activities		<u>4</u>		<u>4</u>	<u>5</u>
Total net investment income (loss)		<u>16,399</u>		<u>16,399</u>	<u>(871)</u>
Transfers of contributions from other Systems	253			253	27
<b>Total additions</b>	<u>2,894</u>	<u>27,067</u>	<u>153</u>	<u>30,114</u>	<u>11,661</u>
<b>Deductions</b>					
Refunds of contributions to members	629			629	60
Transfer of contributions to other Systems					30
Regular retirement benefits		17,526	153	17,679	16,989
Deferred retirement benefits					
Death benefits		293		293	143
Depreciation		1		1	1
Administrative expenses		78		78	74
<b>Total deductions</b>	<u>629</u>	<u>17,898</u>	<u>153</u>	<u>18,680</u>	<u>17,297</u>
Interfund transfers according to statutory requirements					
Contributions by members at retirement	(1,601)	1,601			
Interest credited to members' accounts	957	(957)			
Net interfund transfers	<u>(644)</u>	<u>644</u>			
Net increase (decrease) in Net Position	1,621	9,813		11,434	(5,636)
Net Position Restricted for Pensions					
Beginning of year	25,082	115,635		140,717	146,353
End of year	<u>\$ 26,703</u>	<u>\$ 125,448</u>	<u>\$ -</u>	<u>\$ 152,151</u>	<u>\$ 140,717</u>

## South Carolina Retirement Systems

### Schedule of Changes in Fiduciary Net Position

SCNG Pension Trust Fund  
Year Ended June 30, 2017

*With comparative totals for the year ended June 30, 2016*

*(Amounts expressed in thousands)*

	<b>2017 Total</b>	<b>2016 Total</b>
<b>Additions</b>		
Contributions		
State appropriated contributions	\$ 4,591	\$ 4,591
Total contributions	4,591	4,591
Investment Income		
Net appreciation (depreciation)		
in fair value of investments	2,384	(220)
Interest income	395	295
Investment expense	(246)	(197)
Net Income (loss) from investing activities	2,533	(122)
From securities lending activities:		
Securities lending income		
Securities lending borrower rebates		1
Net income from securities lending activities		1
Total net investment income (loss)	2,533	(121)
<b>Total additions</b>	<b>7,124</b>	<b>4,470</b>
<b>Deductions</b>		
Regular retirement benefits	4,425	4,310
Administrative expenses	13	12
<b>Total deductions</b>	<b>4,438</b>	<b>4,322</b>
Net increase in Net Position	2,686	148
Net Position Restricted for Pensions		
Beginning of year	23,350	23,202
End of year	\$ 26,036	\$ 23,350

## South Carolina Retirement Systems Schedule of Administrative Expenses

Year Ended June 30, 2017

*(Amounts expressed in thousands)*

	<u>SCRS</u>	<u>PORS</u>	<u>GARS</u>	<u>JSRS</u>	<u>SCNG</u>	<u>TOTAL</u>
<b>Personal Services</b>						
Salaries and Wages	\$ 7,435	\$ 1,190	\$ 10	\$ 44	\$ 7	\$ 8,686
Employee Benefits	2,569	411	3	15	3	3,001
<b>Contractual Services</b>						
Information Technology	836	133	1	5	1	976
Medical & Health Services	375	60	1	2	1	439
Financial Audit	161	26		1		188
Actuarial Services	415	66	1	2	1	485
Other Professional Services	332	53		2		387
Legal Services	31	5				36
<b>Operating Expenses</b>						
Facilities Management	232	38		1		271
Telephone	132	21		1		154
Insurance	187	30		1		218
Postage	102	16		1		119
Supplies	78	12		1		91
<b>Other Miscellaneous Expenses</b>	<u>348</u>	<u>56</u>	<u>1</u>	<u>2</u>		<u>407</u>
<b>Total Administrative Expenses</b>	<u>\$ 13,233</u>	<u>\$ 2,117</u>	<u>\$ 17</u>	<u>\$ 78</u>	<u>\$ 13</u>	<u>\$ 15,458</u>

## South Carolina Retirement Systems

### Schedule of Professional and Consultant Fees<sup>1,2</sup>

Year Ended June 30, 2017

*(Amounts expressed in thousands)*

<u>Professional / Consultant Type</u>	<u>Nature of Service Provided</u>	<u>Amounts Paid</u>
<b>Information Technology (IT)</b>		
Data Network Solutions	IT Maintenance and Support	\$ 19
eGroup Holding Company	IT Security Maintenance and Support	36
OPTIV Security	IT Security Consulting Services	49
Ram Technologies	IT and Phone Services	12
SAP Public Services	IT Maintenance and Support	10
SunGard Availability Services	IT Disaster Recovery	159
Tapfin	Application Development Resources	168
<b>Legal</b>		
Ice Miller	IRC Consulting Services	14
Sowell Gray Robinson	Legal Services	16
<b>Management</b>		
CEM Benchmarking	Benchmarking Service	45
CliftonLarsonAllen	Audit	188
Gabriel Roeder Smith & Company	Actuary Services	360
Segal Consulting	Actuarial Audit	125
Summit Strategies	Optional Retirement Plan Consultants	115
Team IA	Imaging Maintenance/Auditing	157
USC Department of Internal Medicine	Disability Review	130
Vocational Rehabilitation	Disability Review	309
		\$ 1,912

<sup>1</sup> A Schedule of Investment Managers and Fees can be found in the Investment Section of this report.

<sup>2</sup> Vendor payments less than \$10,000 are excluded from this schedule.

# South Carolina Retirement Systems

## Schedule of Investment Fees and Expenses

Year Ended June 30, 2017

(Amounts expressed in thousands)

	SCRS	PORS	GARS	JSRS	SCNG	TOTALS <sup>1</sup>
<b>Short Term</b>	\$ 2,093	\$ 345	\$ 2	\$ 12	\$ 2	\$ 2,454
<b>Fixed Income:</b>						
Core Fixed Income	3,063	504	3	18	3	3,591
Mixed Credit	8,421	1,388	10	49	8	9,876
Emerging Market Debt	5,802	956	7	34	5	6,804
<b>Global Public Equity</b>	21,530	3,545	25	126	20	25,246
<b>Equity Options Strategy</b>	3,115	512	4	18	3	3,652
<b>Infrastructure</b>	1,270	209	2	7	1	1,489
<b>Global Tactical Asset Allocation</b>	8,612	1,422	10	50	8	10,102
<b>Alternatives:</b>						
Hedge Funds	57,754	9,560	66	334	53	67,767
Private Debt	35,983	5,956	42	208	33	42,222
Private Equity	65,414	10,828	76	379	60	76,757
Real Estate	35,406	5,858	41	205	32	41,542
Strategic Partnerships <sup>2</sup>	8,768	1,451	10	51	8	10,288
<b>Beta Overlay</b>	950	156	1	6	1	1,114
Total Investment Manager Fees	<u>258,181</u>	<u>42,690</u>	<u>299</u>	<u>1,497</u>	<u>237</u>	<u>302,904</u>
Bank Fees and Investment Expenses <sup>3</sup>	<u>9,992</u>	<u>1,616</u>	<u>13</u>	<u>58</u>	<u>9</u>	<u>11,688</u>
<b>Total Investment Expenses</b>	<u>268,173</u>	<u>44,306</u>	<u>312</u>	<u>1,555</u>	<u>246</u>	<u>314,592</u>
<b>Securities Lending Expenses:</b>						
Borrower Rebates	<u>\$ (172)</u>	<u>\$ (28)</u>	<u>\$ -</u>	<u>\$ (1)</u>	<u>\$ -</u>	<u>(201)</u>
<b>Total Securities Lending Expenses</b>	<u>\$ (172)</u>	<u>\$ (28)</u>	<u>\$ -</u>	<u>\$ (1)</u>	<u>\$ -</u>	<u>\$ (201)</u>

<sup>1</sup> All investment manager fees, whether directly invoiced (\$48,313) or deducted from the fund on a net basis (\$254,591) are classified and reported as Investment Expense. Investment expenses include amounts for investment management fees, performance fees (including carried interest allocations), other expenses such as organizational expenses in limited partnership structures as well as offsets which may have the effect of reducing the total.

<sup>2</sup> Represents management and other fees at the Strategic Partnership level, not fees at the underlying investment level included in each applicable asset class.

<sup>3</sup> Includes miscellaneous investment expenses, commissions on futures, bank fees and RSIC administrative expenses.

# Investment Section





August 31, 2017

The Honorable Henry McMaster, Governor  
State Fiscal Accountability Authority  
Members of the General Assembly of South Carolina

RE: FYE 2017 Report

Dear Governor and Members:

As the investment consultant for the Retirement System Investment Commission (RSIC), Aon Hewitt Investment Consulting (AHIC) is pleased to submit this summary of the investment structure and performance of the South Carolina Retirement System (SCRS) investment portfolio for the fiscal year ended (FYE) June 30, 2017.

The 2016-17 fiscal year was led by strong performance across equity markets, specifically, non-U.S. equity markets as investors focused on central bank activity and election results in the U.S. and across Europe. The Federal Reserve's decision to raise rates twice during the fiscal year, once in December and again in March, along with decreasing inflation expectations left fixed income markets muted. Non-U.S. equity markets outpaced domestic equity markets in three of the four quarters while U.S. equity markets only outpaced markets overseas following the U.S. election results in November, as the new administration's anticipated reflation policies boosted returns. The momentum triggered by the prospects of U.S. reflationary policies that carried global equity markets higher in late 2016/early 2017 stuttered and was ultimately replaced by strong corporate and economic fundamentals.

Throughout the fiscal year, the Commission and its staff worked hard to further several long-term initiatives, including:

- Reviewing asset allocation and adopting a new long-term asset allocation policy in April
- Refining investment strategy to lower costs, where possible

During the fiscal year ending June 30, 2017, the SCRS investment portfolio returned 11.9% (net-of-fee basis), and outperformed its Policy Index by 0.1 percentage point. Over the trailing three-year period ending June 30, 2017, the SCRS portfolio returned 4.2%, underperforming its Policy Index by 0.3 percentage points. Over the trailing five-year period ending June 30, 2017, the SCRS portfolio returned 7.5% and outperformed its Policy Index by 0.4 percentage points. All returns are reported on a time-weighted return basis.

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Investment advice and consulting services provided by Aon Hewitt Investment Consulting, Inc., an Aon Company

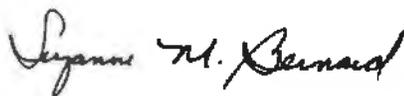
As of June 30, 2017, the SCRS investment portfolio totaled \$30.1 billion. This represented an increase of \$2.1 billion from its value on June 30, 2016, due to investment gains of \$3.2 billion and net outflows of \$1.1 billion. The portfolio's asset allocation at fiscal year-end was as follows:

Global Public Equities	35.1%
Core Fixed Income	10.0%
Global Asset Allocation	9.3%
Private Equity	7.6%
Mixed Credit	6.7%
Private Debt	5.9%
Private Real Estate	5.9%
Equity Options	5.2%
Emerging Markets Debt	5.2%
Other Opportunistic Strategies	2.8%
Hedge Funds Non-Portable Alpha	1.6%
World Infrastructure	1.4%
Public Real Estate	1.3%
Cash and Short Duration (net of overlays)	2.0% <sup>1</sup>
<b>Total</b>	<b>100.0%</b>
Hedge Funds Portable Alpha	7.7% <sup>2</sup>

The investment portfolio's June 30, 2017 asset allocation was within statutory limits and was consistent with the targets and ranges set forth in the Annual Investment Plan and in the Statement of Investment Objectives and Policy.

We at AHIC have been honored to serve as the investment consultant to the RSIC.

Sincerely,



Suzanne M. Bernard, CFA, CAIA  
Partner  
Aon Hewitt Investment Consulting

<sup>1</sup> Cash and Short Duration are net of collateral supporting the Overlay Program.

<sup>2</sup> Hedge Funds Portable Alpha represents the gross exposure utilized in the Overlay Program and is offset at the Total Plan level.

The investment performance information provided in the Investment Section of the *Comprehensive Annual Financial Report* is provided by the Systems' custodian, BNY Mellon, and is independently calculated using a time weighted rate of return.

## South Carolina Retirement System Summary of Investment Growth

(Amounts expressed in thousands)

Year Ended June 30,	Fair Value of Investments <sup>1</sup>	Fair Value % Increase/Decrease for Year	Net Income (Loss) from Investments	Net Income (Loss) % Increase/Decrease for Year
2017	\$ 26,083,511	6.13%	\$ 2,790,555	1,778.99%
2016	24,576,968	(4.39%)	(166,204)	(144.62%)
2015	25,707,561	0.65%	372,452	(89.41%)
2014	25,540,648	7.48%	3,515,834	59.84%
2013	23,762,666	7.50%	2,199,550	1,934.60%
2012	22,105,265	(4.85%)	108,107	(96.99%)
2011	23,232,653	17.26%	3,596,902	37.67%
2010	19,812,203	8.62%	2,612,663	154.95%
2009	18,240,380	(21.05%)	(4,754,668)	(641.53%)
2008	23,103,046	(6.77%)	(641,196)	(121.38%)

## Police Officers Retirement System Summary of Investment Growth

(Amounts expressed in thousands)

Year Ended June 30,	Fair Value of Investments <sup>1</sup>	Fair Value % Increase/Decrease for Year	Net Income (Loss) from Investments	Net Income (Loss) % Increase/Decrease for Year
2017	\$ 4,319,861	9.11%	\$ 455,806	1,940.52%
2016	3,959,326	(2.31%)	(24,765)	(142.38%)
2015	4,052,870	2.69%	58,440	(89.14%)
2014	3,946,522	9.44%	538,157	63.05%
2013	3,606,143	9.29%	330,061	1,839.14%
2012	3,299,647	(2.58%)	17,021	(96.72%)
2011	3,386,895	19.93%	519,363	43.25%
2010	2,824,156	11.33%	362,566	156.79%
2009	2,536,671	(18.18%)	(638,389)	(647.40%)
2008	3,100,417	(4.83%)	(85,415)	(122.80%)

<sup>1</sup> Fair Value also includes investment categories classified as cash equivalents for financial statement purposes. Investments made with cash collateral received in the securities lending program are excluded.

## General Assembly Retirement System Summary of Investment Growth

(Amounts expressed in thousands)

Year Ended June 30,	Fair Value of Investments <sup>1</sup>	Fair Value % Increase/Decrease for Year	Net Income (Loss) from Investments	Net Income (Loss) % Increase/Decrease for Year
2017	\$ 32,192	4.37%	\$ 3,328	1,346.44%
2016	30,845	(6.89%)	(267)	(153.61%)
2015	33,129	(1.61%)	498	(89.04%)
2014	33,671	3.56%	4,543	45.75%
2013	32,515	2.11%	3,117	1,733.53%
2012	31,843	(10.27%)	170	(97.01%)
2011	35,488	8.65%	5,680	22.36%
2010	32,662	2.79%	4,642	149.34%
2009	31,777	(27.02%)	(9,409)	(728.26%)
2008	43,544	(9.27%)	(1,136)	(119.09%)

## Judges and Solicitors Retirement System Summary of Investment Growth

(Amounts expressed in thousands)

Year Ended June 30,	Fair Value of Investments <sup>1</sup>	Fair Value % Increase/Decrease for Year	Net Income (Loss) from Investments	Net Income (Loss) % Increase/Decrease for Year
2017	\$ 153,976	7.03%	\$ 16,395	1,971.58%
2016	143,863	(3.62%)	(876)	(139.71%)
2015	149,265	2.20%	2,206	(88.94%)
2014	146,095	8.25%	19,954	58.03%
2013	134,963	7.75%	12,627	1,527.19%
2012	125,255	(3.91%)	776	(96.14%)
2011	130,357	17.65%	20,086	37.14%
2010	110,798	9.44%	14,646	154.77%
2009	101,244	(19.64%)	(26,741)	(693.27%)
2008	125,987	(7.00%)	(3,371)	(121.05%)

<sup>1</sup> Fair Value also includes investment categories classified as cash equivalents for financial statement purposes. Investments made with cash collateral received in the securities lending program are excluded.

## South Carolina National Guard Supplemental Retirement Plan Summary of Investment Growth

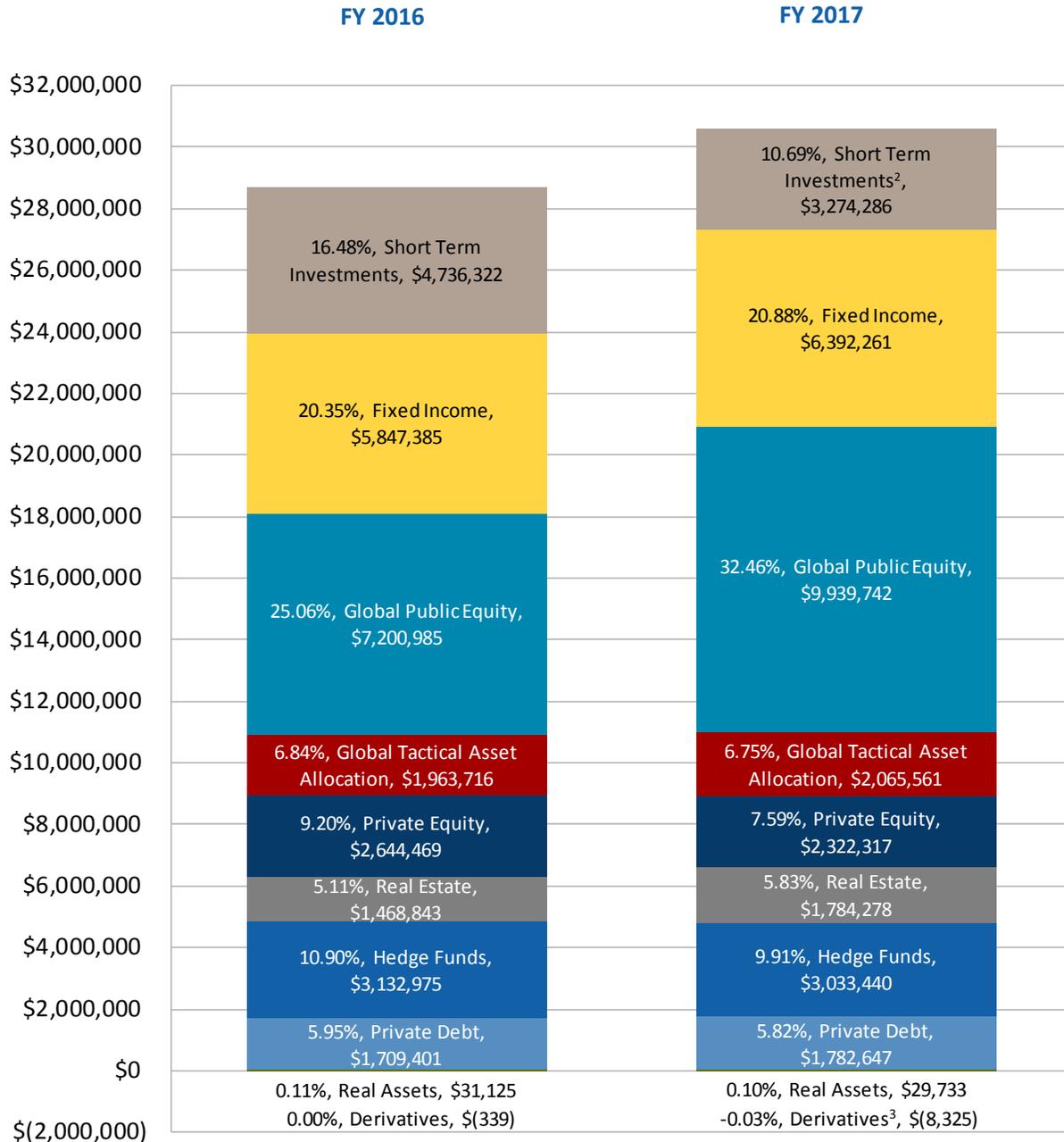
(Amounts expressed in thousands)

Year Ended June 30,	Fair Value of Investments <sup>1</sup>	Fair Value % Increase/Decrease for Year	Net Income (Loss) from Investments	Net Income (Loss) % Increase/Decrease for Year
2017	\$ 26,400	10.55%	\$ 2,533	2,176.23%
2016	23,880	0.75%	(122)	(139.10%)
2015	23,701	5.73%	312	(88.87%)
2014	22,417	12.63%	2,805	67.46%
2013	19,904	12.69%	1,675	1,701.08%
2012	17,662	(1.13%)	93	(96.33%)
2011	17,864	19.04%	2,531	35.71%
2010	15,007	16.25%	1,865	146.39%
2009	12,909	(17.39%)	(4,020)	(1,055.17%)
2008	15,627	(0.55%)	(348)	(117.38%)

<sup>1</sup> Fair Value also includes investment categories classified as cash equivalents for financial statement purposes. Investments made with cash collateral received in the securities lending program are excluded.

# South Carolina Retirement Systems Schedule of Investment Allocation<sup>1</sup>

Fair Value of Investments as of June 30, 2017  
(Dollar amounts in thousands)



<sup>1</sup>Data provided in this chart is derived from the Statement of Fiduciary Net Position and for financial statement purposes, allocations are made based on the manager's style. Actual underlying holdings would result in a different allocation.

<sup>2</sup>Short-term investments with an original maturity of three months or less are classified as cash equivalents for financial statement purposes. The short-term total includes cash of \$408,463 (in thousands). Investments made with cash collateral received in the securities lending program are excluded.

<sup>3</sup>For accounting purposes, derivatives such as futures, options and swaps are reflected in the asset class to which they pertain.

## South Carolina Retirement System

### Summary of Fair Value of Investments<sup>1</sup>

(Amounts expressed in thousands)

	Fair Value		% of Fair Value at 06/30/17
	06/30/2016	06/30/2017	
<b>Short-Term Investments</b>	\$ 4,043,392	\$ 2,782,072	10.67%
<b>Debt:</b>			
Fixed Income	5,003,122	5,447,691	20.88%
<b>Public Equity:</b>			
Global Public Equity	6,161,285	8,470,968	32.48%
<b>Global Tactical Asset Allocation</b>	1,680,189	1,760,338	6.75%
<b>Alternatives:</b>			
Hedge Funds	2,680,626	2,585,196	9.91%
Private Debt	1,462,592	1,519,229	5.82%
Private Equity	2,262,653	1,979,153	7.59%
Real Estate	1,283,398	1,545,959	5.93%
Swaps - Commodities	(289)	(7,095)	-0.03%
<b>Total Investments</b>	<u>\$ 24,576,968</u>	<u>\$ 26,083,511</u>	<u>100.00%</u>

## Police Officers Retirement System

### Summary of Fair Value of Investments<sup>1</sup>

(Amounts expressed in thousands)

	Fair Value		% of Fair Value at 06/30/17
	06/30/2016	06/30/2017	
<b>Short-Term Investments</b>	\$ 654,996	\$ 462,913	10.72%
<b>Debt:</b>			
Fixed Income	805,119	901,724	20.87%
<b>Public Equity:</b>			
Global Public Equity	991,494	1,402,149	32.46%
<b>Global Tactical Asset Allocation</b>	270,382	291,378	6.75%
<b>Alternatives:</b>			
Hedge Funds	431,375	427,912	9.91%
Private Debt	235,365	251,469	5.82%
Private Equity	364,113	327,597	7.58%
Real Estate	206,528	255,893	5.92%
Swaps - Commodities	(46)	(1,174)	-0.03%
<b>Total Investments</b>	<u>\$ 3,959,326</u>	<u>\$ 4,319,861</u>	<u>100.00%</u>

<sup>1</sup>Fair Value excludes investments made with cash collateral received in the securities lending program. Assets of the Systems are pooled for investment purposes; however, percentages vary slightly between systems due to cash flow differences, which primarily impact the short-term investment category.

## General Assembly Retirement System Summary of Fair Value of Investments<sup>1</sup>

(Amounts expressed in thousands)

	Fair Value		% of Fair Value at 06/30/17
	06/30/2016	06/30/2017	
<b>Short-Term Investments</b>	\$ 6,901	\$ 5,220	16.21%
<b>Debt:</b>			
Fixed Income	5,834	6,306	19.59%
<b>Public Equity:</b>			
Global Public Equity	7,185	9,806	30.46%
<b>Global Tactical Asset Allocation</b>	1,959	2,037	6.33%
<b>Alternatives:</b>			
Hedge Funds	3,126	2,992	9.29%
Private Debt	1,706	1,759	5.46%
Private Equity	2,638	2,291	7.12%
Real Estate	1,497	1,789	5.56%
Swaps - Commodities	(1)	(8)	-0.02%
<b>Total Investments</b>	<u>\$ 30,845</u>	<u>\$ 32,192</u>	<u>100.00%</u>

## Judges and Solicitors Retirement System Summary of Fair Value of Investments<sup>1</sup>

(Amounts expressed in thousands)

	Fair Value		% of Fair Value at 06/30/17
	06/30/2016	06/30/2017	
<b>Short-Term Investments</b>	\$ 25,229	\$ 19,089	12.40%
<b>Debt:</b>			
Fixed Income	28,906	31,535	20.48%
<b>Public Equity:</b>			
Global Public Equity	35,597	49,037	31.85%
<b>Global Tactical Asset Allocation</b>	9,707	10,190	6.62%
<b>Alternatives:</b>			
Hedge Funds	15,488	14,965	9.72%
Private Debt	8,450	8,795	5.71%
Private Equity	13,073	11,457	7.44%
Real Estate	7,415	8,949	5.81%
Swaps - Commodities	(2)	(41)	-0.03%
<b>Total Investments</b>	<u>\$ 143,863</u>	<u>\$ 153,976</u>	<u>100.00%</u>

<sup>1</sup>Fair Value excludes investments made with cash collateral received in the securities lending program. Assets of the Systems are pooled for investment purposes; however, percentages vary slightly between systems due to cash flow differences, which primarily impact the short-term investment category.

# South Carolina National Guard Supplemental Retirement Plan

## Summary of Fair Value of Investments<sup>1</sup>

(Amounts expressed in thousands)

	Fair Value		% of Fair Value at 06/30/17
	06/30/2016	06/30/2017	
<b>Short-Term Investments</b>	\$ 5,804	\$ 4,992	18.91%
<b>Debt:</b>			
Fixed Income	4,404	5,005	18.96%
<b>Public Equity:</b>			
Global Public Equity	5,424	7,782	29.48%
<b>Global Tactical Asset Allocation</b>	1,479	1,618	6.13%
<b>Alternatives:</b>			
Hedge Funds	2,360	2,375	8.99%
Private Debt	1,288	1,396	5.29%
Private Equity	1,992	1,818	6.88%
Real Estate	1,130	1,420	5.38%
Swaps - Commodities	(1)	(6)	-0.02%
<b>Total Investments</b>	<u>\$ 23,880</u>	<u>\$ 26,400</u>	<u>100.00%</u>

<sup>1</sup>Fair Value excludes investments made with cash collateral received in the securities lending program. Assets of the Systems are pooled for investment purposes; however, percentages vary slightly between systems due to cash flow differences, which primarily impact the short-term investment category.

# South Carolina Retirement Systems

## List of Largest Assets Held

As of June 30, 2017

### Index Fund Holdings:

Units	Description	SCRS	PORS	GARS	JSRS	SCNG	Fair Value
63,888,993	Blackrock MSCI World Index	\$ 1,011,251,562	\$ 167,386,429	\$ 1,170,576	\$ 5,853,919	\$ 929,065	\$ 1,186,591,551
22,502,003	Daily MSCI USA Index NL Fund	624,343,393	103,343,832	722,709	3,614,190	573,601	732,597,725
5,032,702	MSCI EAFE Index NL Fund (FD12)	390,928,010	64,707,978	452,519	2,262,999	359,156	458,710,662
486,847	MSCI CAD Index NL Fund (CA-12)	36,678,994	6,071,255	42,458	212,327	33,698	43,038,732
<b>Total</b>							<b>\$ 2,420,938,670</b>

### Top Ten Equity Holdings

Units	Description	SCRS	PORS	GARS	JSRS	SCNG	Fair Value
386,815	Apple Inc	\$ 47,477,086	\$ 7,858,599	\$ 54,957	\$ 274,835	\$ 43,619	\$ 55,709,096
247,768	Simon Property Group Inc	34,156,574	5,653,734	39,538	197,725	31,381	40,078,952
79,937	Equinix Inc	29,236,477	4,839,339	33,843	169,244	26,860	34,305,763
232,596	American Tower Corp	26,229,239	4,341,569	30,362	151,835	24,098	30,777,103
499,291	Prologis Inc	24,952,017	4,130,158	28,883	144,442	22,924	29,278,424
219,919	Johnson & Johnson	24,794,065	4,104,013	28,700	143,528	22,779	29,093,085
2,137,125	National Grid PLC	22,517,802	3,727,237	26,066	130,351	20,688	26,422,144
136,040	AvalonBay Communities Inc	22,279,742	3,687,833	25,790	128,973	20,469	26,142,807
537,029	TransCanada Corp	21,785,918	3,606,093	25,218	126,114	20,015	25,563,358
297,797	Vinci SA	21,631,547	3,580,541	25,040	125,220	19,873	25,382,221
<b>Total</b>							<b>\$ 322,752,953</b>

### Top Ten Fixed Income Holdings

Par Value	Description	SCRS	PORS	GARS	JSRS	SCNG	Fair Value
104,170,000	Commit to Purchase FNMA 3.50% due 08/01/2047	\$ 91,026,641	\$ 15,067,096	\$ 105,368	\$ 526,934	\$ 83,629	\$ 106,809,668
65,030,000	Commit to Purchase FNMA 4.00% due 08/01/2047	58,162,322	9,627,262	67,326	336,689	53,435	68,247,034
61,000,000	US Treasury Bond 2.50% due 02/15/2045	48,515,570	8,030,492	56,159	280,846	44,573	56,927,640
46,000,000	Commit to Purchase FNMA 3.00% due 08/01/2047	39,089,387	6,470,233	45,248	226,280	35,912	45,867,060
43,000,000	US Treasury Note 1.00% due 10/15/2019	36,299,681	6,008,469	42,019	210,131	33,350	42,593,650
35,000,000	Federal Farm Credit Bank 1.17% due 05/16/2019	29,664,670	4,910,216	34,338	171,722	27,254	34,808,200
33,000,000	Commit to Purchase FNMA 3.00% due 09/01/2047	27,995,702	4,633,961	32,406	162,061	25,720	32,849,850
30,000,000	Commit to Purchase FNMA 4.50% due 08/01/2047	27,391,169	4,533,897	31,707	158,562	25,165	32,140,500
26,725,000	Exxon Mobil Corp 1.708% due 03/01/2019	22,825,785	3,778,216	26,422	132,134	20,971	26,783,528
25,000,000	Federal Home Loan Bank 1.65% due 01/06/2020	21,306,657	3,526,764	24,664	123,340	19,575	25,001,000
<b>Total</b>							<b>\$ 472,028,130</b>

Note: A complete list of portfolio holdings is available upon request.

# South Carolina Retirement Systems

## Schedule of Investment Results

### Combined Investment Portfolio

Schedule of Investments	FYE 2017	3 Years	5 Years
<b>South Carolina Plan Return (Net of Fees)<sup>1</sup></b>	<b>11.88%</b>	<b>4.23%</b>	<b>7.50%</b>
<b>South Carolina Policy Benchmark<sup>2</sup></b>	11.82%	4.49%	7.11%
<b>Global Public Equity<sup>3</sup></b>	<b>18.86%</b>	<b>4.79%</b>	<b>10.76%</b>
<i>Global Public Equity Blend<sup>4</sup></i>	19.01%	4.89%	10.58%
<b>Equity Options</b>	<b>11.49%</b>	<b>N/A</b>	<b>N/A</b>
<i>CBOE S&amp;P 500 BuyWrite Index (BXM)</i>	12.06%	N/A	N/A
<b>Private Equity<sup>3</sup></b>	<b>15.17%</b>	<b>9.41%</b>	<b>13.15%</b>
<i>80% Russell 3000 / 20% MSCI EAFE + 300 Bps on a 3-month lag</i>	19.84%	10.90%	14.74%
<b>GTAA<sup>3</sup></b>	<b>7.36%</b>	<b>1.78%</b>	<b>4.92%</b>
<i>GTAA Blend<sup>4</sup></i>	8.61%	2.90%	5.99%
<b>Other Opportunistic<sup>3</sup></b>	<b>-5.05%</b>	<b>N/A</b>	<b>N/A</b>
<i>50% MSCI World / 50% Barclays Aggregate Bond Index</i>	8.61%	N/A	N/A
<b>Hedge Funds (Non-PA)</b>	<b>8.54%</b>	<b>N/A</b>	<b>N/A</b>
<i>50% MSCI World / 50% Barclays Aggregate Bond Index</i>	8.61%	N/A	N/A
<b>Core Fixed Income<sup>3</sup></b>	<b>-0.31%</b>	<b>2.23%</b>	<b>2.25%</b>
<i>Barclays US Aggregate Bond Index</i>	-0.31%	2.48%	2.21%
<b>Cash and Short Duration (Net)<sup>5</sup></b>	<b>0.49%</b>	<b>0.23%</b>	<b>0.17%</b>
<i>Merrill Lynch 3-Month T-Bill</i>	0.49%	0.23%	0.17%
<b>Mixed Credit</b>	<b>10.50%</b>	<b>1.81%</b>	<b>4.87%</b>
<i>Mixed Credit Blend<sup>4</sup></i>	10.04%	4.48%	5.17%
<b>Private Debt</b>	<b>10.01%</b>	<b>4.45%</b>	<b>8.74%</b>
<i>S&amp;P/LSTA Leveraged Loan + 150 Bps on a 3-month lag</i>	11.22%	5.07%	6.08%
<b>Emerging Markets Debt<sup>3</sup></b>	<b>8.45%</b>	<b>2.48%</b>	<b>3.14%</b>
<i>50% JPM EMBI GD USD / 50% JPM GBIEM GD Local</i>	6.26%	1.28%	2.54%
<b>Private Real Estate<sup>3</sup></b>	<b>8.22%</b>	<b>13.48%</b>	<b>15.57%</b>
<i>NCREIF ODCE + 75 Bps</i>	9.09%	12.54%	12.73%
<b>Public Real Estate</b>	<b>-2.60%</b>	<b>N/A</b>	<b>N/A</b>
<i>FTSE NAREIT Equity REITs Index</i>	-1.70%	N/A	N/A
<b>World Infrastructure</b>	<b>4.52%</b>	<b>N/A</b>	<b>N/A</b>
<i>Dow Jones Brookfield Global Infrastructure Net Index</i>	8.00%	N/A	N/A
<b>Ported Cash<sup>5,6</sup></b>	<b>0.49%</b>	<b>N/A</b>	<b>N/A</b>
<i>3 Month LIBOR</i>	0.97%	N/A	N/A
<b>Ported Short Duration<sup>6</sup></b>	<b>1.59%</b>	<b>N/A</b>	<b>N/A</b>
<i>3 Month LIBOR</i>	0.97%	N/A	N/A
<b>Portable Alpha Hedge Funds<sup>6</sup></b>	<b>7.37%</b>	<b>N/A</b>	<b>N/A</b>
<i>3 Month LIBOR</i>	0.97%	N/A	N/A

<sup>1</sup> Plan returns are from BNY Mellon and are time-weighted, total return calculations, net of fees and expenses. All returns are expressed in U.S. Dollars. Periods greater than one year are annualized.

<sup>2</sup> The South Carolina Policy Benchmark is set annually by the RSIC and has changed over time. The presented returns are a blend of these past policies.

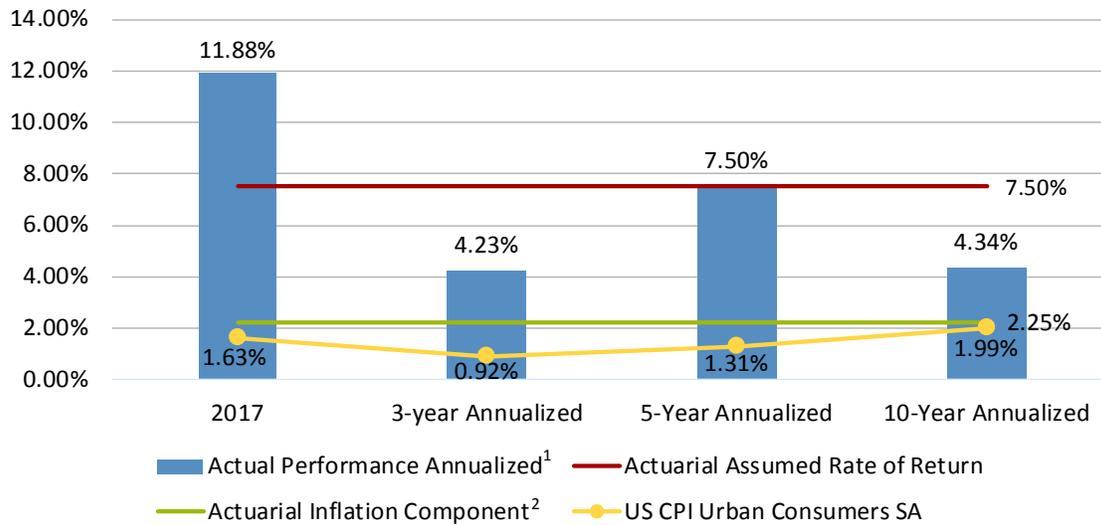
<sup>3</sup> Returns generated from synthetic exposure through the Overlay Program are blended into the asset class segment returns.

<sup>4</sup> The asset class benchmark has changed over time. The presented returns are a blend of these past benchmarks.

<sup>5</sup> Cash returns are estimated using the Merrill Lynch 3-Month T-Bill.

<sup>6</sup> Collateral held to support the overlay program represents opportunity cost associated with financing the overlay program. The Overlay collateral consists of Ported Cash, Ported Short Duration, and Portable Alpha Hedge Funds. The cost of holding these assets is proxied using 3 Month LIBOR. This benchmark is not a component of the Policy benchmark.

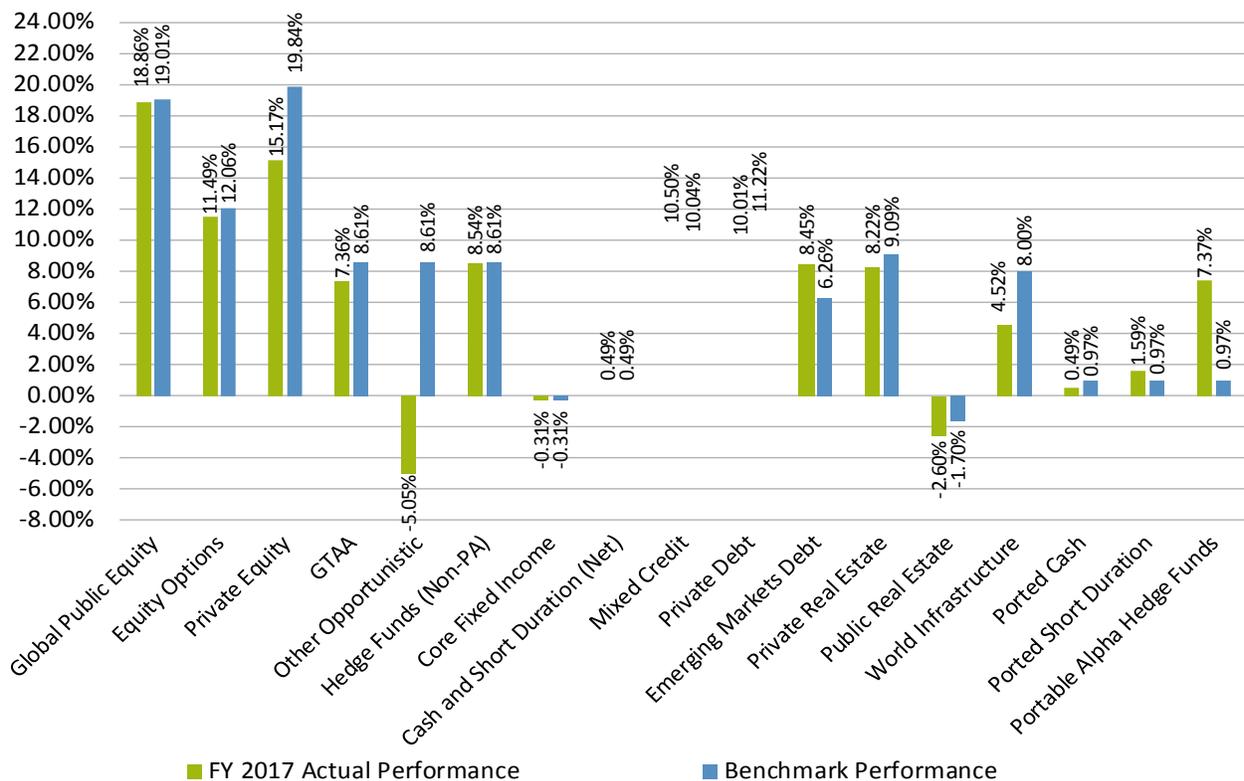
## South Carolina Retirement Systems Investment Performance Summary



<sup>1</sup>Plan returns are from BNY Mellon and are time-weighted, total return calculations, net of fees and expenses. All returns are expressed in U.S. Dollars. Periods greater than one year are annualized.

<sup>2</sup>The actuarial assumed rate of return was 7.50 percent for years July 1, 2011 – June 30, 2017. The rate was composed of a 2.75 percent inflation rate and a 4.75 percent real rate of return, net of investment and administrative expenses through 2016 and the components changed to a 2.25 percent inflation rate and a 5.25 percent real rate of return for fiscal year 2017.

## Fiscal Year 2017 Investment Performance by Market Segment



# South Carolina Retirement Systems

## Schedule of Investment Fees and Commissions

For the Year Ended June 30, 2017

	Fair Value of Assets Under Management at June 30, 2017 <sup>1</sup>	Reported Fees <sup>2</sup>
<b>Investment Managers' Fees</b>	\$ 30,615,940,260	\$ 302,904,488
<b>Other Investment Service Fees</b>		
Bank Fees and Investment Expenses <sup>3</sup>		11,687,450
		\$ 314,591,938

Brokerage Firm	Number of Shares Traded	Commissions <sup>4</sup>	Average Commissions per Share
Goldman Sachs & Co.	33,838,457	\$ 1,937,028	0.0572
Deutsche Bank Securities Inc.	27,422,595	319,742	0.0117
Instinet Europe	73,963,712	274,370	0.0037
Morgan Stanley & Co., Inc.	38,872,698	246,560	0.0063
Merrill Lynch Pierce Fenner Smith Inc.	8,821,845	206,642	0.0234
Credit Suisse	75,148,048	173,498	0.0023
Pershing LLC	4,446,498	155,336	0.0349
J.P. Morgan Clearing Corp.	6,157,135	148,149	0.0241
UBS Securities LLC	3,803,178	115,769	0.0304
National Financial Services Corp.	3,443,432	110,181	0.0320
Citigroup Global Markets Inc.	3,070,762	109,770	0.0358
Stifel Nicolaus	2,698,340	96,843	0.0359
ITG Inc.	6,531,192	92,934	0.0142
Instinet Corp. NY	4,447,248	78,525	0.0177
J.P. Morgan Securities Ltd. London	8,088,662	73,801	0.0091
UBS Warburg London	8,305,088	66,015	0.0080
Barclays Capital Inc.	1,692,699	58,603	0.0346
RBC Capital Markets LLC	2,647,602	58,413	0.0221
Jefferies & Co., Inc.	1,856,321	57,189	0.0308
Wells Fargo Securities LLC	1,493,480	53,052	0.0355
UBS Warburg Asia Ltd.	7,769,986	51,539	0.0066
All Others <sup>5</sup>	1,038,773,309	1,036,727	0.0010
	1,363,292,287	\$ 5,520,686	0.0040

<sup>1</sup> Assets under management include categories classified as cash and cash equivalents for financial statement purposes.

<sup>2</sup> A portion of investment expenses are directly invoiced by the manager; however, a significant number of investment managers provide account valuations on a net of fee basis. The RSIC makes a good faith attempt to account for fees that are not necessarily readily separable. Conifer Financial Services, administrator for the RSIC, provides support to the RSIC for the collection, aggregation and reasonability testing so that the RSIC can provide the Retirement Division of PEBA with investment fees and expenses that would not be disclosed otherwise. These amounts include management fees, performance fees (carried interest) and other expenses such as organizational expenses in limited partnership structures.

<sup>3</sup> Includes miscellaneous investment expenses, commissions on futures, bank fees and RSIC administrative expenses.

<sup>4</sup> Commissions paid to brokers are considered a part of the investment asset cost and are therefore not reported as expenses of the System.

<sup>5</sup> All others include 144 additional brokers each receiving less than \$50,000 in total commissions.

# South Carolina Retirement Systems

## Schedule of Investment Managers and Fees

For the Year Ended June 30, 2017

(Amounts expressed in thousands)

Style	Investment Manager	Fair Value of Assets Under Management at 6/30/2017 <sup>1</sup>	Manager Fees Directly Invoiced	Manager Fees Deducted on a Net of Fee Basis <sup>2</sup>			Total Investment Manager Fees
				Management Fees	Performance Fees	Other Fees	
<b>Short Duration:</b>							
	Apollo Partnership Short Duration	\$ 239,714		\$ 391		\$ 474	\$ 865
	Penn Limited Term HY	229,761	1,589				1,589
<b>Fixed Income:</b>							
<b>Core Fixed Income</b>							
	Blackrock Financial Management, Inc.	(1)					
	Loomis Sayles Securitized	262,631	483				483
	Loomis Sayles Investment Grade Credit	285,220	580				580
	Pacific Investment Management Co. <sup>3</sup>	1,302,467	2,528				2,528
<b>Mixed Credit</b>							
	Apollo Partnership Mixed Credit					52	52
	Barings	265,575	588				588
	Caspian SC Holdings LP <sup>4</sup>	236,396		1,010	1,517		2,527
	Goldentree Structured Credit	387,552	2,163				2,163
	GSO Partnership Mixed Credit	7,882					
	Guggenheim	638,103	2,415				2,415
	Loomis Sayles HY		403				403
	Pinebridge	503,481	1,728				1,728
<b>Emerging Market Debt</b>							
	Ashmore External Debt	301,796	1,302				1,302
	Goldman Sachs Partnership Emerging Market Debt	225,697		1,143			1,143
	GMO Emerging Country Debt	330,503		1,533			1,533
	Mondrian Investment Group, Inc.	237,881	1,136				1,136
	Russell EMD Transition Local	1					
	Wellington Emerging Local Debt	451,161	1,690				1,690
<b>Global Public Equity</b>							
	Aberdeen	274,807	1,991				1,991
	Algert	160,667	185				185
	AQR	802,775	1,773				1,773
	AQR Options	762,009	2,424				2,424
	Blackrock Global Equity	1,186,592	264				264
	D. E. Shaw World Enhanced	803,216	2,617				2,617
	Intech	818,294	1,549				1,549
	Integrity Small V	336,199	1,846				1,846
	Johnston Fund	191					
	Lighthouse Partnership Developed International Equity	520,864		2,692		271	2,963
	LSV Asset Management	415,227		2,726		282	3,008
	Numeric Investors	153,853	145				145
	Pyramis Small C	332,180	1,900			(14)	1,886
	Russell Options	810,317	1,228				1,228
	Russell Developed International Equity	150,108					
	Russell Global Equity Transition	4,713					

Continued on page 111

# South Carolina Retirement Systems

## Schedule of Investment Managers and Fees (cont.)

For the Year Ended June 30, 2017

(Amounts expressed in thousands)

Style	Investment Manager	Fair Value of Assets Under Management at 6/30/2017 <sup>1</sup>	Manager Fees Directly Invoiced	Manager Fees Deducted on a Net of Fee Basis <sup>2</sup>			Total Investment Manager Fees
				Management Fees	Performance Fees	Other Fees	
	Russell Large Cap Transition	393,942					
	Schroders	284,637	1,893				1,893
	State Street Global Equity	1,234,347	164				164
	TimesSquare SMID G	431,724	3,199				3,199
	William Blair	335,033	1,763				1,763
<b>Global Tactical Asset Allocation</b>							
	Bridgewater Associates, Inc.	1,070,145		3,026		388	3,414
	Entrust Partnership Global Tactical Asset Allocation	210,843					
	Grantham, Mayo, Van Otterloo & Co. LLC	784,573	4,421	2,267			6,688
<b>Infrastructure</b>							
	Deutsche Infrastructure	421,650	1,489				1,489
<b>Alternatives:</b>							
<b>Hedge Funds (Portable Alpha and Non-Portable Alpha)</b>							
	Apollo Partnership Hedge Funds	614				17	17
	Blackstone SAF II	92,606		889		125	1,014
	Bridgewater Associates, Inc.	432,220		10,342		426	10,768
	Bridgewater Associates, Inc.	104,418		2,369	863	110	3,342
	DE Shaw Composite Fund	462,716		11,160	8,562		19,722
	GAM PA	6,885				6	6
	Goldman Sachs Partnership Hedge Funds	34,085		249		172	421
	Grosvenor Partnership Hedge Funds	135,441		1,177	883	280	2,340
	GSO Partnership Hedge Funds	86,038		1,223		393	1,616
	Lighthouse Partnership Hedge Funds	1,328,984		16,176	6,227	3,893	26,296
	Morgan Stanley Partnership Hedge Funds	75,162		480	880	202	1,562
	Reservoir Strategic Partners Fund L.P.	37,877		520		143	663
<b>Private Debt</b>							
	Angelo Gordon VI	1,419		67	230	24	321
	Apollo Partnership Private Debt	297,591		1,251	4,428	1,536	7,215
	Avenue Europe I (Parallel II)				(4)	30	26
	Avenue Europe II	26,861		208	(18)	125	315
	Avenue Spec VI	21,226		191		177	368
	Crescent Mezz V	12,723		211	174		385
	Crescent Mezz VI	62,395		766	(38)	214	942
	DE Shaw Direct Capital	17,922		130			130
	Gateway Energy	15,800		10	5	363	378
	Goldman Sachs Mezz V	5,816		103	191		294
	Goldman Sachs Partnership Private Debt	74,214		800	3,309	4,619	8,728
	Golub PEARLS	41,264		633	3	880	1,516
	GSO Partnership Private Debt	720,030		5,371	3,303	2,723	11,397
	Highbridge Sandlapper Credit	96,838		393	542	1,020	1,955
	KKR Lending Partners II	106,273			1,845	575	2,420
	KKR Special Situations Fund II	46,592		1,016		705	1,721
	Morgan Stanley Partnership Private Debt	18,373		280	(678)	131	(267)
	Northstar Mezz V	17,382		325	(184)	24	165
	Sankaty COP IV	24,694		584	691	51	1,326

Continued on page 112

## South Carolina Retirement Systems

### Schedule of Investment Managers and Fees (cont.)

For the Year Ended June 30, 2017

(Amounts expressed in thousands)

Style	Investment Manager	Fair Value of Assets Under Management at 6/30/2017 <sup>1</sup>	Manager Fees Directly Invoiced	Manager Fees Deducted on a Net of Fee Basis <sup>2</sup>			Total Investment Manager Fees
				Management Fees	Performance Fees	Other Fees	
	Sankaty COP V	42,517		219		30	249
	Selene I	248			(5)	118	113
	Selene II	65,283		582	1,149	735	2,466
	SJC Direct Lending II	23,813		288	408	56	752
	WL Ross - WLR Whole Loans	15,181		184	(1,028)	151	(693)
	WL Ross Partnership Private Debt	28,189					
	<b>Private Equity</b>						
	Advent International GPE VII	48,621		377	3,180	131	3,688
	Apax Europe VIII	71,617		662	1,960	130	2,752
	Apollo Partnership Private Equity	406,062		6,350	10,526	3,434	20,310
	Aquiline Financial Services II	87,580		1,211	(5,813)		(4,602)
	Azalea IV	6,769		265			265
	BC European Cap IX	30,624		284	1,980	11	2,275
	Bridgepoint Europe IV	35,292		292		157	449
	Bridgepoint Europe V	38,434		1,067		479	1,546
	Brookfield Capital IV	43,223		1,884	1,555	910	4,349
	Carousel Capital III	270		(83)	403		320
	Carousel Capital IV	23,518		178	3,331		3,509
	CD&R VIII	46,847			3,635	82	3,717
	Crestview II	89,216		776	12,024	231	13,031
	Crestview III	23,082		1,196		134	1,330
	Goldman Sachs Partnership Private Equity	31,860		503	350	109	962
	Green Equity	42,361		(12)	693		681
	Industry Ventures V	31,342		62	(254)	13	(179)
	Industry Ventures VI	25,750		258	331		589
	Industry Ventures VII	35,979		449	733	53	1,235
	Lexington Capital VII	40,128		907	(1,411)	180	(324)
	Lexington Middle Market II	26,401		222	492	49	763
	Morgan Stanley Partnership Private Equity	231,658		1,806	(4,177)	297	(2,074)
	Neuberger Berman	12,757		131	142	53	326
	Oaktree EOF III	43,361		522	1,527	234	2,283
	Pacific Equity Partners V	32,152		1,528		169	1,697
	Pantheon Europe V	25,425		414	386	46	846
	Pantheon USA VII	79,353		815	709	91	1,615
	Paul Capital IX	24,039		672		8	680
	Reservoir Capital Partners (Cayman) L.P.	54,915		367	3,683	33	4,083
	Square 1 Venture 1	27,634		291	4	73	368
	Truebridge Capital I	45,225		214	175	54	443
	Truebridge Capital II	72,840		554	130	84	768
	Warburg Pincus X	53,538		290	2,032	260	2,582
	Warburg Pincus XI	52,828		439	1,714	303	2,456
	Welsh Carson Anderson & Stowe XI	34,496		178	1,113	15	1,306
	WL Ross Partnership Private Equity	223,925		373	1,085	116	1,574
	Various Private Equity Managers <sup>5</sup>	123,702		691	351	96	1,138

Continued on page 113

## South Carolina Retirement Systems

### Schedule of Investment Managers and Fees (cont.)

For the Year Ended June 30, 2017

(Amounts expressed in thousands)

Style	Investment Manager	Fair Value of Assets Under Management at 6/30/2017 <sup>1</sup>	Manager Fees Directly Invoiced	Manager Fees Deducted on a Net of Fee Basis <sup>2</sup>			Total Investment Manager Fees
				Management Fees	Performance Fees	Other Fees	
<b>Real Estate</b>							
	American Timberlands Fund	29,733		254	(11)		243
	Apollo Partnership Real Estate	45,208		385	1,906	482	2,773
	Blackstone Property Partners	348,889		2,818	3,104		5,922
	Blackstone Real Estate Partners VII	122,950		1,451	2,510	62	4,023
	Brookfield REF III	6,410		88			88
	Brookfield REF IV	29,143		431		13	444
	Brookfield SREP LP	91,032		825	5,005		5,830
	Brookfield SREP II LP	45,598		1,044	806		1,850
	Carlyle VI	37,301		365	(5,401)		(5,036)
	CenterSquare <sup>6</sup>	380,769	1,418				1,418
	Crowe VII	74,739		1,250			1,250
	Goldman Sachs Partnership Real Estate	937		47	104	92	243
	Greystar VII	141			(356)		(356)
	Greystar IX	53,600		2,289		14	2,303
	Lone Star II	7,874		20	(280)		(260)
	Morgan Stanley Partnership Real Estate	55,683		644	1,362	296	2,302
	Morgan Stanley Prime Property	429,137		2,806	896		3,702
	Oaktree ROF V	22,498		303	151	228	682
	Oaktree ROF VI	65,035		929	(251)	235	913
	Och-Ziff II	27,494	325		(8)	191	508
	Pembroke Capital Management - PCI Investors Fund II	5,888		48	40	574	662
	TA Realty X	64,976		1,488	907		2,395
	TA Realty Fund of One	74,318		666	469		1,135
	Torchlight III	11,661		166	422	(100)	488
	Torchlight IV	71,655		707	3,376	492	4,575
	Torchlight V	39,201		1,200	1,112	172	2,484
	U. S. REIF	8,541					
	WL Ross Partnership Real Estate	44,370		647		314	961
<b>Strategic Partnerships<sup>7</sup></b>							
	Apollo	83,524					
	Entrust	19,477		1,084	(945)	1,063	1,202
	Goldman Sachs	45,100		385		1,400	1,785
	Grosvenor	13,220				90	90
	GSO	5,222					
	Lighthouse	12,957		3,813		2,180	5,993
	Morgan Stanley	22,595		31		535	566
	WL Ross	36,036		1,152		(500)	652
<b>Beta Overlay</b>							
	Russell Investment Group	854,937	1,114				1,114

Continued on page 114

# South Carolina Retirement Systems

## Schedule of Investment Managers and Fees (cont.)

For the Year Ended June 30, 2017

(Amounts expressed in thousands)

Style	Investment Manager	Fair Value of Assets Under Management at 6/30/2017 <sup>1</sup>	Manager Fees Directly Invoiced	Manager Fees Deducted on a Net of Fee Basis <sup>2</sup>			Total Investment Manager Fees
				Management Fees	Performance Fees	Other Fees	
<b>Internally Managed Assets</b>							
	Core Fixed Income	37,335					
	Short Duration	815,910					
	SCRS Liquidity	442,300					
	Cash Accounts	485,993					
	Total Fair Value of Assets and Manager Fees	<u>\$ 30,576,627</u>	<u>\$ 48,313</u>	<u>\$ 126,454</u>	<u>\$ 90,762</u>	<u>\$37,375</u>	<u>\$ 302,904</u>
	Adjustments, Cash, Receivables and Payables	(474,520)					
	Net Asset Value as reported by the Custodial Bank	<u>\$ 30,102,107</u>					

<sup>1</sup>The "Fair Value" of assets under management includes categories classified as cash equivalents for financial statement purposes and excludes cash, receivables and payables; therefore, these adjustments are necessary to reconcile to "Net Asset Values" reported by the Custodial Bank and the Retirement System Investment Commission.

<sup>2</sup>Investment manager fees, whether directly invoiced (\$48,312,847) or deducted from the fund on a net basis (\$254,591,639) are classified and reported as Investment Expense. The RSIC makes a good faith attempt to account for fees that are not necessarily readily separable. Conifer Financial Services, administrator for the RSIC, provides support to the RSIC for the collection, aggregation and reasonability testing so that the RSIC can provide the Retirement Division of PEBA with investment fees and expenses that would not be disclosed otherwise. These amounts include management fees, performance fees (carried interest) and other expenses such as organizational expenses in limited partnership structures.

<sup>3</sup>Includes performance fee of \$999,388 which was directly invoiced.

<sup>4</sup>This hedge fund is classified as a Mixed Credit mandate for investment purposes by RSIC due to it having higher factor or beta exposures to the asset class; however, for financial statement purposes it is classified as Hedge Funds.

<sup>5</sup>Represents the aggregation of four managers, each with total investment manager fees of less than \$250,000, and one manager that has a non-disclosure agreement.

<sup>6</sup>This fund is classified as a Real Estate mandate for investment purposes by the RSIC; however this fund is held in custody at BNY Mellon and, for financial statement purposes, reported as Global Public Equity.

<sup>7</sup>Represents management and other fees at the Strategic Partnership level, and not fees at the underlying investment level which are included in each applicable asset class. Fair Value represents cash balances at the Strategic Partnership level.

# Actuarial Section





April 21, 2017

South Carolina Public Employee Benefit Authority  
South Carolina Retirement Systems  
P.O. Box 11960  
Columbia, SC 29211-1960

**Subject: Statement of Certification for the Actuarial Valuation as of July 1, 2016**

Dear Members of the Board:

Actuarial valuations are prepared annually as of July 1, the first day of the plan year, for each of the five retirement systems (i.e. the South Carolina Retirement System, the Police Officers Retirement System, the Judges and Solicitors Retirement System, the General Assembly Retirement System, and the South Carolina National Guard Supplemental Retirement Plan). These reports describe the current actuarial condition of the South Carolina Retirement Systems and document the calculated employer contribution rates as well as the changes in these contribution rates.

#### **FINANCING OBJECTIVES AND FUNDING POLICY**

The employer and member contribution rates for the South Carolina Retirement System and the Police Officers Retirement System are determined in accordance with South Carolina Code. As specified by the Code, in the event the scheduled employer and member contribution rates are insufficient to maintain a thirty-year amortization period for financing the unfunded liability of the System (determined on an actuarial value of asset basis), the South Carolina Public Employee Benefit Authority (the Board) shall increase the employer and member contribution rates in equal amounts as necessary to maintain a funding period that does not exceed thirty years. The Statutes also allow the Board to increase the member and employer contribution rate by up to 50 basis points in a year, even if the funding period is less than 30 years. For administration purposes, the contribution rate determined by a given actuarial valuation historically became effective twenty-four months after the valuation date. However, the Board has the authority to make the contribution rates effective twelve months after the valuation date.

The Board also certifies the employer contribution rates annually for the Judges and Solicitors Retirement System, the General Assembly Retirement System, and the South Carolina National Guard Supplemental Retirement Plan. The Board's principle objectives to determine the appropriate funding requirements for these systems include:

- Establish a contribution rate that remains relatively level over time.
- To set rates so that the measures of the System's funding progress, which include the unfunded actuarial accrued liability, funded ratio, and funding period, will be maintained or improved.

- To set a contribution rate that will result in the unfunded actuarial accrued liability (UAAL), which is the actuarial accrued liability less the actuarial value of assets, to be amortized over a period from the current valuation date that does not exceed 30 years.

To accomplish this, the employer contribution rate will be at least equal to the sum of the employer normal cost rate (which pays the current year's cost) and an amortization rate which results in the UAAL being funded over a period that does not exceed 30 years in installments. These installments increase at the assumed rate of growth in payroll for each System.

If new legislation is enacted between the valuation date and the date the contribution rates become effective, the Board may adjust the calculated rates before certifying them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

#### **PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES**

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, assumption changes, or investment losses, it should increase over time, until it reaches at least 100%. For all systems on a combined basis, the funded ratio decreased from 62.8% in 2015 to 60.3% in 2016.

#### **ASSUMPTIONS AND METHODS**

The Board, in consultation with the actuary, sets the actuarial assumptions and methods used in the valuation. South Carolina State Code requires the Board to have the actuary perform an experience study at least every five years. The July 1, 2016 actuarial valuations were based on updated actuarial assumptions based on experience for the five-year period ending July 1, 2015. The experience study report, which included recommended assumption changes, was provided to the Board in 2016. The following is a summary of the assumptions that were recommended by PEBA's actuary and adopted by the Board for use in preparing this actuarial valuation:

- Decrease the price inflation assumption from 2.75% to 2.25%.
- Decrease in the assumed rate of salary increases for individual members.
- Decrease the payroll growth assumption from 3.50% to 3.00%.
- Adopt new post-retirement mortality tables specific to South Carolina retiree experience. Mortality for retirees is assumed to improve based on generational projection Scale AA.
- Minor adjustments to the pre-retirement mortality assumption.
- Modify the rates of disability, withdrawal, and retirement for certain employee types.
- Modify the asset method such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year.

Gabriel Roeder Smith & Company

The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code and is a 7.50% investment return assumption.

All the assumptions and methods adopted by the Board satisfy the requirements in the Actuarial Standards of Practice that are applicable for actuarial valuations of public retirement systems. The Board plans to have the next experience study conducted using the plan's experience for the five-year period ending June 30, 2019. The actuarial assumptions that result from that experience study will be first used to prepare the July 1, 2020 actuarial valuation.

It is our opinion that the actuarial assumptions used to perform this valuation are internally consistent and reasonably reflect the anticipated future experience of the System. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can, and almost certainly will, differ as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rate, and funding periods. The actuarial calculations are intended to provide information for rational decision making.

The benefit structure is outlined in this section of the annual report. GRS prepared the following schedules in the actuarial section: *Actuarial Balance Sheet, Results of the Valuation as of July 1, 2016, Summary of Actuarial Assumptions and Methods, Development of the Actuarial Value of Assets, Solvency Test*, and the *Reconciliation of the UAAL*. GRS also prepared the following trend information in the actuarial section for years on and after July 1, 2011: *Summary of Historical Active Membership, Schedule of Retirants Added to and Removed from Rolls*, and the *Schedule of Funding Progress*.

South Carolina PEBA relied upon the data prepared by GRS and included in the actuarial valuations for each system to prepare the following schedules and graphs found in the actuarial section: *Summary of Active Membership Data, Summary of Membership Data and Funding Progress and Funding Ratios*. In addition, GRS prepared the following schedules in the financial section in accordance with GASB Statement No. 67: *Net Pension Liability Schedule, Discount Rate Sensitivity Analysis, Schedule of Changes in the Employers' Net Pension Liability, Schedule of Employers' Net Pension Liability*, and the *Schedule of Employers' Contributions*.

#### DATA

Member data for retired, active and inactive members was supplied as of July 1, 2016, by the PEBA staff. The staff also supplied asset information as of July 1, 2016. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. GRS is not responsible for the accuracy or completeness of the information provided to us by the Systems.

Gabriel Roeder Smith & Company

**CERTIFICATION**

We certify that the information presented herein is accurate and fairly portrays the actuarial position of the Retirement Systems as of July 1, 2016. All of our work conforms with generally accepted actuarial principles and practices, and in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of South Carolina Code of Laws and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

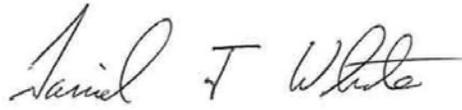
The undersigned are independent actuaries and consultants. Mr. Newton and Mr. White are Enrolled Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries. Both are experienced in performing valuations for large public retirement systems.

Sincerely,

**Gabriel, Roeder, Smith & Co.**



Joseph P. Newton, FSA, MAAA, EA  
Senior Consultant



Daniel J. White, FSA, MAAA, EA  
Senior Consultant

Gabriel Roeder Smith & Company

# South Carolina Retirement System

## Actuarial Balance Sheet

(Amounts expressed in thousands)

	July 1, 2016	July 1, 2015
<b>1. Assets</b>		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	\$ 7,447,442	\$ 7,054,277
ii. Employer annuity accumulation fund	19,846,526	20,311,644
iii. Total current assets	\$ 27,293,968	\$ 27,365,921
b. Present value of future member contributions	\$ 5,909,771	\$ 5,192,778
c. Present value of future employer contributions		
i. Normal contributions	\$ 185,409	\$ 739,431
ii. Accrued liability contributions	18,565,938	16,753,255
iii. Total future employer contributions	\$ 18,751,347	\$ 17,492,686
d. Total assets	\$ 51,955,086	\$ 50,051,385
<b>2. Liabilities</b>		
a. Employee annuity savings fund		
i. Past member contributions	\$ 7,447,442	\$ 7,054,277
ii. Present value of future member contributions	5,909,771	5,192,778
iii. Total contributions to employee annuity savings fund	\$ 13,357,213	\$ 12,247,055
b. Employer annuity accumulation fund		
i. Benefits currently in payment	\$ 29,830,649	\$ 28,645,954
ii. Benefits to be provided to other members	8,767,224	9,158,376
iii. Total benefits payable from employer annuity accumulation fund	\$ 38,597,873	\$ 37,804,330
c. Total liabilities	\$ 51,955,086	\$ 50,051,385

# Police Officers Retirement System

## Actuarial Balance Sheet

(Amounts expressed in thousands)

	July 1, 2016	July 1, 2015
<b>1. Assets</b>		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	\$ 968,722	\$ 905,768
ii. Employer annuity accumulation fund	3,386,131	3,361,026
iii. Total current assets	\$ 4,354,853	\$ 4,266,794
b. Present value of future member contributions	\$ 812,866	\$ 724,747
c. Present value of future employer contributions		
i. Normal contributions	\$ 386,370	\$ 431,983
ii. Accrued liability contributions	2,212,544	1,895,301
iii. Total future employer contributions	\$ 2,598,914	\$ 2,327,284
d. Total assets	\$ 7,766,633	\$ 7,318,825
<b>2. Liabilities</b>		
a. Employee annuity savings fund		
i. Past member contributions	\$ 968,722	\$ 905,768
ii. Present value of future member contributions	812,866	724,747
iii. Total contributions to employee annuity savings fund	\$ 1,781,588	\$ 1,630,515
b. Employer annuity accumulation fund		
i. Benefits currently in payment	\$ 3,881,514	\$ 3,624,713
ii. Benefits to be provided to other members	2,103,531	2,063,597
iii. Total benefits payable from employer annuity accumulation fund	\$ 5,985,045	\$ 5,688,310
c. Total liabilities	\$ 7,766,633	\$ 7,318,825

# General Assembly Retirement System

## Actuarial Balance Sheet

(Amounts expressed in thousands)

	July 1, 2016	July 1, 2015
<b>1. Assets</b>		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	\$ 7,334	\$ 7,295
ii. Employer annuity accumulation fund	28,592	30,017
iii. Total current assets	\$ 35,926	\$ 37,312
b. Present value of future member contributions <sup>1</sup>	\$ 1,394	\$ 1,587
c. Present value of future employer contributions		
i. Normal contributions	\$ 1,174	\$ 1,153
ii. Accrued liability contributions	39,070	37,197
iii. Total future employer contributions	\$ 40,244	\$ 38,350
d. Total assets	\$ 77,564	\$ 77,249
<b>2. Liabilities</b>		
a. Employee annuity savings fund		
i. Past member contributions	\$ 7,334	\$ 7,295
ii. Present value of future member contributions <sup>1</sup>	1,394	1,587
iii. Total contributions to employee annuity savings fund	\$ 8,728	\$ 8,882
b. Employer annuity accumulation fund		
i. Benefits currently in payment	\$ 57,314	\$ 58,384
ii. Benefits to be provided to other members	11,522	9,983
iii. Total benefits payable from employer annuity accumulation fund	\$ 68,836	\$ 68,367
c. Total liabilities	\$ 77,564	\$ 77,249

<sup>1</sup> Includes expected contributions from special contributors.

# Judges and Solicitors Retirement System

## Actuarial Balance Sheet

(Amounts expressed in thousands)

	July 1, 2016	July 1, 2015
<b>1. Assets</b>		
a. Current assets (actuarial value)		
i. Employee annuity savings fund	\$ 25,082	\$ 24,650
ii. Employer annuity accumulation fund	133,755	133,333
iii. Total current assets	\$ 158,837	\$ 157,983
b. Present value of future member contributions	\$ 14,008	\$ 15,087
c. Present value of future employer contributions		
i. Normal contributions	\$ 22,842	\$ 25,083
ii. Accrued liability contributions	124,467	111,692
iii. Total future employer contributions	\$ 147,309	\$ 136,775
d. Total assets	\$ 320,154	\$ 309,845
<b>2. Liabilities</b>		
a. Employee annuity savings fund		
i. Past member contributions	\$ 25,082	\$ 24,650
ii. Present value of future member contributions	14,008	15,087
iii. Total contributions to employee annuity savings fund	\$ 39,090	\$ 39,737
b. Employer annuity accumulation fund		
i. Benefits currently in payment	\$ 200,323	\$ 186,481
ii. Benefits to be provided to other members	80,741	83,627
iii. Total benefits payable from employer annuity accumulation fund	\$ 281,064	\$ 270,108
c. Total liabilities	\$ 320,154	\$ 309,845

# South Carolina National Guard Supplemental Retirement Plan Actuarial Balance Sheet

(Amounts expressed in thousands)

	July 1, 2016	July 1, 2015
<b>1. Assets</b>		
a. Current assets (actuarial value)	\$ 26,751	\$ 25,727
b. Present value of future member contributions	0	0
c. Present value of future employer contributions		
i. Normal contributions	\$ 6,830	\$ 6,135
ii. Accrued liability contributions	37,694	36,414
iii. Total future employer contributions	\$ 44,524	\$ 42,549
d. Total assets	\$ 71,275	\$ 68,276
<b>2. Liabilities</b>		
a. Benefits to be paid to retired members	\$ 34,562	\$ 33,521
b. Benefits to be paid to former members entitled to deferred pensions	11,154	11,152
c. Benefits to be paid to current active members	25,559	23,603
d. Total liabilities	\$ 71,275	\$ 68,276

# South Carolina Retirement System

## Results of the Valuation as of July 1, 2016

(Amounts expressed in thousands)

	<u>July 1, 2016</u>
<b>1. Actuarial Present Value of Future Benefits</b>	
a. Present retired members and beneficiaries	\$ 29,830,649
b. Present active and inactive members	22,124,437
c. Total actuarial present value	\$ 51,955,086
<b>2. Present Value of Future Normal Contributions</b>	
a. Employee	\$ 5,909,771
b. Employer	185,409
c. Total future normal contributions	\$ 6,095,180
<b>3. Actuarial Liability</b>	\$ 45,859,906
<b>4. Current Actuarial Value of Assets</b>	\$ 27,293,968
<b>5. Unfunded Actuarial Liability</b>	\$ 18,565,938
<b>6. UAAL Amortization Rates Based on an Employer Contribution Rate of 11.99%</b>	
a. Active members	10.81%
b. TERI members (including employee contributions)	21.08%
c. ORP members	6.99%
d. Re-employed retirees (including employee contributions)	21.08%
<b>7. Unfunded Actuarial Liability Liquidation Period</b>	30 years

*Note: The employer contribution rate includes the cost of incidental death benefits.*

# Police Officers Retirement System

## Results of the Valuation as of July 1, 2016

(Amounts expressed in thousands)

	<b>July 1, 2016</b>
<b>1. Actuarial Present Value of Future Benefits</b>	
a. Present retired members and beneficiaries	\$ 3,881,514
b. Present active and inactive members	3,885,119
c. Total actuarial present value	\$ 7,766,633
<b>2. Present Value of Future Normal Contributions</b>	
a. Member	\$ 812,866
b. Employer	386,370
c. Total future normal contributions	\$ 1,199,236
<b>3. Actuarial Liability</b>	\$ 6,567,397
<b>4. Current Actuarial Value of Assets</b>	\$ 4,354,853
<b>5. Unfunded Actuarial Liability</b>	\$ 2,212,544
<b>6. Unfunded Actuarial Liability Rate in Effect for FY 2018</b>	9.54%
<b>7. Unfunded Actuarial Liability Liquidation Period</b>	30 years

*Note: The employer contribution rate includes the cost of accidental and incidental death benefits.*

# General Assembly Retirement System

## Results of the Valuation as of July 1, 2016

*(Amounts expressed in thousands)*

	<b>July 1, 2016</b>
<b>1. Actuarial Present Value of Future Benefits</b>	
a. Present retired members and beneficiaries	\$ 57,314
b. Present active and inactive members	20,250
c. Total actuarial present value	\$ 77,564
<b>2. Present Value of Future Normal Contributions</b>	
a. Employee	\$ 1,394
b. Employer	1,174
c. Total future normal contributions	\$ 2,568
<b>3. Actuarial Liability</b>	\$ 74,996
<b>4. Current Actuarial Value of Assets</b>	\$ 35,926
<b>5. Unfunded Actuarial Liability</b>	\$ 39,070
<b>6. Unfunded Actuarial Liability Liquidation Period from the Valuation Date</b>	11 years

# Judges and Solicitors Retirement System

## Results of the Valuation as of July 1, 2016

(Amounts expressed in thousands)

	<u>July 1, 2016</u>
<b>1. Actuarial Present Value of Future Benefits</b>	
a. Present retired members and beneficiaries	\$ 200,323
b. Present active and inactive members	<u>119,831</u>
c. Total actuarial present value	\$ 320,154
<b>2. Present Value of Future Normal Contributions</b>	
a. Employee	\$ 14,008
b. Employer	<u>22,842</u>
c. Total future normal contributions	\$ 36,850
<b>3. Actuarial Liability</b>	\$ 283,304
<b>4. Current Actuarial Value of Assets</b>	\$ 158,837
<b>5. Unfunded Actuarial Liability</b>	\$ 124,467
<b>6. UAAL Amortization Rates Based on a 49.42% Employer Contribution Rate</b>	
a. Active members	31.73%
b. DROP and Retired-in-Place Members (including employee contributions)	59.42%
<b>7. Unfunded Actuarial Liability Liquidation Period</b>	30 Years

*Note: The employer contribution rate includes the cost of incidental death benefits.*

# South Carolina National Guard Supplemental Retirement Plan

## Results of the Valuation as of July 1, 2016

*(Amounts expressed in thousands)*

	<b>July 1, 2016</b>
<b>1. Actuarial Present Value of Future Benefits</b>	
a. Present retired members and beneficiaries	\$ 34,562
b. Present active and inactive members	36,713
c. Total actuarial present value	\$ 71,275
<b>2. Present Value of Future Normal Contributions</b>	
a. Employee	\$ 0
b. Employer	6,830
c. Total future normal contributions	\$ 6,830
<b>3. Actuarial Liability</b>	\$ 64,445
<b>4. Current Actuarial Value of Assets</b>	\$ 26,741
<b>5. Unfunded Actuarial Liability</b>	\$ 37,704
<b>6. Unfunded Actuarial Liability Liquidation Period (blended)</b>	17 years

# South Carolina Retirement System

## Summary of Actuarial Methods and Assumptions

Through fiscal year 2017, the PEBA Board and the State Fiscal Accountability Authority (SFAA) were responsible for adopting all actuarial methods and assumptions used in the annual actuarial valuations, except for the investment rate of return, based on recommendations from the consulting actuary. Pursuant to state statute, the annual assumed rate of return was established as 7.50 percent by the SC General Assembly. South Carolina State Statute also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The most recent experience analysis was performed for the five year period ended July 1, 2015, at which time the PEBA Board and SFAA adopted a number of changes in the actuarial assumptions that were utilized beginning with the July 1, 2016 annual valuations. The experience study also recommended reducing the long-term investment rate of return assumption; however, because the prescribed assumption was set in state statute by the General Assembly, changing the rate required legislative action. The General Assembly has since passed the Retirement Systems Funding and Administration Act of 2017 which changes responsibilities, no longer requiring SFAA's approval for the implementation of PEBA policy decisions and actuarial assumptions. As part of this Act, the General Assembly also lowered the annual assumed rate of return to 7.25 percent beginning with the July 1, 2017 annual valuations. The assumed rate of return will expire July 1, 2021, and every four years thereafter. PEBA must propose an annual rate of return every four years, which will become effective if the General Assembly fails to enact a rate of return.

Following is a summary of the actuarial assumptions and methods used in the July 1, 2016 valuation of the South Carolina Retirement System for funding purposes and financial reporting purposes.

### Investment Rate of Return

The assumed annual investment rate of return of 7.50 percent net of investment and administrative expenses is composed of a 2.25 percent inflation component and a 5.25 percent real rate of return, net of investment and administration expenses.

The annual investment return assumption is prescribed in Section 9-16-335 of the South Carolina Code of Laws and as described above, the Retirement System Funding and Administration Act of 2017 lowered the assumed annual rate of return from 7.50 percent to 7.25 percent, effective July 1, 2017.

### Rates of Annual Salary Increase

Rates of annual salary increase are assumed to vary for the first 20 years of service due to expected merit and promotional increases which differ by employee groups. Beginning with the 21st year of service, the assumed annual rate of increase is 3.0 percent for both groups and for all future years of service.

The 3.0 percent rate of the increase is composed of a 2.25 percent inflation component and a 0.75 percent real rate of wage increase (productivity) component.

## South Carolina Retirement System

### Active Male and Female Salary Increase Rate

Years of Service	General Employees		Teachers	
	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.0% Wage Inflation	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.0% Wage Inflation
1	4.00%	7.00%	7.00%	10.00%
2	3.00%	6.00%	9.50%	12.50%
3	2.25%	5.25%	3.00%	6.00%
4	1.75%	4.75%	2.75%	5.75%
5	1.50%	4.50%	2.50%	5.50%
6	1.25%	4.25%	2.25%	5.25%
7	1.00%	4.00%	2.00%	5.00%
8	1.00%	4.00%	1.75%	4.75%
9	1.00%	4.00%	1.75%	4.75%
10	0.75%	3.75%	1.50%	4.50%
11	0.50%	3.50%	1.50%	4.50%
12	0.50%	3.50%	1.25%	4.25%
13	0.50%	3.50%	1.00%	4.00%
14	0.50%	3.50%	1.00%	4.00%
15	0.50%	3.50%	0.75%	3.75%
16	0.50%	3.50%	0.75%	3.75%
17	0.50%	3.50%	0.50%	3.50%
18	0.50%	3.50%	0.50%	3.50%
19	0.25%	3.25%	0.25%	3.25%
20	0.25%	3.25%	0.25%	3.25%
21+	0.00%	3.00%	0.00%	3.00%

## South Carolina Retirement System Active Member Decrement Rates

- a. Assumed rate of Service Retirement or TERI entry are shown in the following tables. The first table provides retirement rates for Class Two members who attain age 65 before attaining 28 years of service. The second table is based on service and is for Class Two members who attain 28 years of service before age 65. The third table provides the retirement rate applicable to Class Three members.

### Annual Age Based Retirement Rates<sup>1</sup>

Class Two								
Age	General Employees				Teachers			
	Reduced		Normal		Reduced		Normal	
	Male	Female	Male	Female	Male	Female	Male	Female
55	10%	9%	0%	0%	10%	9%	0%	0%
56	9%	10%	0%	0%	11%	9%	0%	0%
57	9%	10%	0%	0%	11%	10%	0%	0%
58	9%	11%	0%	0%	11%	10%	0%	0%
59	9%	11%	0%	0%	11%	10%	0%	0%
60	9%	11%	0%	0%	11%	10%	0%	0%
61	9%	11%	0%	0%	11%	13%	0%	0%
62	22%	20%	0%	0%	22%	20%	0%	0%
63	16%	18%	0%	0%	22%	20%	0%	0%
64	16%	18%	0%	0%	22%	20%	0%	0%
65	0%	0%	20%	22%	0%	0%	20%	25%
66	0%	0%	20%	22%	0%	0%	20%	25%
67	0%	0%	17%	19%	0%	0%	20%	20%
68	0%	0%	17%	19%	0%	0%	20%	20%
69	0%	0%	17%	19%	0%	0%	20%	20%
70	0%	0%	17%	19%	0%	0%	20%	20%
71	0%	0%	17%	19%	0%	0%	20%	20%
72	0%	0%	17%	19%	0%	0%	20%	20%
73	0%	0%	17%	19%	0%	0%	20%	20%
74	0%	0%	17%	19%	0%	0%	20%	20%
75	0%	0%	100%	100%	0%	0%	100%	100%

<sup>1</sup>Retirement rate is 50% at the later of age 62 or when the member is first eligible for a normal retirement benefit (i.e. the first age the member is eligible to concurrently commence benefits and continue employment).

## South Carolina Retirement System

### Annual Service Based Retirement Rates<sup>1</sup>

Class Two Members				
Years of Service	General Employees		Teachers	
	Male	Female	Male	Female
28	15%	18%	7%	8%
29	10%	10%	8%	9%
30	10%	10%	8%	9%
31	10%	10%	9%	10%
32	10%	10%	10%	11%
33	18%	20%	11%	12%
34	18%	20%	12%	18%
35	18%	20%	13%	18%
36	20%	20%	14%	18%
37	20%	20%	18%	18%
38	20%	20%	17%	19%
39	20%	20%	17%	20%
40+	100%	100%	100%	100%

<sup>1</sup>Retirement rate is 50% at the later of age 62 or when the member is first eligible for a normal retirement benefit (i.e. the first age the member is eligible to concurrently commence benefits and continue employment).

## South Carolina Retirement System Class Three Retirement Rates<sup>1</sup>

Age	General Employees				Teachers				Rule of 90
	Reduced		Normal		Reduced		Normal		
	Male	Female	Male	Female	Male	Female	Male	Female	
55	0%	0%	0%	0%	0%	0%	0%	0%	20%
56	0%	0%	0%	0%	0%	0%	0%	0%	20%
57	0%	0%	0%	0%	0%	0%	0%	0%	20%
58	0%	0%	0%	0%	0%	0%	0%	0%	20%
59	0%	0%	0%	0%	0%	0%	0%	0%	20%
60	9%	11%	0%	0%	11%	10%	0%	0%	20%
61	9%	11%	0%	0%	11%	13%	0%	0%	20%
62	22%	20%	0%	0%	22%	20%	0%	0%	20%
63	16%	18%	0%	0%	22%	20%	0%	0%	20%
64	16%	18%	0%	0%	22%	20%	0%	0%	20%
65	0%	0%	20%	22%	0%	0%	20%	25%	20%
66	0%	0%	20%	22%	0%	0%	20%	25%	20%
67	0%	0%	17%	19%	0%	0%	20%	20%	20%
68	0%	0%	17%	19%	0%	0%	20%	20%	20%
69	0%	0%	17%	19%	0%	0%	20%	20%	20%
70	0%	0%	17%	19%	0%	0%	20%	20%	20%
71	0%	0%	17%	19%	0%	0%	20%	20%	20%
72	0%	0%	17%	19%	0%	0%	20%	20%	20%
73	0%	0%	17%	19%	0%	0%	20%	20%	20%
74	0%	0%	17%	19%	0%	0%	20%	20%	20%
75	0%	0%	100%	100%	0%	0%	100%	100%	100%

<sup>1</sup>Retirement rate is 50% at the later of age 62 or when the member is first eligible for a normal retirement benefit (i.e. the first age the member is eligible to concurrently commence benefits and continue employment).

b. Assumed rates of disability are shown in the following table.

### Disability Rates

Age	General Employees		Teachers	
	Male	Female	Male	Female
25	0.0504%	0.0440%	0.0419%	0.0458%
30	0.1008%	0.0616%	0.0629%	0.0616%
35	0.1512%	0.1232%	0.0838%	0.0616%
40	0.2520%	0.1584%	0.1572%	0.1074%
45	0.3528%	0.2288%	0.2620%	0.2200%
50	0.5040%	0.3872%	0.4192%	0.3520%
55	0.8064%	0.6160%	0.6812%	0.5720%
60	1.0080%	0.9416%	1.0480%	0.8800%
64	1.2600%	1.3112%	1.3100%	1.1000%

There is no differentiation between duty and nonduty related disability benefits.

c. Active Member Mortality

Rates of active member mortality are based upon the RP-2014 Mortality Table for Employees with applicable multipliers to better reflect anticipated experience and provide margin for future improvement in mortality.

### South Carolina Retirement System Active Mortality Rates (Multiplier Applied)

Age	General Employees		Teachers	
	Male	Female	Male	Female
25	0.0460%	0.0164%	0.0460%	0.0147%
30	0.0429%	0.0207%	0.0429%	0.0185%
35	0.0497%	0.0272%	0.0497%	0.0243%
40	0.0597%	0.0376%	0.0597%	0.0337%
45	0.0924%	0.0624%	0.0924%	0.0558%
50	0.1602%	0.1047%	0.1602%	0.0937%
55	0.2649%	0.1589%	0.2649%	0.1422%
60	0.4454%	0.2320%	0.4454%	0.2076%
64	0.7008%	0.3220%	0.7008%	0.2881%
Multiplier	95%	95%	95%	85%

For purposes of determining active death benefits, 5 percent of active deaths for general employees are assumed to be duty related.

d. Rates of Withdrawal

Rate of withdrawal for active members prior to eligibility for retirement are for each employee group and differ by gender and service. Sample rates are shown in the following tables.

### South Carolina Retirement System Withdrawal Rates - Male General Employees

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.040	0.000	0.000	0.000	0.000
30	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.040	0.040	0.037	0.034	0.031
35	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.040	0.040	0.037	0.034	0.031
40	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.034	0.034	0.034	0.034	0.031
45	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.031	0.031	0.029	0.026	0.023
50	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.020	0.020	0.020	0.020	0.020
55	0.200	0.175	0.123	0.103	0.090	0.085	0.071	0.064	0.055	0.050	0.010	0.010	0.010	0.010	0.010
60	0.200	0.175	0.123	0.103	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Age	Years of Service (Continued)														
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+	
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
35	0.029	0.026	0.023	0.020	0.018	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
40	0.029	0.026	0.023	0.020	0.018	0.015	0.013	0.011	0.010	0.009	0.008	0.000	0.000	0.000	
45	0.020	0.020	0.020	0.020	0.018	0.015	0.013	0.011	0.010	0.009	0.008	0.007	0.006	0.000	
50	0.020	0.018	0.015	0.013	0.011	0.010	0.010	0.010	0.010	0.009	0.008	0.007	0.006	0.000	
55	0.010	0.010	0.010	0.010	0.010	0.010	0.009	0.008	0.007	0.006	0.000	0.000	0.000	0.000	
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

### Withdrawal Rates - Female General Employees

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.046	0.000	0.000	0.000	0.000
30	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.046	0.046	0.042	0.038	0.034
35	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.046	0.046	0.042	0.038	0.034
40	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.038	0.038	0.038	0.038	0.034
45	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.034	0.034	0.030	0.026	0.023
50	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.020	0.020	0.020	0.020	0.020
55	0.230	0.217	0.141	0.118	0.101	0.097	0.084	0.075	0.067	0.057	0.012	0.012	0.012	0.012	0.012
60	0.230	0.217	0.141	0.118	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Age	Years of Service (Continued)														
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+	
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
35	0.030	0.026	0.023	0.020	0.018	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
40	0.030	0.026	0.023	0.020	0.018	0.016	0.014	0.013	0.012	0.011	0.010	0.000	0.000	0.000	
45	0.020	0.020	0.020	0.020	0.018	0.016	0.014	0.013	0.012	0.011	0.010	0.009	0.008	0.000	
50	0.020	0.018	0.016	0.014	0.013	0.012	0.012	0.012	0.012	0.011	0.010	0.009	0.008	0.000	
55	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.010	0.009	0.008	0.000	0.000	0.000	0.000	
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

## South Carolina Retirement System Withdrawal Rates - Male Teachers

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.000	0.000	0.000	0.000
30	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.030	0.030	0.029	0.028
35	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.030	0.030	0.029	0.028
40	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.029	0.029	0.029	0.028
45	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.028	0.027	0.026	0.024
50	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.022	0.022	0.022	0.022
55	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.013	0.013	0.013	0.013
60	0.000	0.217	0.145	0.117	0.098	0.083	0.071	0.061	0.050	0.042	0.039	0.008	0.008	0.008	0.008
Age	Years of Service (Continued)														
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+	
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
35	0.027	0.026	0.024	0.022	0.020	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
40	0.027	0.026	0.024	0.022	0.020	0.017	0.015	0.014	0.013	0.012	0.011	0.000	0.000	0.000	
45	0.022	0.022	0.022	0.022	0.020	0.017	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.000	
50	0.022	0.020	0.017	0.015	0.014	0.013	0.013	0.013	0.013	0.012	0.011	0.010	0.009	0.000	
55	0.013	0.013	0.013	0.013	0.013	0.013	0.012	0.011	0.010	0.009	0.008	0.008	0.008	0.000	
60	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.000	0.000	0.000	0.000	

## Withdrawal Rates – Female Teachers

Age	Years of Service														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.000	0.000	0.000	0.000
30	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.030	0.030	0.027	0.024
35	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.030	0.030	0.027	0.024
40	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.030	0.027	0.027	0.024
45	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.024	0.022	0.020	0.018
50	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.018	0.016	0.016	0.016
55	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.010	0.009	0.009	0.009
60	0.000	0.202	0.125	0.103	0.089	0.074	0.069	0.057	0.053	0.046	0.037	0.006	0.006	0.006	0.006
Age	Years of Service (Continued)														
	15	16	17	18	19	20	21	22	23	24	25	26	27	28+	
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
30	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
35	0.022	0.020	0.018	0.016	0.014	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
40	0.022	0.020	0.018	0.016	0.014	0.012	0.011	0.010	0.009	0.008	0.007	0.000	0.000	0.000	
45	0.016	0.016	0.016	0.016	0.014	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.000	
50	0.016	0.014	0.012	0.011	0.010	0.009	0.009	0.009	0.009	0.008	0.007	0.006	0.006	0.000	
55	0.009	0.009	0.009	0.009	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.006	0.006	0.000	
60	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.000	0.000	0.000	0.000	

## South Carolina Retirement System Refund of Member Contributions

The following percentage of vested members are assumed to elect to receive a refund of contributions upon termination of employment prior to becoming eligible to commence a service retirement benefit. This assumption is based on the plan's experience.

Age	Less than 40	40-49	50 or More
Refund rate	45%	40%	35%

### Post Retirement Mortality

- a. Healthy Retirees and Beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females, projected using the AA projection table from the year 2016 and with multipliers based on plan experience. The following are sample rates of the base table:

### Nondisabled Annuitant Mortality Rates before Projection (Multiplier Applied)

Age	General Employees		Teachers	
	Males	Females	Males	Females
50	0.2038%	0.1454%	0.1875%	0.1284%
55	0.3205%	0.2465%	0.2949%	0.2177%
60	0.5863%	0.4265%	0.5394%	0.3765%
65	1.0198%	0.5924%	0.9382%	0.5230%
70	1.5718%	0.9640%	1.4461%	0.8511%
75	2.7195%	1.8534%	2.5019%	1.6363%
80	5.0493%	3.7276%	4.6454%	3.2910%
85	9.1594%	7.0538%	8.4266%	6.2277%
90	15.9042%	12.3489%	14.6319%	10.9026%
Multiplier	100%	111%	92%	98%

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

### Life Expectancy for an Age 65 Retiree in Years

Employee Type	Year of Retirement			
	2020	2025	2030	2035
General Employee - Male	20.6	20.9	21.3	21.6
General Employee - Female	22.7	22.8	23.0	23.2
Teacher - Male	21.2	21.5	21.9	22.2
Teacher - Female	23.6	23.8	24.0	24.1

- b. A separate table of mortality rates is used for disabled retirees based on the RP-2014 Disabled Mortality table projected using the AA projection table from the year 2014 and with multipliers based on plan experience. The following are sample rates of the base table:

### South Carolina Retirement System Disabled Annuitant Mortality Rates (Multiplier Applied)

Age	General Employees		Teachers	
	Males	Females	Males	Females
50	2.5494%	1.4884%	2.5494%	1.4884%
55	2.9211%	1.8099%	2.9211%	1.8099%
60	3.3255%	2.1249%	3.3255%	2.1249%
65	3.9606%	2.6075%	3.9606%	2.6075%
70	5.0433%	3.5254%	5.0433%	3.5254%
75	6.7859%	5.1306%	6.7859%	5.1306%
80	9.5770%	7.6295%	9.5770%	7.6295%
85	14.1629%	11.3025%	14.1629%	11.3025%
90	21.6256%	16.5815%	21.6256%	16.5815%
Multiplier	125%	125%	125%	125%

### Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

Expected earnings are determined using the assumed investment rate of return and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

### Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level percent of payroll necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contribution rates, and funding period, are based on an actuarial value

of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of assets basis.

## Development of the Contribution Rate and Funding Period

The calculation of the employer and member contribution rate as well as the derived funding period takes into account several differences in the contributions paid by the various members as well as the delayed timing (if any) in the effective date of the new contribution rate. Specifically, the factors that are reflected in the calculations of the contribution rate include:

1. The anticipated difference in expected contributions received by the System from members and employers as a result of a 24-month delay in effective date of the contribution rate increase after the valuation date.
2. The cost (normal cost and actuarial accrued liability) due to incidental death benefits provided to members in the ORP.
3. Member and employer contributions made on the payroll of working retirees and members participating in TERI are being used to finance the unfunded actuarial accrued liability since these members do not have a normal cost. Also, the number of working retirees is expected to decrease due to changes in working after retirement provisions enacted with ACT 278 and TERI will be completely eliminated after June 30, 2018.
4. The money collected on the payroll of members in ORP that is allocated to finance the unfunded liability in SCRS, which is the SCRS employer contribution rate less 5%, is less than the money collected on the payroll of members in SCRS to finance the unfunded actuarial accrued liability.
5. For purposes of calculating the amortization cost and funding period, discrete pay increases and continuous interest was assumed, with amortization payments made at the end of each month.

## Unused Annual Leave

To account for the effect of unused annual leave in Average Final Compensation (AFC) of Class Two members, the AFC for Class Two members is increased 2.14 percent at their date of retirement. Unused annual leave is not included in the calculation of the AFC for Class Three Members.

## Unused Sick Leave

To account for the effect of unused sick leave on credited service for Class Two members, the service of active Class Two members who retire is increased 3 months. Unused sick leave is not included in determining the credited service for Class Three members.

## Future Post-Retirement Benefit Adjustments

Benefits are assumed to increase by the lesser of 1.00 % annually or \$500 beginning on the July 1<sup>st</sup> following the receipt of 12 monthly benefit payments. The \$500 limit in the annual increase is not indexed to escalate in future years.

## Payroll Growth Rate

The total annual payroll of active members (also applies to TERI, ORP and rehired retiree participants) is assumed to increase at an annual rate of 3.00%. This rate represents the underlying expected annual rate of wage inflation and does not anticipate increases in the number of members.

## Other Assumptions

1. Valuation payroll (used for determining the amortization contribution rate): Prior fiscal year payroll projected forward one year using the overall payroll growth rate. This was determined separately for TERI, and return to work employees by dividing the actual member contributions received during the prior fiscal year by the member contribution rate in effect for that year, and then projecting that amount forward one year.
2. The normal cost rate is increased by 0.12% to account for administrative expenses that are paid with plan assets.
3. Individual salaries used to project benefits: Actual salaries from the past fiscal year are used to determine the final average salary as of the valuation date. For future salaries, the salary from the last fiscal year is projected forward with one year's salary scale.
4. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported salaries represent amounts paid to members during the year ended on the valuation date.
5. Percent married: 100% of male and 100% of female employees are assumed to be married.
6. Age difference: Males are assumed to be three years older than their spouses.
7. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an immediate life annuity.
8. Inactive Population: All non-vested members are assumed to take an immediate refund.
9. There will be no recoveries once disabled.
10. Decrement timing: Terminations for public school employees are assumed to occur at the beginning of the year. Decrements of all types are assumed to occur mid-year.
11. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
12. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
13. Incidence of contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. For valuation purposes, the member contribution rate projected to be effect after FY2016 is 9.13% of pay.
14. Benefit service: All members are assumed to accrue one year of eligibility service each year.
15. All calculations were performed without regard to the compensation limit in IRC Section 401(a)(17) and the benefit limit under IRC Section 415.

## Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active and inactive members and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, service with the current city and total vesting service, salary, and employee contribution account balances. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Salary supplied for the current year was based on the annualized earnings for the year preceding the valuation date. Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

# South Carolina Retirement System

## Development of Actuarial Value of Assets

(Amounts expressed in thousands)

		<b>July 1, 2016</b>			
<b>1.</b>	<b>Actuarial value of assets at beginning of year</b>	\$	27,365,921		
<b>2.</b>	<b>Market value of assets at beginning of year</b>	\$	25,131,828		
<b>3.</b>	<b>Net new investments</b>				
a.	Contributions	\$	1,827,246		
b.	Disbursements <sup>1</sup>		(2,784,169)		
c.	Subtotal		(956,923)		
<b>4.</b>	<b>Market value of assets at end of year</b>	\$	23,996,362		
<b>5.</b>	<b>Net earnings (Item 4. - Item 2. - Item 3.c.)</b>	\$	(178,543)		
<b>6.</b>	<b>Assumed investment return rate for fiscal year</b>		7.50%		
<b>7.</b>	<b>Expected return</b>	\$	1,849,002		
<b>8.</b>	<b>Excess/(shortfall) return (Item 5. - Item 7.)</b>	\$	(2,027,545)		
<b>9.</b>	<b>Excess return on assets as of June 30, 2016:</b>				
	<b>Fiscal Year</b>		<b>Excess</b>	<b>Percent</b>	<b>Deferred</b>
	<b><u>Ending June 30,</u></b>		<b><u>Return</u></b>	<b><u>Deferred</u></b>	<b><u>Amount</u></b>
a.	2016	\$	(2,027,545)	80%	\$ (1,622,036)
b.	2015		(2,792,616)	60%	(1,675,570)
c.	2014		N/A	40%	N/A
d.	2013		N/A	20%	N/A
e.	2012		N/A	0%	N/A
f.	Total				\$ (3,297,606)
<b>10.</b>	<b>Actuarial value of assets as of June 30, 2016 (Item 4. - Item 9.f)</b>	\$	27,293,968		
<b>11.</b>	<b>Expected actuarial value as of June 30, 2016</b>	\$	28,425,557		
<b>12.</b>	<b>Asset gain (loss) for year (Item 10. - Item 11.)</b>	\$	(1,131,589)		
<b>13.</b>	<b>Asset gain (loss) as % of the actuarial value of assets</b>		(4.1%)		
<b>14.</b>	<b>Ratio of actuarial value to market value</b>		113.7%		

<sup>1</sup>For the year ending June 30, 2016, the investment return assumption was net of administration and investment expenses. Beginning July 1, 2016, the investment return assumption is only net of investment expenses.

# Police Officers Retirement System

## Summary of Actuarial Methods and Assumptions

Through fiscal year 2017, the PEBA Board and the State Fiscal Accountability Authority (SFAA) were responsible for adopting all actuarial methods and assumptions used in the annual actuarial valuations, except for the investment rate of return, based on recommendations from the consulting actuary. Pursuant to state statute, the annual assumed rate of return was established as 7.50 percent by the SC General Assembly. South Carolina State Statute also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The most recent experience analysis was performed for the five year period ended July 1, 2015, at which time the PEBA Board and SFAA adopted a number of changes in the actuarial assumptions that were utilized beginning with the July 1, 2016 annual valuations. The experience study also recommended reducing the long-term investment rate of return assumption; however, because the prescribed assumption was set in state statute by the General Assembly, changing the rate required legislative action. The General Assembly has since passed the Retirement Systems Funding and Administration Act of 2017 which changes responsibilities, no longer requiring SFAA's approval for the implementation of PEBA policy decisions and actuarial assumptions. As part of this Act, the General Assembly also lowered the annual assumed rate of return to 7.25 percent beginning with the July 1, 2017 annual valuations. The assumed rate of return will expire July 1, 2021, and every four years thereafter. PEBA must propose an annual rate of return every four years, which will become effective if the General Assembly fails to enact a rate of return.

Following is a summary of the actuarial assumptions and methods used in the July 1, 2016 valuation of the South Carolina Retirement System for funding purposes and financial reporting purposes.

### Investment Rate of Return

The assumed annual investment rate of return of 7.50 percent net of investment and administrative expenses is composed of a 2.25 percent inflation component and a 5.25 percent real rate of return, net of investment and administration expenses.

The annual investment return assumption is prescribed in Section 9-16-335 of the South Carolina Code of Laws and as described above, the Retirement System Funding and Administration Act of 2017 lowered the assumed annual rate of return from 7.50 percent to 7.25 percent, effective July 1, 2017.

### Rates of Annual Salary Increase

Rates of annual salary increase are assumed to vary for the first 15 years of service to include anticipated merit and promotional increases. The assumed annual rate of increase is 3.50 percent for all members with 15 or more years of service.

The 3.50 percent rate of increase is composed of a 2.25 percent inflation component and a 1.25 percent real rate of wage increase (productivity) component.

## Police Officers Retirement System

### Active Male and Female Salary Increase Rate

Years of Service	Annual Promotional/Longevity Rates of Increase	Total Annual Rate of Increase Including 3.50% Wage Inflation
1	6.00%	9.50%
2	5.50%	9.00%
3	3.00%	6.50%
4	1.50%	5.00%
5	1.25%	4.75%
6	1.00%	4.50%
7	1.00%	4.50%
8	0.75%	4.25%
9	0.75%	4.25%
10	0.50%	4.00%
11	0.50%	4.00%
12	0.50%	4.00%
13	0.50%	4.00%
14	0.25%	3.75%
15	0.00%	3.50%
16	0.00%	3.50%
17	0.00%	3.50%
18	0.00%	3.50%
19	0.00%	3.50%
20+	0.00%	3.50%

## Police Officers Retirement System Active Member Decrement Rates

- a. Assumed rates of Service Retirement are shown in the following tables. The first table is for members who attain age 55 before attaining 25 years of service (27 years of service for Class Three Members). The second table is based on service and is for members who attain 25 years of service (27 years of service for Class Three Members) before age 55.

### Age Based Retirement Rates/Service Based Retirement Rates

Age	Male	Female
55	20%	20%
56	20%	20%
57	20%	20%
58	10%	10%
59	10%	10%
60	10%	10%
61	25%	25%
62	25%	25%
63	25%	25%
64	25%	25%
65	25%	25%
66	25%	25%
67	25%	25%
68	25%	25%
69	25%	25%
70	100%	100%
71	100%	100%
72	100%	100%
73	100%	100%
74	100%	100%
75	100%	100%

Years of Service		Male	Female
Class Two	Class Three		
25	27	40%	40%
26	28	10%	10%
27	29	10%	10%
28	30	10%	10%
29	31	10%	10%
30	32	10%	10%
31	33	10%	10%
32	34	10%	10%
33	35	10%	10%
34	36	10%	10%
35	37	10%	10%
36	38	10%	10%
37	39	10%	10%
38	40	10%	10%
39	41	10%	10%
40	42	100%	100%

- b. Assumed rates of disability are shown in the following table. Twenty-five percent of disabilities are assumed to be duty-related.

### Police Officers Retirement System Disability Rates

Age	Male	Female
25	0.1740%	0.1740%
30	0.2320%	0.2320%
35	0.4350%	0.4350%
40	0.5800%	0.5800%
45	0.8700%	0.8700%
50	1.0875%	1.0875%
55	0.0000%	0.0000%
60	0.0000%	0.0000%
64	0.0000%	0.0000%

- c. Active Member Mortality

Rates of active member mortality are based upon the RP-2014 Mortality Table for Employees with applicable multipliers to better reflect anticipated experience and provide margin for future improvement in mortality.

### Active Mortality Rates (Multiplier Applied)

Age	Male	Female
25	0.0460%	0.0164%
30	0.0429%	0.0207%
35	0.0497%	0.0272%
40	0.0597%	0.0376%
45	0.0924%	0.0624%
50	0.1602%	0.1047%
55	0.2649%	0.1589%
60	0.4454%	0.2320%
64	0.7008%	0.3220%
Multiplier	95%	95%

For purposes of determining active death benefits, 5 percent of active deaths for general employees are assumed to be duty related.

d. Rates of Withdrawal

Rates of withdrawal are service related. Sample rates are shown in the table below.

### Police Officers Retirement System Annual Withdrawal Rate

Years of Service	Male	Female
0	25.00%	25.00%
1	18.00%	18.00%
2	14.00%	14.00%
3	12.00%	12.00%
4	10.70%	10.70%
5	9.54%	9.54%
6	8.50%	8.50%
7	7.58%	7.58%
8	6.75%	6.75%
9	6.02%	6.02%
10	5.37%	5.37%
11	4.78%	4.78%
12	4.26%	4.26%
13	3.80%	3.80%
14	3.39%	3.39%
15	3.02%	3.02%
16	2.69%	2.69%
17	2.40%	2.40%
18	2.14%	2.14%
19	1.91%	1.91%
20	1.70%	1.70%
21	1.51%	1.51%
22	1.35%	1.35%
23	1.20%	1.20%

## Police Officers Retirement System Post Retirement Mortality

- a. Healthy retirees and beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females. Future mortality improvements are assumed each year using Scale AA from the year 2016 and multipliers applied to the base table to appropriately fit with plan experience. The following are sample rates:

### Nondisabled Annuitant Mortality Rates Before Projection (Multiplier Applied)

Age	Male	Female
50	0.2548%	0.1454%
55	0.4006%	0.2465%
60	0.7329%	0.4265%
65	1.2748%	0.5924%
70	1.9648%	0.9640%
75	3.3994%	1.8534%
80	6.3116%	3.7276%
85	11.4493%	7.0538%
90	19.8803%	12.3489%
Multiplier	125%	111%

### Life Expectancy for an Age 65 Retiree in Years

Member	Year of Retirement			
	2020	2025	2030	2035
Male	18.9	19.3	19.7	20.0
Female	22.7	22.8	23.0	23.2

- b. A separate table of mortality rates is used for disabled retirees based on the RP-2014 Disabled Mortality Table projected using the AA projection table from the year 2014 with multipliers applied to appropriate fit to plan experience. The following are sample rates:

### Police Officers Retirement System Disabled Annuitant Mortality Rates (Multiplier Applied)

Age	Male	Female
50	1.7336%	1.0121%
55	1.9864%	1.2307%
60	2.2613%	1.4449%
65	2.6932%	1.7731%
70	3.4294%	2.3973%
75	4.6144%	3.4888%
80	6.5124%	5.1881%
85	9.6308%	7.6857%
90	14.7054%	11.2754%
Multiplier	85%	85%

## Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

## Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the plan's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level percent of payroll necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contribution rates, and funding period, are based on an actuarial value of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of

the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of assets basis.

## Development of the Contribution Rate and Funding Period

The calculation of the employer and member contribution rate as well as the derived funding period takes into account several differences in the contributions paid by the various members as well as the delayed timing (if any) in the effective date of the new contribution rate. Specifically, the factors that are reflected in the calculations of the contribution rate include:

1. The anticipated difference in expected contributions received by the System from members and employers as a result of a 24-month delay in effective date of the contribution rate increase after the valuation date.
2. Member and employer contributions made on the payroll of working retirees are being used to finance the unfunded actuarial accrued liability since these members do not have a normal cost. Also, the number of working retirees is expected to decrease due to changes in working after retirement provisions enacted with ACT 278.
3. For purposes of calculating the amortization cost and funding period, discrete pay increases and continuous interest was assumed, with amortization payments made at the end of each month.

## Unused Annual Leave

To account for the effect of unused annual leave in Average Final Compensation (AFC) of Class Two members, the AFC for Class Two members is increased 3.75 percent at their projected date of termination or retirement. Unused annual leave is not included in the calculation of the AFC for Class Three Members.

## Unused Sick Leave

To account for the effect of unused sick leave on credited service for Class Two members, the service of active Class Two members who retire is increased three months. Unused sick leave is not included in determining the credited service for Class Three members.

## Future Post-Retirement Benefit Adjustments

Benefits are assumed to increase by the lesser of 1.00 percent annually or \$500 beginning on the July 1st following the receipt of 12 monthly benefit payments. The \$500 limit in the annual increase is not indexed to escalate in future years.

## Payroll Growth Rate

The total annual payroll of all contributing members is assumed to increase at an annual rate of 3.00 percent.

## Other Assumptions

1. Valuation payroll (used for determining the amortization contribution rate): Prior fiscal year payroll projected forward one year using the overall payroll growth rate. This was determined separately for active employees and return to work employees by dividing the actual member contributions received during the prior fiscal year by the applicable member contribution rate for that fiscal year, and then projecting forward at 3.00 percent.

2. Individual salaries used to project benefits: Actual salaries from the past fiscal year are used to determine the final average salary as of the valuation date. For future salaries, the salary from the last fiscal year is projected forward with one year's salary scale.
3. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported salaries represent amounts paid to members during the year ended on the valuation date.
4. Percent married: 100 percent of male and 100 percent of female employees are assumed to be married.
5. Age difference: Males are assumed to be four years older than their spouses.
6. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an immediate life annuity.
7. Inactive Population: All non-vested members are assumed to take an immediate refund. Vested members are assumed to elect a refund or a deferred benefit commencing at age 65, whichever is more valuable at the valuation date.
8. There will be no recoveries once disabled.
9. Decrement timing: Decrements of all types are assumed to occur mid-year.
10. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
11. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
12. Incidence of contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. For valuation purposes, the member contribution rate projected to be in effect after FY 2016 is 9.32 percent of pay.
13. Benefit service: All members are assumed to accrue one year of eligibility service each year.
14. All calculations were performed without regard to the compensation limit in IRC Section 401(a)(17) and the benefit limit under IRC Section 415.

## Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, service with the current city and total vesting service, salary, and employee contribution account balances. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Salary supplied for the current year was based on the annualized earnings for the year preceding the valuation date. Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

# Police Officers Retirement System

## Development of Actuarial Value of Assets

(Amounts expressed in thousands)

		<u>July 1, 2016</u>																																			
<b>1.</b>	<b>Actuarial value of assets at beginning of year</b>	\$ 4,266,794																																			
<b>2.</b>	<b>Market value of assets at beginning of year</b>	\$ 3,971,825																																			
<b>3.</b>	<b>Net new investments</b>																																				
a.	Contributions	\$ 290,429																																			
b.	Disbursements <sup>1</sup>	<u>(359,527)</u>																																			
c.	Subtotal	(69,098)																																			
<b>4.</b>	<b>Market value of assets at end of year</b>	\$ 3,876,036																																			
<b>5.</b>	<b>Net earnings (Item 4. - Item 2. - Item 3.c.)</b>	\$ (26,691)																																			
<b>6.</b>	<b>Assumed investment return rate for fiscal year</b>	7.50%																																			
<b>7.</b>	<b>Expected return</b>	\$ 295,296																																			
<b>8.</b>	<b>Excess/(shortfall) return (Item 5. - Item 7.)</b>	\$ (321,987)																																			
<b>9.</b>	<b>Excess return on assets as of June 30, 2016:</b>																																				
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 20%; text-align: center;"><u>Fiscal Year</u> <u>Ending June 30,</u></th> <th style="width: 20%; text-align: center;"><u>Excess</u> <u>Return</u></th> <th style="width: 20%; text-align: center;"><u>Percent</u> <u>Deferred</u></th> <th style="width: 35%; text-align: center;"><u>Deferred</u> <u>Amount</u></th> </tr> </thead> <tbody> <tr> <td>a.</td> <td style="text-align: center;">2016</td> <td style="text-align: right;">\$ (321,987)</td> <td style="text-align: center;">80%</td> <td style="text-align: right;">\$ (257,590)</td> </tr> <tr> <td>b.</td> <td style="text-align: center;">2015</td> <td style="text-align: right;">(368,711)</td> <td style="text-align: center;">60%</td> <td style="text-align: right;">(221,227)</td> </tr> <tr> <td>c.</td> <td style="text-align: center;">2014</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">40%</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>d.</td> <td style="text-align: center;">2013</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">20%</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>e.</td> <td style="text-align: center;">2012</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">0%</td> <td style="text-align: center;"><u>N/A</u></td> </tr> <tr> <td>f.</td> <td style="text-align: center;">Total</td> <td></td> <td></td> <td style="text-align: right;">\$ (478,817)</td> </tr> </tbody> </table>		<u>Fiscal Year</u> <u>Ending June 30,</u>	<u>Excess</u> <u>Return</u>	<u>Percent</u> <u>Deferred</u>	<u>Deferred</u> <u>Amount</u>	a.	2016	\$ (321,987)	80%	\$ (257,590)	b.	2015	(368,711)	60%	(221,227)	c.	2014	N/A	40%	N/A	d.	2013	N/A	20%	N/A	e.	2012	N/A	0%	<u>N/A</u>	f.	Total			\$ (478,817)	
	<u>Fiscal Year</u> <u>Ending June 30,</u>	<u>Excess</u> <u>Return</u>	<u>Percent</u> <u>Deferred</u>	<u>Deferred</u> <u>Amount</u>																																	
a.	2016	\$ (321,987)	80%	\$ (257,590)																																	
b.	2015	(368,711)	60%	(221,227)																																	
c.	2014	N/A	40%	N/A																																	
d.	2013	N/A	20%	N/A																																	
e.	2012	N/A	0%	<u>N/A</u>																																	
f.	Total			\$ (478,817)																																	
<b>10.</b>	<b>Actuarial value of assets as of June 30, 2016 (Item 4. - Item 9.f)</b>	\$ 4,354,853																																			
<b>11.</b>	<b>Expected actuarial value as of June 30, 2016</b>	\$ 4,515,114																																			
<b>12.</b>	<b>Asset gain (loss) for year (Item 10. - Item 11.)</b>	\$ (160,261)																																			
<b>13.</b>	<b>Asset gain (loss) as % of the actuarial value of assets</b>	(3.7%)																																			
<b>14.</b>	<b>Ratio of actuarial value to market value</b>	112.4%																																			

<sup>1</sup>For the year ending June 30, 2016, the investment return assumption was net of administration and investment expenses. Beginning July 1, 2016, the investment return assumption is only net of investment expenses.

# General Assembly Retirement System

## Summary of Actuarial Methods and Assumptions

Through fiscal year 2017, the PEBA Board and the State Fiscal Accountability Authority (SFAA) were responsible for adopting all actuarial methods and assumptions used in the annual actuarial valuations, except for the investment rate of return, based on recommendations from the consulting actuary. Pursuant to state statute, the annual assumed rate of return was established as 7.50 percent by the SC General Assembly. South Carolina State Statute also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The most recent experience analysis was performed for the five year period ended July 1, 2015, at which time the PEBA Board and SFAA adopted a number of changes in the actuarial assumptions that were utilized beginning with the July 1, 2016 annual valuations. The experience study also recommended reducing the long-term investment rate of return assumption; however, because the prescribed assumption was set in state statute by the General Assembly, changing the rate required legislative action. The General Assembly has since passed the Retirement Systems Funding and Administration Act of 2017 which changes responsibilities, no longer requiring SFAA's approval for the implementation of PEBA policy decisions and actuarial assumptions. As part of this Act, the General Assembly also lowered the annual assumed rate of return to 7.25 percent beginning with the July 1, 2017 annual valuations. The assumed rate of return will expire July 1, 2021, and every four years thereafter. PEBA must propose an annual rate of return every four years, which will become effective if the General Assembly fails to enact a rate of return.

Following is a summary of the actuarial assumptions and methods used in the July 1, 2016 valuation of the South Carolina Retirement System for funding purposes and financial reporting purposes.

### Investment Rate of Return

The assumed annual investment rate of return of 7.50 percent net of investment and administrative expenses is composed of a 2.25 percent inflation component and a 5.25 percent real rate of return, net of investment and administration expenses.

The annual investment return assumption is prescribed in Section 9-16-335 of the South Carolina Code of Laws and as described above, the Retirement System Funding and Administration Act of 2017 lowered the assumed annual rate of return from 7.50 percent to 7.25 percent, effective July 1, 2017.

### Rates of Annual Salary Increase

No increases in salary are assumed.

## General Assembly Retirement System

### Active Member Decrement Rates

- a. Assumed rates of service retirement are shown in the following table. In addition to the rates in the table below, members with 30 years of service are assumed to immediately commence their retirement benefit. Special contributors are assumed to retire at the earlier of attaining age 60 or attaining 22 years of service.

### Age Based Retirement Rates

Age	Assumed Rate
60 & Under	50.00%
61-64	10.00%
65-69	20.00%
70 & older	100.00%

- b. An abbreviated table with the assumed rates of disability and mortality while employed is shown below. There is no active employment withdrawal assumption.

### Disability Rates/Pre-Retirement Mortality

Age	Disability Rates		Pre-Retirement Mortality	
	Male	Female	Male	Female
25	0.0419%	0.0458%	0.0460%	0.0164%
30	0.0629%	0.0616%	0.0429%	0.0207%
35	0.0838%	0.0616%	0.0497%	0.0272%
40	0.1572%	0.1074%	0.0597%	0.0376%
45	0.2620%	0.2200%	0.0924%	0.0624%
50	0.4192%	0.3520%	0.1602%	0.1047%
55	0.6812%	0.5720%	0.2649%	0.1589%
60	1.0480%	0.8800%	0.4454%	0.2320%
<b>Multiplier</b>	<b>101%</b>	<b>88%</b>	<b>95%</b>	<b>95%</b>

*Note: The multiplier has been applied to the decrement in the illustrative table.*

## General Assembly Retirement System Post Retirement Mortality

- a. Healthy retirees and beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females multiplied projected using the AA projection table from the year 2016 with multipliers based on plan experience. The following are sample rates:

### Healthy Annuitant Mortality Rates Before Projection

Age	Male	Female
50	0.2038%	0.1454%
55	0.3205%	0.2465%
60	0.5863%	0.4265%
65	1.0198%	0.5924%
70	1.5718%	0.9640%
75	2.7195%	1.8534%
80	5.0493%	3.7276%
85	9.1594%	7.0538%
90	15.9042%	12.3489%
<b>Multiplier</b>	<b>100%</b>	<b>111%</b>

*Note: The multiplier has been applied to the decrement in the illustrative table.*

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection.

### Life Expectancy for an Age 65 Retiree in Years

Gender	Year of Retirement			
	2020	2025	2030	2035
Male	20.6	20.9	21.3	21.6
Female	22.7	22.8	23.0	23.2

- b. A separate table of mortality rates is used for disabled retirees based on the RP-2014 Disabled Mortality table projected using the AA projection table from the year 2014 and with multipliers based on plan experience. The following are sample rates of the base table:

## General Assembly Retirement System Disabled Annuitant Mortality Rates

Age	Male	Female
50	2.5494%	1.4884%
55	2.9211%	1.8099%
60	3.3255%	2.1249%
65	3.9606%	2.6075%
70	5.0433%	3.5254%
75	6.7859%	5.1306%
80	9.5770%	7.6295%
85	14.1629%	11.3025%
90	21.6256%	16.5815%
Multiplier	125%	125%

*Note: The multiplier has been applied to the decrement in the illustrative table.*

## Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

## Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level dollar amount necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contribution rates, and funding period, are based on an actuarial value of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of

the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of assets basis.

## Future Cost-of-Living Increases

No increases are assumed.

## Payroll Growth Rate

None assumed.

## Other Assumptions

1. The normal cost is increased by \$15,000 to account for administrative expenses that are paid with plan assets.
2. Percent married: 100 percent of active members are assumed to be married.
3. Age difference: Males are assumed to be four years older than their spouses.
4. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an immediate life annuity.
5. Inactive Population: All non-vested members are assumed to take an immediate refund. Members with a vested benefit are assumed to elect a refund or a deferred benefit commencing at age 60, whichever is more valuable at the valuation date.
6. It is assumed there will be no recoveries once disabled.
7. Decrement timing: Decrements of all types are assumed to occur mid-year.
8. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
9. Benefit Service: All active and special contributing members are assumed to accrue one year of eligibility service each year.

## Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, service with the current city and total vesting service, salary, and employee contribution account balances. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Salary supplied for the current year was based on the annualized earnings for the year preceding the valuation date. Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

# General Assembly Retirement System

## Development of Actuarial Value of Assets

(Amounts expressed in thousands)

		<b>July 1, 2016</b>																																								
<b>1.</b>	<b>Actuarial value of assets at beginning of year</b>	\$ 37,312																																								
<b>2.</b>	<b>Market value of assets at beginning of year</b>	\$ 32,482																																								
<b>3.</b>	<b>Net new investments</b>																																									
a.	Contributions	\$ 4,793																																								
b.	Disbursements <sup>1</sup>	(6,803)																																								
c.	Subtotal	(2,010)																																								
<b>4.</b>	<b>Market value of assets at end of year</b>	\$ 30,188																																								
<b>5.</b>	<b>Net earnings (Item 4. - Item 2. - Item 3.c.)</b>	\$ (284)																																								
<b>6.</b>	<b>Assumed investment return rate for fiscal year</b>	7.50%																																								
<b>7.</b>	<b>Expected return</b>	\$ 2,361																																								
<b>8.</b>	<b>Excess/(shortfall) return (Item 5. - Item 7.)</b>	\$ (2,645)																																								
<b>9.</b>	<b>Excess return on assets as of June 30, 2016:</b>																																									
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 20%; text-align: center;"><u>Fiscal Year</u></th> <th style="width: 20%; text-align: center;"><u>Excess</u></th> <th style="width: 20%; text-align: center;"><u>Percent</u></th> <th style="width: 35%; text-align: center;"><u>Deferred</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Ending June 30,</u></td> <td style="text-align: center;"><u>Return</u></td> <td style="text-align: center;"><u>Deferred</u></td> <td style="text-align: center;"><u>Amount</u></td> </tr> </thead> <tbody> <tr> <td style="padding-left: 20px;">a.</td> <td style="text-align: center;">2016</td> <td style="text-align: right;">\$ (2,645)</td> <td style="text-align: center;">80%</td> <td style="text-align: right;">\$ (2,116)</td> </tr> <tr> <td style="padding-left: 20px;">b.</td> <td style="text-align: center;">2015</td> <td style="text-align: right;">(6,037)</td> <td style="text-align: center;">60%</td> <td style="text-align: right;">(3,622)</td> </tr> <tr> <td style="padding-left: 20px;">c.</td> <td style="text-align: center;">2014</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">40%</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td style="padding-left: 20px;">d.</td> <td style="text-align: center;">2013</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">20%</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td style="padding-left: 20px;">e.</td> <td style="text-align: center;">2012</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">0%</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td style="padding-left: 20px;">f.</td> <td style="text-align: center;">Total</td> <td></td> <td></td> <td style="text-align: right; border-top: 1px solid black;">\$ (5,738)</td> </tr> </tbody> </table>		<u>Fiscal Year</u>	<u>Excess</u>	<u>Percent</u>	<u>Deferred</u>		<u>Ending June 30,</u>	<u>Return</u>	<u>Deferred</u>	<u>Amount</u>	a.	2016	\$ (2,645)	80%	\$ (2,116)	b.	2015	(6,037)	60%	(3,622)	c.	2014	N/A	40%	N/A	d.	2013	N/A	20%	N/A	e.	2012	N/A	0%	N/A	f.	Total			\$ (5,738)	
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e.	2012	N/A	0%	N/A																																						
f.	Total			\$ (5,738)																																						
<b>10.</b>	<b>Actuarial value of assets as of June 30, 2016 (Item 4. - Item 9.f)</b>	\$ 35,926																																								
<b>11.</b>	<b>Expected actuarial value as of June 30, 2016</b>	\$ 38,025																																								
<b>12.</b>	<b>Asset gain (loss) for year (Item 10. - Item 11.)</b>	\$ (2,099)																																								
<b>13.</b>	<b>Asset gain (loss) as % of the actuarial value of assets</b>	(5.8%)																																								
<b>14.</b>	<b>Ratio of actuarial value to market value</b>	119.0%																																								

<sup>1</sup>For the year ending June 30, 2016, the investment return assumption was net of administration and investment expenses. Beginning July 1, 2016, the investment return assumption is only net of investment expenses.

# Judges and Solicitors Retirement System

## Summary of Actuarial Methods and Assumptions

Through fiscal year 2017, the PEBA Board and the State Fiscal Accountability Authority (SFAA) were responsible for adopting all actuarial methods and assumptions used in the annual actuarial valuations, except for the investment rate of return, based on recommendations from the consulting actuary. Pursuant to state statute, the annual assumed rate of return was established as 7.50 percent by the SC General Assembly. South Carolina State Statute also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The most recent experience analysis was performed for the five year period ended July 1, 2015, at which time the PEBA Board and SFAA adopted a number of changes in the actuarial assumptions that were utilized beginning with the July 1, 2016 annual valuations. The experience study also recommended reducing the long-term investment rate of return assumption; however, because the prescribed assumption was set in state statute by the General Assembly, changing the rate required legislative action. The General Assembly has since passed the Retirement Systems Funding and Administration Act of 2017 which changes responsibilities, no longer requiring SFAA's approval for the implementation of PEBA policy decisions and actuarial assumptions. As part of this Act, the General Assembly also lowered the annual assumed rate of return to 7.25 percent beginning with the July 1, 2017 annual valuations. The assumed rate of return will expire July 1, 2021, and every four years thereafter. PEBA must propose an annual rate of return every four years, which will become effective if the General Assembly fails to enact a rate of return.

Following is a summary of the actuarial assumptions and methods used in the July 1, 2016 valuation of the South Carolina Retirement System for funding purposes and financial reporting purposes.

### Investment Rate of Return

The assumed annual investment rate of return of 7.50 percent net of investment and administrative expenses is composed of a 2.25 percent inflation component and a 5.25 percent real rate of return, net of investment and administration expenses.

The annual investment return assumption is prescribed in Section 9-16-335 of the South Carolina Code of Laws and as described above, the Retirement System Funding and Administration Act of 2017 lowered the assumed annual rate of return from 7.50 percent to 7.25 percent, effective July 1, 2017.

### Rates of Annual Salary Increase

Rates of salary are assumed to increase at an annual rate of 2.75 percent.

## Judges and Solicitors Retirement System

### Active Member Decrement Rates

- a. Assumed rates of service retirement are shown in the following table. In addition to the rates in the table below, all participants are assumed to retire upon reaching the mandatory retirement age of 72.

#### Service Based Retirement Rates

Years of Service	Male	Female
15-19	10.00%	10.00%
20-24	40.00%	40.00%
25-31	15.00%	15.00%
32+	100.00%	100.00%

*Note: Retirement rate will be 100% at 31 years of service for solicitors.*

- b. An abbreviated table with the assumed rates of disability incidence and pre-retirement mortality is shown below. The pre-retirement mortality assumption is based upon the RP-2014 Mortality Table for Employees with applicable multipliers to better reflect anticipated experience and provide margin for future improvement in mortality.

#### Disability Rates/Pre-Retirement Mortality

Age	Disability Incidence Rates		Pre-Retirement Mortality	
	Male	Female	Male	Female
25	0.0419%	0.0458%	0.0460%	0.0147%
30	0.0629%	0.0616%	0.0429%	0.0185%
35	0.0838%	0.0616%	0.0497%	0.0243%
40	0.1572%	0.1074%	0.0597%	0.0337%
45	0.2620%	0.2200%	0.0924%	0.0558%
50	0.4192%	0.3520%	0.1602%	0.0937%
55	0.6812%	0.5720%	0.2649%	0.1422%
60	1.0480%	0.8800%	0.4454%	0.2076%
Multiplier	105%	88%	95%	85%

*Note: The multiplier has been applied to the decrement in the illustrative table.*

- c. There is no active employment withdrawal assumption.

## Judges and Solicitors Retirement System Post Retirement Mortality

- a. Healthy retirees and beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females, both projected used the AA projection table from the year 2016 with multipliers based on plan experience. The following are sample rates:

### Healthy Annuitant Mortality Rates Before Projection

Age	Male	Female
50	0.1875%	0.1284%
55	0.2949%	0.2177%
60	0.5394%	0.3765%
65	0.9382%	0.5230%
70	1.4461%	0.8511%
75	2.5019%	1.6363%
80	4.6454%	3.2910%
85	8.4266%	6.2277%
90	14.6319%	10.9026%
Multiplier	92%	98%

*Note: The multiplier has been applied to the decrement in the illustrative table.*

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection.

### Life Expectancy for an Age 65 Retiree in Years

Gender	Year of Retirement			
	2020	2025	2030	2035
Male	21.2	21.5	21.9	22.2
Female	23.6	23.8	24.0	24.1

- b. A separate table of mortality rates is used for disabled retirees based on the RP-2014 Disabled Mortality table projected using the AA projection table from the year 2016 and with multipliers based on plan experience. The following are sample rates:

## Judges and Solicitors Retirement System Disabled Annuitant Mortality Rates

Age	Male	Female
50	2.5494%	1.4884%
55	2.9211%	1.8099%
60	3.3255%	2.1249%
65	3.9606%	2.6075%
70	5.0433%	3.5254%
75	6.7859%	5.1306%
80	9.5770%	7.6295%
85	14.1629%	11.3025%
90	21.6256%	16.5815%
Multiplier	125%	125%

*Note: The multiplier has been applied to the decrement in the illustrative table.*

## Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

## Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level percent of payroll necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

The calculation of the amortization period takes into account scheduled increases to contribution rates applicable to future years and payroll growth. Also, the calculation of the amortization period reflects additional

contributions the System receives with respect to members in DROP and who are retired-in-place. These contributions are assumed to grow at the same payroll growth rate as for active employees. It is assumed that amortization payments are made monthly at the end of the month.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contribution rates, and funding period, are based on an actuarial value of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of assets basis.

## Future Cost-of-Living Increases

Future benefits are assumed to increase at an annual rate of 2.75 percent.

## Payroll Growth Rate

The total annual payroll of active members (including DROP and RIP participants) is assumed to increase at an annual rate of 2.75 percent. This rate represents the underlying expected annual rate of wage inflation and does not anticipate increases in the number of members.

## Other Assumptions

1. The normal cost rate is increased by 0.12% to account for administrative expenses that are paid with plan assets.
2. Percent married: 95 percent of male and female employees are assumed to be married.
3. Age difference: Males are assumed to be four years older than their spouses.
4. Percent electing annuity on death (when eligible): All of the spouses of vested married participants are assumed to elect an immediate life annuity.
5. Inactive Population: All non-vested members are assumed to take an immediate refund. Members with a vested benefit are assumed to elect a deferred benefit commencing at their earliest possible commencement age.
6. There will be no recoveries once disabled.
7. Decrement timing: Decrements of all types are assumed to occur mid-year.
8. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
9. Benefit Service: All active members are assumed to accrue one year of eligibility service each year.

## Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, service with the current city and total vesting service, salary, and employee contribution account balances. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Salary supplied for the current year was based on the annualized earnings for the year preceding the valuation date. Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

# Judges and Solicitors Retirement System

## Development of Actuarial Value of Assets

(Amounts expressed in thousands)

		<b>July 1, 2016</b>		
<b>1.</b>	<b>Actuarial value of assets at beginning of year</b>	\$	157,983	
<b>2.</b>	<b>Market value of assets at beginning of year</b>	\$	146,353	
<b>3.</b>	<b>Net new investments</b>			
a.	Contributions	\$	12,505	
b.	Disbursements <sup>1</sup>		(17,195)	
c.	Subtotal		(4,690)	
<b>4.</b>	<b>Market value of assets at end of year</b>	\$	140,717	
<b>5.</b>	<b>Net earnings (Item 4. - Item 2. - Item 3.c.)</b>	\$	(946)	
<b>6.</b>	<b>Assumed investment return rate for fiscal year</b>		7.50%	
<b>7.</b>	<b>Expected return</b>	\$	10,801	
<b>8.</b>	<b>Excess/(shortfall) return (Item 5. - Item 7.)</b>	\$	(11,747)	
<b>9.</b>	<b>Excess return on assets as of June 30, 2016:</b>			
	<b>Fiscal Year</b>	<b>Excess</b>	<b>Percent</b>	<b>Deferred</b>
	<b>Ending June 30,</b>	<b>Return</b>	<b>Deferred</b>	<b>Amount</b>
a.	2016	\$ (11,747)	80%	\$ (9,398)
b.	2015	(14,537)	60%	(8,722)
c.	2014	N/A	40%	N/A
d.	2013	N/A	20%	N/A
e.	2012	N/A	0%	N/A
f.	Total			\$ (18,120)
<b>10.</b>	<b>Actuarial value of assets as of June 30, 2016 (Item 4. - Item 9.f)</b>	\$	158,837	
<b>11.</b>	<b>Expected actuarial value as of June 30, 2016</b>	\$	164,966	
<b>12.</b>	<b>Asset gain (loss) for year (Item 10. - Item 11.)</b>	\$	(6,129)	
<b>13.</b>	<b>Asset gain (loss) as % of the actuarial value of assets</b>		(3.9%)	
<b>14.</b>	<b>Ratio of actuarial value to market value</b>		112.9%	

<sup>1</sup>For the year ending June 30, 2016, the investment return assumption was net of administration and investment expenses. Beginning July 1, 2016, the investment return assumption is only net of investment expenses.

# South Carolina National Guard Supplemental Retirement Plan

## Summary of Actuarial Methods and Assumptions

Through fiscal year 2017, the PEBA Board and the State Fiscal Accountability Authority (SFAA) were responsible for adopting all actuarial methods and assumptions used in the annual actuarial valuations, except for the investment rate of return, based on recommendations from the consulting actuary. Pursuant to state statute, the annual assumed rate of return was established as 7.50 percent by the SC General Assembly. South Carolina State Statute also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years. The most recent experience analysis was performed for the five year period ended July 1, 2015, at which time the PEBA Board and SFAA adopted a number of changes in the actuarial assumptions that were utilized beginning with the July 1, 2016 annual valuations. The experience study also recommended reducing the long-term investment rate of return assumption; however, because the prescribed assumption was set in state statute by the General Assembly, changing the rate required legislative action. The General Assembly has since passed the Retirement Systems Funding and Administration Act of 2017 which changes responsibilities, no longer requiring SFAA's approval for the implementation of PEBA policy decisions and actuarial assumptions. As part of this Act, the General Assembly also lowered the annual assumed rate of return to 7.25 percent beginning with the July 1, 2017 annual valuations. The assumed rate of return will expire July 1, 2021, and every four years thereafter. PEBA must propose an annual rate of return every four years, which will become effective if the General Assembly fails to enact a rate of return.

Following is a summary of the actuarial assumptions and methods used in the July 1, 2016 valuation of the South Carolina Retirement System for funding purposes and financial reporting purposes.

### Investment Rate of Return

The assumed annual investment rate of return of 7.50 percent net of investment and administrative expenses is composed of a 2.25 percent inflation component and a 5.25 percent real rate of return, net of investment and administration expenses.

The annual investment return assumption is prescribed in Section 9-16-335 of the South Carolina Code of Laws and as described above, the Retirement System Funding and Administration Act of 2017 lowered the assumed annual rate of return from 7.50 percent to 7.25 percent, effective July 1, 2017.

### Rates of Annual Salary Increase

No increases in salary are assumed. The benefit is not related to pay.

## South Carolina National Guard Supplemental Retirement Plan Active Member Decrement Rates

- a. Assumed rates of service retirement are shown in the following table. Members who retire prior to age 60 are assumed to defer retirement benefits until age 60.

### Age and Service Based Retirement Rates

Age	Years of Service		
	20 – 24	25 – 29	30 +
Age<60	2.5%	5.0%	100.00%
Age>59	10.00%	100.0%	100.00%

- b. An abbreviated table with the assumed rates of disability and mortality while employed is shown below. There is no active employment withdrawal assumption.

### Disability Rates/Pre-Retirement Mortality

Age	Disability Rates		Pre-Retirement Mortality	
	Male	Female	Male	Female
25	0.1740%	0.1740%	0.0460%	0.0164%
30	0.2320%	0.2320%	0.0429%	0.0207%
35	0.4350%	0.4350%	0.0497%	0.0272%
40	0.5800%	0.5800%	0.0597%	0.0376%
45	0.8700%	0.8700%	0.0924%	0.0624%
50	1.0875%	1.0875%	0.1602%	0.1047%
55	0.0000%	0.0000%	0.2649%	0.1589%
60	0.0000%	0.0000%	0.4454%	0.2320%
<b>Multiplier</b>	<b>145.0%</b>	<b>145.0%</b>	<b>95.0%</b>	<b>95.0%</b>

*Note: The multiplier has been applied to the decrement in the illustrative table.*

## South Carolina National Guard Supplemental Retirement Plan Post Retirement Mortality

Retirees and beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females projected using Scale AA projection table from the year 2016 and multipliers based on plan experience. The following are sample rates:

### Annuitant Mortality Rates Before Projection

Age	Male	Female
50	0.2548%	0.1454%
55	0.4006%	0.2465%
60	0.7329%	0.4265%
65	1.2748%	0.5924%
70	1.9648%	0.9640%
75	3.3994%	1.8534%
80	6.3116%	3.7276%
85	11.4493%	7.0538%
90	19.8803%	12.3489%
Multiplier	125%	111%

*Note: The multiplier has been applied to the decrement in the illustrative table.*

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection.

### Life Expectancy for an Age 65 Retiree in Years

Gender	Year of Retirement			
	2020	2025	2030	2035
Male	18.9	19.3	19.7	20.0
Female	22.7	22.8	23.0	23.2

### Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

### Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level dollar amount necessary to fully fund the

expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contribution rates, and funding period, are based on an actuarial value of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of assets basis.

## Future Cost-of-Living Increases

No increases are assumed.

## Payroll Growth Rate

None assumed.

## Other Assumptions

1. The normal cost includes \$15,000 for plan incurred administrative expenses.
2. There is not a marriage assumption.
3. Decrement timing: Decrements of all types are assumed to occur mid-year.
4. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

## Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, total military service, and total South Carolina National Guard service. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

## South Carolina National Guard Supplemental Retirement Plan Development of Actuarial Value of Assets

(Amounts expressed in thousands)

		July 1, 2016	
<b>1.</b>	<b>Actuarial value of assets at beginning of year</b>	\$	25,727
<b>2.</b>	<b>Market value of assets at beginning of year</b>	\$	23,202
<b>3.</b>	<b>Net new investments</b>		
a.	Contributions	\$	4,591
b.	Disbursements <sup>1</sup>	\$	(4,310)
c.	Subtotal		281
<b>4.</b>	<b>Market value of assets at end of year</b>	\$	23,350
<b>5.</b>	<b>Net earnings (Item 4. - Item 2. - Item 3.c.)</b>	\$	(133)
<b>6.</b>	<b>Assumed investment return rate for fiscal year</b>		7.50%
<b>7.</b>	<b>Expected return</b>	\$	1,751
<b>8.</b>	<b>Excess/(shortfall) return (Item 5. - Item 7.)</b>	\$	(1,884)
<b>9.</b>	<b>Excess return on assets as of June 30, 2016:</b>		
	<b><u>Fiscal Year</u></b>	<b><u>Excess</u></b>	<b><u>Percent</u></b>
	<b><u>Ending June 30,</u></b>	<b><u>Return</u></b>	<b><u>Deferred</u></b>
			<b><u>Amount</u></b>
a.	2016	\$ (1,884)	80%
b.	2015	(3,156)	60%
c.	2014	N/A	40%
d.	2013	N/A	20%
e.	2012	N/A	0%
f.	Total		N/A
			\$ (3,401)
<b>10.</b>	<b>Actuarial value of assets as of June 30, 2016 (Item 4. - Item 9.f)</b>	\$	26,751
<b>11.</b>	<b>Expected actuarial value as of June 30, 2016</b>	\$	27,948
<b>12.</b>	<b>Asset gain (loss) for year (Item 10. - Item 11.)</b>	\$	(1,197)
<b>13.</b>	<b>Asset gain (loss) as % of the actuarial value of assets</b>		(4.50%)
<b>14.</b>	<b>Ratio of actuarial value to market value</b>		114.6%

<sup>1</sup>For the year ending June 30, 2016, the investment return assumption was net of administration and investment expenses. Beginning July 1, 2016, the investment return assumption is only net of investment expenses.

## South Carolina Retirement System Summary of Historical Active Membership

July 1,	Number of Employers <sup>2</sup>	Active Members		Covered Payroll <sup>1</sup>		Average Annual Pay		Average Age	Average Service
		Number	Percent Increase/ (Decrease)	Amount in Thousands	Percent Increase/ (Decrease)	Amount	Percent Increase/ (Decrease)		
2016	812	190,923	1.9%	\$ 8,213,042	5.8%	\$ 43,018	3.77%	45	10
2015	816	187,318	1.1%	7,765,588	3.0%	41,457	1.86%	45	10
2014	810	185,265	0.3%	7,539,996	1.4%	40,698	1.10%	45	10
2013	808	184,690	(0.6%)	7,434,820	1.1%	40,256	1.65%	45	10
2012	806	185,748	(1.0%)	7,356,231	(4.3%)	39,603	(3.35%)	45	10
2011	803	187,611	(1.4%)	7,687,558	(1.1%)	40,976	0.33%	45	11
2010	800	190,239	(1.1%)	7,769,820	(4.7%)	40,842	1.20%	45	10
2009	781	192,319	(0.3%)	7,761,808	2.7%	40,359	2.95%	45	10
2008	776	192,820	2.6%	7,559,172	6.6%	39,203	3.89%	45	10
2007	777	187,968	2.0%	7,093,181	5.3%	37,736	3.28%	45	10

<sup>1</sup>Covered payroll is the annualized, projected compensation for the following year and does not include payroll attributable to members in State ORP, TERI, or working retirees.

<sup>2</sup>Number of employers that cover employees eligible for SCRS benefits and that contributed to the system during the last fiscal year. Although the state is considered the primary government and includes all state agencies as a single employer, for purposes of this schedule, each state agency is reported separately and counted as an employer.

## Police Officers Retirement System Summary of Historical Active Membership

July 1,	Number of Employers <sup>2</sup>	Active Members		Covered Payroll <sup>1</sup>		Average Annual Pay		Average Age	Average Service
		Number	Percent Increase/ (Decrease)	Amount in Thousands	Percent Increase/ (Decrease)	Amount	Percent Increase/ (Decrease)		
2016	313	26,651	0.3%	\$ 1,187,195	7.4%	\$ 44,546	7.06%	39.5	9.8
2015	312	26,575	(0.5%)	1,105,703	2.7%	41,607	3.15%	39.4	9.7
2014	310	26,697	1.9%	1,076,885	4.2%	40,337	2.27%	39.5	9.5
2013	356	26,194	0.1%	1,033,189	1.4%	39,444	1.31%	39.5	9.4
2012	325	26,179	(1.8%)	1,019,241	(6.3%)	38,934	(4.60%)	39.6	9.5
2011	356	26,650	0.3%	1,087,587	1.0%	40,810	0.72%	39.8	9.6
2010	322	26,568	(0.1%)	1,076,467	(0.7%)	40,517	(0.60%)	39.8	8.7
2009	318	26,598	0.6%	1,084,154	2.2%	40,761	1.55%	39.6	8.4
2008	313	26,427	3.0%	1,060,747	6.8%	40,139	3.68%	N/A	N/A
2007	313	25,645	3.4%	992,849	6.6%	38,715	3.09%	N/A	N/A

<sup>1</sup>Covered payroll does not include payroll attributable to working retirees.

<sup>2</sup>Number of employers that cover employees eligible for PORS benefits and that contributed to the system during the last fiscal year. Although the state is considered the primary government and includes all state agencies as a single employer, for purposes of this schedule, each state agency is reported separately and counted as an employer.

## General Assembly Retirement System Summary of Historical Active Membership

July 1,	Number of Employers <sup>2</sup>	Active Members		Covered Payroll <sup>1</sup>		Average Annual Pay		Average Age	Average Service
		Number	Percent Increase/ (Decrease)	Amount in Thousands	Percent Increase/ (Decrease)	Amount	Percent Increase/ (Decrease)		
2016	2	102	(1.9%)	\$ 2,316	(0.9%)	\$ 22,710	1.0%	56.4	14.3
2015	2	104	(9.6%)	2,338	(10.1%)	22,481	(0.6%)	55.6	13.4
2014	2	115	(3.4%)	2,601	(3.2%)	22,617	0.1%	54.7	12.4
2013	2	119	(30.0%)	2,688	(30.3%)	22,588	(0.4%)	53.7	11.8
2012	2	170	0.0%	3,854	0.0%	22,671	0.0%	53.3	10.8
2011	2	170	0.0%	3,854	0.0%	22,671	0.0%	52.7	9.8
2010	2	170	0.0%	3,854	0.0%	22,671	0.0%	52.3	10.2
2009	2	170	0.0%	3,854	0.0%	22,671	0.0%	51.4	9.0
2008	2	170	0.0%	3,854	0.0%	22,671	0.0%	N/A	N/A
2007	2	170	0.0%	3,854	0.0%	22,671	0.0%	N/A	N/A

<sup>1</sup>For valuations prior to 2013 the annual covered payroll included the payroll of filled and unfilled positions.

<sup>2</sup>Number of employers that cover employees eligible for GARS benefits and that contributed to the system during the last fiscal year. Although the state is considered the primary government and includes all state agencies as a single employer, for purposes of this schedule, each state agency is reported separately and counted as an employer.

## Judges and Solicitors Retirement System Summary of Historical Active Membership

July 1,	Number of Employers <sup>2</sup>	Active Members		Covered Payroll		Average Annual Pay		Average Age	Average Service
		Number <sup>1</sup>	Percent Increase/ (Decrease)	Amount in Thousands <sup>1</sup>	Amount	Percent Increase/ (Decrease)			
2016	3	157		\$ 21,958	\$ 139,861	4.56%	57.2	15.4	
2015	3	157		21,267	133,756	0.28%	56.5	15.1	
2014	3	153		20,815	136,048	2.00%	56.3	15.1	
2013	3	153		20,407	133,381	(0.07%)	56.0	15.5	
2012	3	144		19,221	133,476	3.00%	55.6	15.1	
2011	3	144		18,661	129,590	0.00%	55.1	14.3	
2010	3	144		18,661	129,590	0.00%	54.9	15.0	
2009	3	144		18,661	129,590	0.00%	55.0	15.4	
2008	3	144		18,661	129,590	1.10%	54	15	
2007	2	128		16,407	128,176	3.00%	55	19	

<sup>1</sup>Includes filled and unfilled positions and members in DROP or retired-in-place.

<sup>2</sup>Number of employers that cover employees eligible for JSRS benefits and that contributed to the system during the last fiscal year. Although the state is considered the primary government and includes all state agencies as a single employer, for purposes of this schedule, each state agency is reported separately and counted as an employer.

## South Carolina National Guard Supplemental Retirement Plan Summary of Historical Active Membership

July 1,	Number of Employers	Number of Members	Annual Payroll <sup>1</sup>	Average Pay <sup>1</sup>	Percent Increase in Average Pay <sup>1</sup>	Average Age	Average Service
2016	1	12,253	N/A	N/A	N/A	32.2	9.7
2015	1	12,165	N/A	N/A	N/A	32.2	9.7
2014	1	12,221	N/A	N/A	N/A	32.1	9.7
2013	1	11,997	N/A	N/A	N/A	32.0	9.5
2012	1	12,041	N/A	N/A	N/A	31.8	9.2
2011	1	12,271	N/A	N/A	N/A	32.0	9.3
2010	1	12,445	N/A	N/A	N/A	31.9	9.0
2009	1	12,599	N/A	N/A	N/A	31.7	8.7
2008	1	12,559	N/A	N/A	N/A	31	8
2007 <sup>2</sup>	1	11,076	N/A	N/A	N/A	32	10

<sup>1</sup>Not applicable as this is a non-contributory plan.

<sup>2</sup>Effective January 1, 2007, guardsmen who became members of the South Carolina National Guard after June 30, 1993, became eligible for membership.

## South Carolina Retirement System Summary of Active Membership Data

As of July 1, 2016

*(Dollar amounts expressed in thousands)*

<b>Group</b>	<b>Number<sup>1</sup></b>	<b>Annual Compensation<sup>2</sup></b>
State employees	51,018	\$ 2,321,521
Public school employees	84,916	3,357,550
Other agency employees	54,989	2,211,836
<b>Total</b>	<b>190,923</b>	<b>\$ 7,890,907</b>

<sup>1</sup>In addition, there are 169,806 inactive members with contributions still in the system. The results of the valuation were adjusted to take these members into account.

<sup>2</sup>Total compensation is the annualized pay for the prior year.

## Police Officers Retirement System Summary of Active Membership Data

As of July 1, 2016

*(Dollar amounts expressed in thousands)*

<b>Group</b>	<b>Number<sup>1</sup></b>	<b>Annual Compensation<sup>2</sup></b>
State employees	9,134	\$ 361,065
Public school employees	0	0
Other agency employees	17,517	775,337
<b>Total</b>	<b>26,651</b>	<b>\$ 1,136,402</b>

<sup>1</sup>In addition, there are 15,001 inactive members with contributions still in the system. The results of the valuation were adjusted to take these members into account.

<sup>2</sup>Total compensation is the annualized pay for the prior year.

## General Assembly Retirement System Summary of Active Membership Data

As of July 1, 2016

(Dollar amounts expressed in thousands)

<u>Number<sup>1</sup></u>	<u>Annual Compensation</u>
102	\$ 2,316

<sup>1</sup>There are 32 inactive members with contributions still in the system, and there are 17 special contributors. The results of the valuation were adjusted to take these members into account. Numbers shown above include members receiving retirement benefits while continuing in office.

## Judges and Solicitors Retirement System Summary of Active Membership Data

As of July 1, 2016

(Dollar amounts expressed in thousands)

<u>Number<sup>1</sup></u>	<u>Annual Compensation</u>
157	\$ 21,958

<sup>1</sup>The number of active members reflects the number of seats, including 23 participants who are either in the DROP or have retired in place and are receiving retirement benefits while continuing in office. There are two inactive members with contributions still in the system. The results of the valuation were adjusted to take these members into account.

## South Carolina Retirement System Summary of Membership Data

	July 1, 2016	July 1, 2015
<b>1. Service retirees</b>		
a. Number <sup>1</sup>	115,338	112,242
b. Total annual benefits	\$ 2,469,794,069	\$ 2,391,772,188
c. Average annual benefits	\$ 21,414	\$ 21,309
d. Average age at the valuation date	69.8	69.5
<b>2. Disabled retirees</b>		
a. Number	13,133	13,349
b. Total annual benefits	\$ 182,525,500	\$ 183,766,967
c. Average annual benefits	\$ 13,898	\$ 13,766
d. Average age at the valuation date	64.2	63.5
<b>3. Beneficiaries</b>		
a. Number	9,384	9,049
b. Total annual benefits	\$ 114,143,577	\$ 108,007,534
c. Average annual benefits	\$ 12,164	\$ 11,936
d. Average age at the valuation date	67.7	67.6

<sup>1</sup>Includes members in TERI and working retirees.

## Police Officers Retirement System Summary of Membership Data

	July 1, 2016	July 1, 2015
<b>1. Service retirees</b>		
a. Number	13,361	12,941
b. Total annual benefits	\$ 276,148,284	\$ 265,095,859
c. Average annual benefits	\$ 20,668	\$ 20,485
d. Average age at the valuation date	64.9	64.6
<b>2. Disabled retirees</b>		
a. Number	2,578	2,475
b. Total annual benefits	\$ 53,142,503	\$ 50,548,301
c. Average annual benefits	\$ 20,614	\$ 20,424
d. Average age at the valuation date	54.8	54.5
<b>3. Beneficiaries</b>		
a. Number	1,349	1,293
b. Total annual benefits	\$ 16,583,402	\$ 15,684,378
c. Average annual benefits	\$ 12,293	\$ 12,130
d. Average age at the valuation date	67.7	67.5

## General Assembly Retirement System Summary of Membership Data

	<u>July 1, 2016</u>	<u>July 1, 2015</u>
<b>1. Service retirees</b>		
a. Number	279	281
b. Total annual benefits	\$ 5,498,678	\$ 5,510,955
c. Average annual benefits	\$ 19,709	\$ 19,612
d. Average age at the valuation date	73.5	72.6
<b>2. Disabled retirees</b>		
a. Number	0	0
b. Total annual benefits	\$ 0	\$ 0
c. Average annual benefits	\$ 0	\$ 0
d. Average age at the valuation date	N/A	N/A
<b>3. Beneficiaries</b>		
a. Number	79	81
b. Total annual benefits	\$ 1,115,212	\$ 1,154,786
c. Average annual benefits	\$ 14,117	\$ 14,257
d. Average age at the valuation date	76.9	77.7

## Judges and Solicitors Retirement System Summary of Membership Data

	<u>July 1, 2016</u>	<u>July 1, 2015</u>
<b>1. Service retirees</b>		
a. Number <sup>1</sup>	155	151
b. Total annual benefits	\$ 16,123,054	\$ 15,075,781
c. Average annual benefits	\$ 104,020	\$ 99,840
d. Average age at the valuation date	71.1	70.5
<b>2. Disabled retirees</b>		
a. Number	0	0
b. Total annual benefits	\$ 0	\$ 0
c. Average annual benefits	\$ 0	\$ 0
d. Average age at the valuation date	N/A	N/A
<b>3. Beneficiaries</b>		
a. Number	55	55
b. Total annual benefits	\$ 1,593,995	\$ 1,586,613
c. Average annual benefits	\$ 28,982	\$ 28,848
d. Average age at the valuation date	69.8	69.9

<sup>1</sup>Includes members in DROP and retired-in-place. It does not include unfilled positions.

## South Carolina National Guard Supplemental Retirement Plan Summary of Membership Data

	July 1, 2016	July 1, 2015
<b>1. Active members</b>		
a. Males	9,998	9,967
b. Females	2,255	2,198
c. Total members	12,253	12,165
d. Average age	32.2	32.2
e. Average service	9.7	9.7
 <b>2. Vested inactive members</b>		
a. Number	1,969	2,052
b. Total annual deferred benefits	\$ 1,551,840	\$ 1,611,900
c. Average annual deferred benefits	\$ 788	\$ 786
 <b>3. Service retirees</b>		
a. Number	4,709	4,647
b. Total annual benefits	\$ 4,296,660	\$ 4,249,920
c. Average annual benefit	\$ 912	\$ 915
d. Average age	70.6	70.2

## South Carolina Retirement System

### Schedule of Retirants Added to and Removed from Rolls<sup>1</sup>

(Amounts except average allowance expressed in thousands)

July 1,	Added to Rolls <sup>2</sup>		Removed from Rolls <sup>3</sup>		Rolls End of the Year		% Increase in Annual Benefit	Average Annual Benefit
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
2016	6,515	\$ 133,741	3,300	\$ 50,824	137,855	\$ 2,766,463	3.1%	\$ 20,068
2015	6,640	133,490	3,510	54,660	134,640	2,683,547	3.0%	19,931
2014	7,084	148,060	3,270	49,971	131,510	2,604,716	3.9%	19,806
2013	9,088	204,581	3,319	50,142	127,696	2,506,627	6.6%	19,630
2012	9,523	205,050	2,968	44,099	121,927	2,352,188	7.3%	19,292
2011	6,336	141,242	2,358	31,382	115,372	2,191,236	5.3%	18,993
2010	6,596	151,348	3,216	44,049	111,394	2,081,376	5.4%	18,685
2009	6,190	101,813	2,698	36,834	108,014	1,974,077	3.4%	18,276
2008	6,021	132,856	2,396	30,178	104,522	1,909,098	5.7%	18,265
2007	5,944	130,286	2,252	28,455	100,897	1,806,420	6.0%	17,904

<sup>1</sup>Includes Teacher and Employee Retention Incentive (TERI) participants.

<sup>2</sup>Annual benefits added to rolls includes the benefit adjustments provided to continuing retirees.

<sup>3</sup>The removed from rolls count does not include members who are replaced by beneficiaries

## Police Officers Retirement System

### Schedule of Retirants Added to and Removed from Rolls

(Amounts except average allowance expressed in thousands)

July 1,	Added to Rolls <sup>2</sup>		Removed from Rolls <sup>3</sup>		Rolls End of the Year		% Increase in Annual Benefit	Average Annual Benefit
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
2016	928	\$ 19,940	349	\$ 5,394	17,288	\$ 345,874	4.4%	\$ 20,007
2015	968	19,767	362	6,076	16,709	331,329	4.3%	19,829
2014	818	16,881	332	5,650	16,103	317,638	3.7%	19,725
2013	1,278	27,584	314	5,106	15,617	306,407	7.9%	19,620
2012	1,566	34,086	271	4,143	14,653	283,929	11.8%	19,377
2011	1,042	22,580	250	2,970	13,358	253,986	8.4%	19,014
2010	943	21,877	327	5,000	12,566	234,376	7.8%	18,652
2009	931	17,937	267	3,879	11,950	217,499	6.9%	18,201
2008	779	17,458	194	2,691	11,286	203,441	7.8%	18,026
2007	772	16,474	205	2,745	10,701	188,674	7.8%	17,631

<sup>2</sup>Annual benefits added to rolls includes the benefit adjustments provided to continuing retirees.

<sup>3</sup>The removed from rolls count does not include members who are replaced by beneficiaries

## General Assembly Retirement System

### Schedule of Retirants Added to and Removed from Rolls

(Amounts except average allowance expressed in thousands)

July 1,	Added to Rolls <sup>2</sup>		Removed from Rolls <sup>3</sup>		Rolls End of the Year		% Increase in Annual Benefit	Average Annual Benefit
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
2016	7	\$ 109	11	\$ 161	358	\$ 6,614	-0.8%	\$ 18,475
2015	15	262	8	193	362	6,666	1.1%	18,414
2014	12	200	20	358	355	6,596	-2.3%	18,581
2013	22	444	17	353	363	6,754	1.4%	18,606
2012	16	251	11	130	358	6,663	1.8%	18,611
2011	12	238	5	108	353	6,542	2.0%	18,534
2010	7	148	14	261	346	6,412	-1.7%	18,532
2009	26	505	15	266	353	6,525	3.8%	18,484
2008	19	337	10	134	342	6,286	3.3%	18,380
2007	18	321	2	13	333	6,083	5.3%	18,267

<sup>2</sup>Annual benefits added to rolls includes benefit adjustments for continuing retirees.

<sup>3</sup>The removed from rolls count does not include members who are replaced by beneficiaries.

## Judges and Solicitors Retirement System

### Schedule of Retirants Added to and Removed from Rolls<sup>1</sup>

(Amounts except average allowance expressed in thousands)

July 1,	Added to Rolls <sup>2</sup>		Removed from Rolls <sup>3</sup>		Rolls End of the Year		% Increase in Annual Benefits	Average Annual Benefits
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
2016	10	\$ 1,355	6	\$ 300	210	\$ 17,717	6.3%	\$ 84,367
2015	8	757	6	497	206	16,662	1.6%	80,883
2014	7	637	4	192	204	16,402	2.8%	80,402
2013	10	279	9	42	201	15,957	1.5%	79,388
2012	6	912	4	184	200	15,720	4.9%	78,600
2011	9	827	5	196	198	14,992	4.4%	75,717
2010	18	1,210	8	593	194	14,361	4.5%	74,025
2009	10	903	4	259	184	13,744	4.9%	74,696
2008	6	545	3	156	178	13,100	3.1%	73,596
2007	32	2,690	1	30	175	12,711	26.5%	72,634

<sup>1</sup>Beginning July 1, 2007, includes participants who have retired in place.

<sup>2</sup>Annual benefits added to rolls includes benefit adjustments for continuing retirees.

<sup>3</sup>The removed from rolls count does not include members who are replaced by beneficiaries.

## South Carolina National Guard Supplemental Retirement Plan Schedule of Retirants Added to and Removed from Rolls

*(Amounts except average allowance expressed in thousands)*

	Added to Rolls		Removed from Rolls		Rolls End of the Year		% Increase in Annual Benefit	Average Annual Benefit
	July 1, Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
2016	195	\$ 172	133	\$ 125	4,709	\$ 4,297	1.1%	\$ 912
2015	155	142	136	122	4,647	4,250	0.5%	915
2014	195	165	108	103	4,628	4,230	1.5%	914
2013	244	211	122	116	4,541	4,168	2.3%	918
2012	259	228	92	87	4,419	4,073	3.6%	922
2011	399	351	98	93	4,252	3,932	7.0%	925
2010	267	237	101	99	3,951	3,674	3.9%	930
2009	378	335	85	83	3,785	3,536	7.7%	934
2008	364	331	76	75	3,492	3,284	8.5%	940
2007	362	329	61	58	3,204	3,028	9.8%	945

# Schedule of Funding Progress<sup>1</sup>

(Amounts expressed in thousands)

SCRS	Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll <sup>2</sup>	UAAL as % of Payroll
	2016	\$ 27,293,968	\$ 45,859,906	\$ 18,565,938	59.5%	\$ 8,213,042	226.1%
	2015	27,365,921	44,119,176	16,753,255	62.0%	7,765,588	215.7%
	2014	26,910,740	42,889,614	15,978,874	62.7%	7,539,996	211.9%
	2013	25,753,068	41,196,062	15,442,994	62.5%	7,434,820	207.7%
	2012	25,540,749	39,457,708	13,916,959	64.7%	7,356,231	189.2%
	2011	25,604,823	38,011,610	12,406,787	67.4%	7,687,558	161.4%
	2010	25,400,331	38,774,029	13,373,698	65.5%	7,769,820	172.1%
	2009	25,183,062	37,150,315	11,967,253	67.8%	7,761,808	154.2%
	2008	24,699,678	35,663,419	10,963,741	69.3%	7,559,172	145.0%
	2007	23,541,438	33,766,678	10,225,240	69.7%	7,093,181	144.2%

PORS	Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll <sup>2</sup>	UAAL as % of Payroll
	2016	\$ 4,354,853	\$ 6,567,397	\$ 2,212,544	66.3%	\$ 1,187,195	186.4%
	2015	4,266,794	6,162,095	1,895,301	69.2%	1,105,703	171.4%
	2014	4,105,308	5,905,828	1,800,520	69.5%	1,076,885	167.2%
	2013	3,922,041	5,663,756	1,741,715	69.2%	1,033,189	168.6%
	2012	3,808,934	5,357,492	1,548,558	71.1%	1,019,241	151.9%
	2011	3,728,241	5,122,501	1,394,260	72.8%	1,087,587	128.2%
	2010	3,612,700	4,850,457	1,237,757	74.5%	1,076,467	115.0%
	2009	3,482,220	4,564,111	1,081,891	76.3%	1,084,154	99.8%
	2008	3,363,136	4,318,955	955,819	77.9%	1,060,747	90.1%
	2007	3,160,240	3,730,544	570,304	84.7%	992,849	57.4%

<sup>1</sup>Funding progress for July 1, 2011, valuation adjusted to reflect pension reform legislation in Act 278.

<sup>2</sup>Covered payroll does not include payroll attributable to members in State ORP, TERI or working retirees.

Effective 7-1-2008, actuarial assumptions for SCRS were changed as a result of a 5 year experience study. Changes in the investment return assumptions were adopted by the Board for the 7-01-2008 valuation for all plans.

Effective 7-1-2011, actuarial assumptions were changed as a result of a 5 year experience study. The investment return assumption, inflation assumption, rate of salary increases, payroll growth assumption, post-retirement mortality assumption for all groups, retirement rates and termination rates were revised for both SCRS and PORS. The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method for both SCRS and PORS. In addition, there were minor changes to the rates of disability incidence for SCRS.

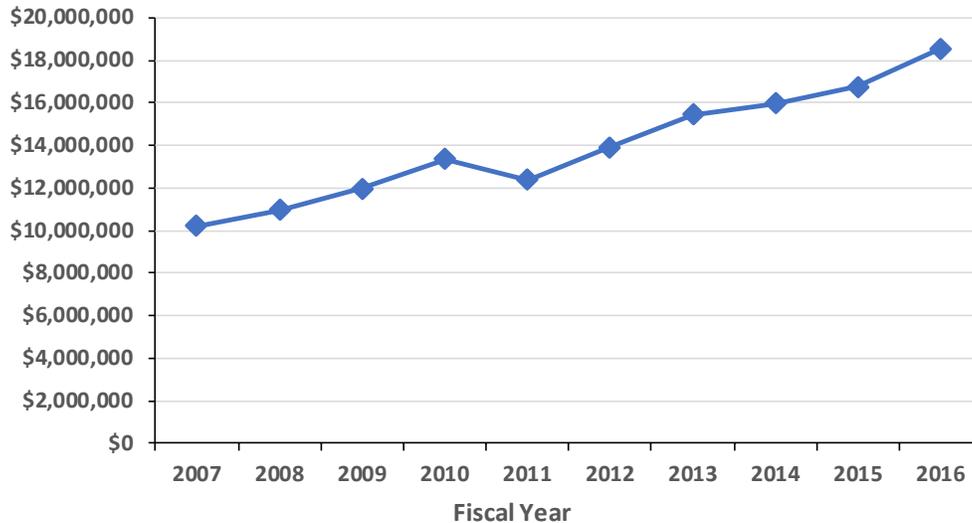
Effective 7-1-2012, disability and retirement rates were updated to more appropriately reflect the anticipated plan experience as a result of the enactment of Act 278. Act 278 became law in June 2012, which resulted in substantial changes to the benefit provisions of both SCRS and PORS.

Effective 7-1-2016, actuarial assumptions were changed as a result of a 5 year experience study. The inflation assumption, rate of salary increases, payroll growth assumption, post-retirement mortality tables and pre-retirement mortality assumption were revised for both SCRS and PORS. The actuarial valuation of asset method was changed such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year for both SCRS and PORS. In addition, there were changes to the rates of withdrawal and retirement for SCRS and changes to the rates of retirement and disability for PORS.

## South Carolina Retirement System Funding Progress with Funded Ratios<sup>1</sup>

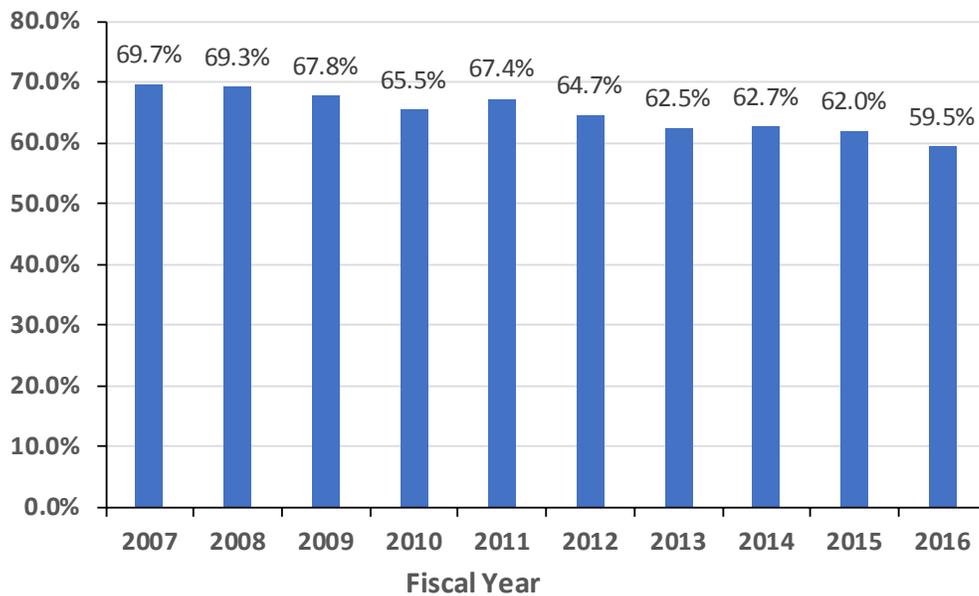
### Unfunded Accrued Liabilities

(Amounts expressed in thousands)



### Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)

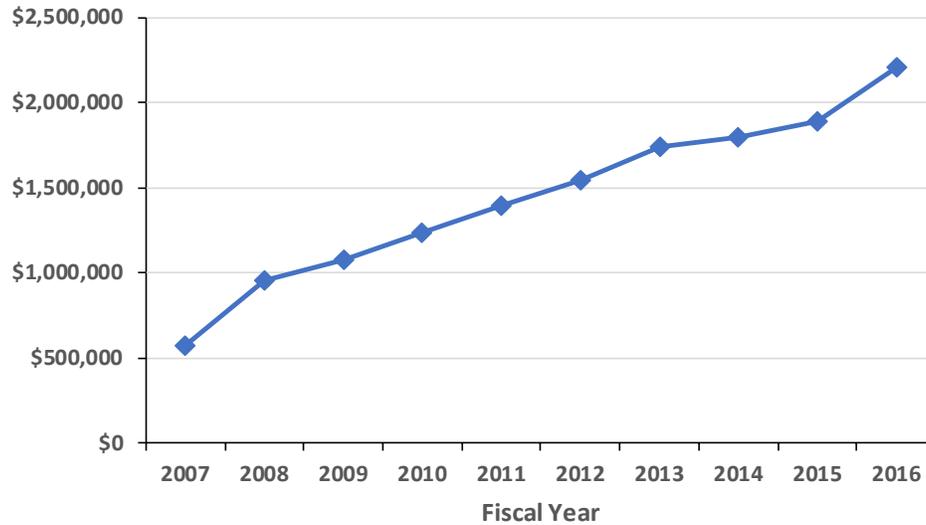


<sup>1</sup>A 10-year schedule of actuarially determined and actual contributions can be found in the Required Supplementary Information portion of the Financial Section as part of the Schedule of Employers' Contributions.

## Police Officers Retirement System Funding Progress with Funded Ratios<sup>1</sup>

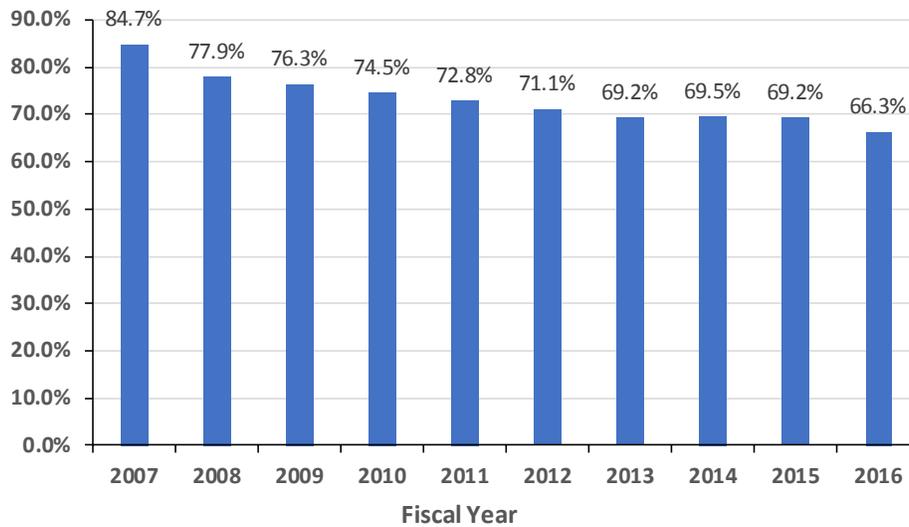
### Unfunded Accrued Liabilities

(Amounts expressed in thousands)



### Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)



<sup>1</sup>A 10-year schedule of actuarially determined and actual contributions can be found in the Required Supplementary Information portion of the Financial Section as part of the Schedule of Employers' Contributions.

## Schedule of Funding Progress

(Amounts expressed in thousands)

GARS	Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll <sup>1</sup>	UAAL as % of Payroll
	2016	\$ 35,926	\$ 74,996	\$ 39,070	47.9%	\$ 2,316	1,686.9%
	2015	37,312	74,509	37,197	50.1%	2,338	1,591.0%
	2014	37,646	74,514	36,868	50.5%	2,601	1,417.5%
	2013	38,033	75,639	37,606	50.3%	2,688	1,399.0%
	2012	39,233	74,332	35,099	52.8%	3,854	910.7%
	2011	41,484	74,604	33,120	55.6%	3,854	859.4%
	2010	43,712	68,671	24,959	63.7%	3,854	647.6%
	2009	45,891	68,491	22,600	67.0%	3,854	586.4%
	2008	47,189	69,122	21,933	68.3%	3,854	569.1%
	2007	46,925	71,014	24,089	66.1%	3,854	625.0%

<sup>1</sup>For valuations prior to 2013, the annual covered payroll included the payroll of filled and unfilled positions.

JSRS	Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as % of Payroll
	2016	\$ 158,837	\$ 283,304	\$ 124,467	56.1%	\$ 21,958	566.8%
	2015	157,983	269,675	111,692	58.6%	21,267	525.2%
	2014	152,839	264,293	111,454	57.8%	20,815	535.4%
	2013	147,648	256,988	109,340	57.5%	20,407	535.8%
	2012	145,604	251,729	106,125	57.8%	19,221	552.1%
	2011	144,927	243,514	98,587	59.5%	18,661	528.3%
	2010	142,871	215,823	72,952	66.2%	18,661	390.9%
	2009	141,797	214,363	72,566	66.1%	18,661	388.9%
	2008	138,323	213,406	75,083	64.8%	18,661	402.4%
	2007	132,990	229,388	96,398	58.0%	16,407	587.5%

Changes in the investment return assumptions were adopted by the Board for the 7-01-2008 valuation for all plans.

Effective 7-1-2011, actuarial assumptions were changed as a result of a 5 year experience study. The investment return assumption, inflation assumption and the mortality assumption were revised for both GARS and JSRS. The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method for both GARS and JSRS.

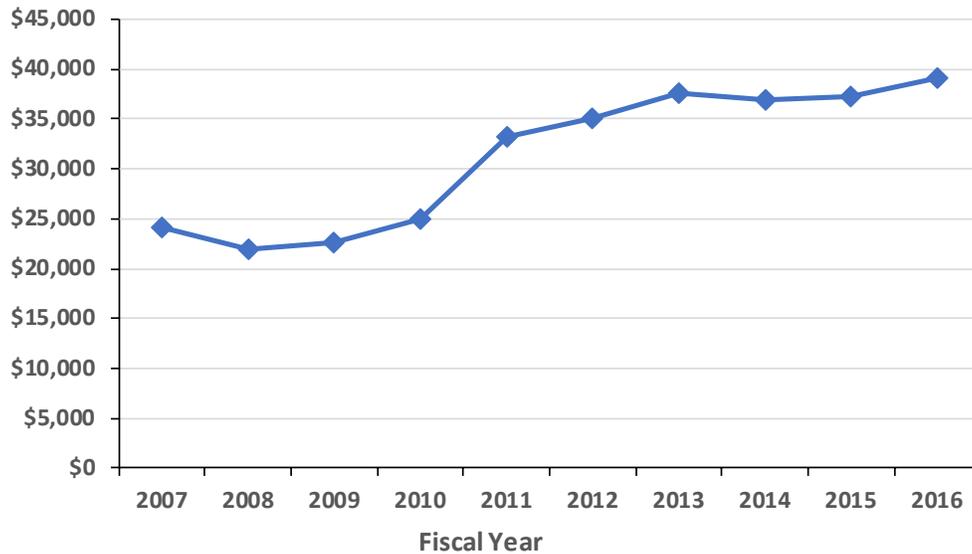
Effective 7-1-2012, Act 278 became law in June 2012 and increased the member contribution rate from 10 percent of pay to 11 percent of pay effective 1-1-2013 for GARS members. The legislation also closed GARS to new members. Newly elected members of the General Assembly on or after the general election of 2012 shall elect to become members of SCRS, State ORP or non-membership.

Effective 7-1-2016, actuarial assumptions were changed as a result of a 5 year experience study. The inflation assumption, post-retirement mortality tables and pre-retirement mortality assumption were revised for both GARS and JSRS. The actuarial valuation of asset method was changed such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year for both GARS and JSRS. In addition, there were changes to the disability rates for GARS and changes to the rate of salary increases, COLA, payroll growth assumption, rates of retirement and disability for JSRS.

## General Assembly Retirement System Funding Progress with Funded Ratios<sup>1</sup>

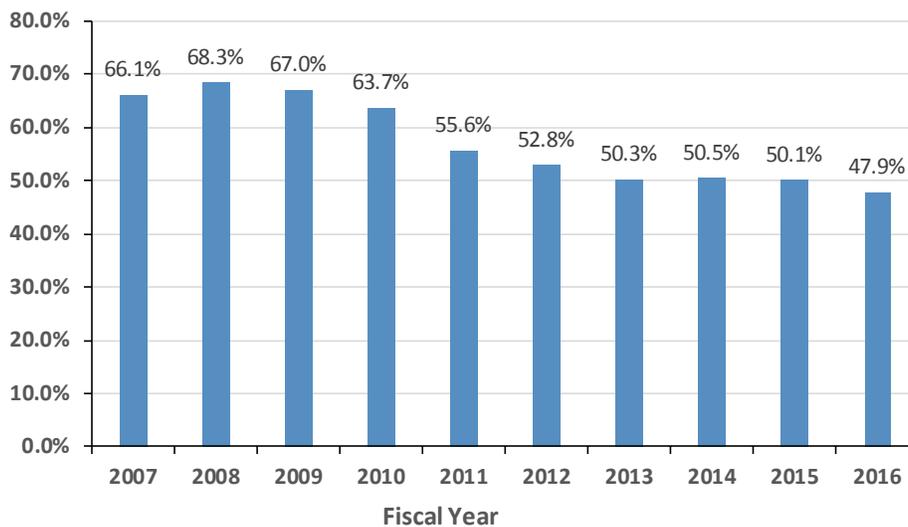
### Unfunded Accrued Liabilities

(Amounts expressed in thousands)



### Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)

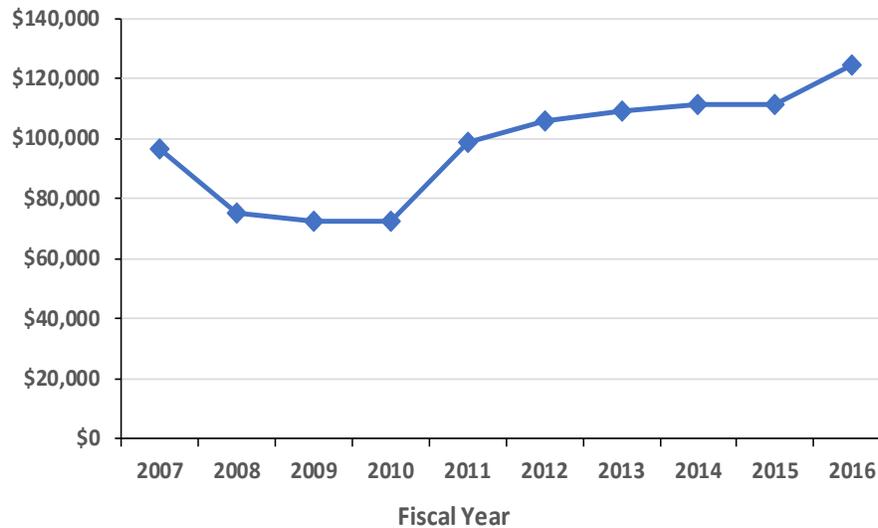


<sup>1</sup> A 10-year schedule of actuarially determined and actual contributions can be found in the Required Supplementary Information portion of the Financial Section as part of the Schedule of Employers' Contributions.

## Judges and Solicitors Retirement System Funding Progress with Funded Ratios<sup>1</sup>

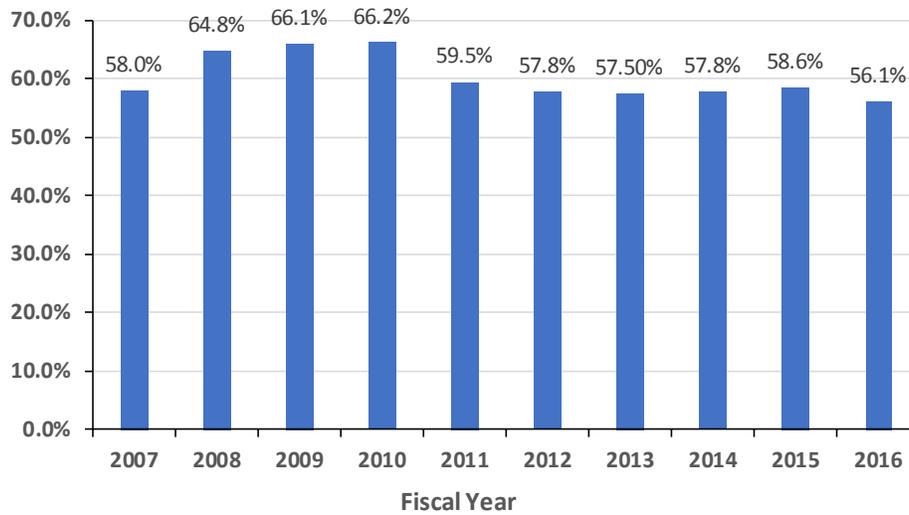
### Unfunded Accrued Liabilities

(Amounts expressed in thousands)



### Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)



<sup>1</sup>A 10-year schedule of actuarially determined and actual contributions can be found in the Required Supplementary Information portion of the Financial Section as part of the Schedule of Employers' Contributions.

## Schedule of Funding Progress

(Amounts expressed in thousands)

SCNG	Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Annual Covered Payroll	UAAL as % of Payroll
	2016	\$ 26,751	\$ 64,445	\$ 37,694	41.5%	N/A	N/A
	2015	25,727	62,141	36,414	41.4%	N/A	N/A
	2014	24,029	62,100	38,071	38.7%	N/A	N/A
	2013	22,208	61,576	39,368	36.1%	N/A	N/A
	2012	20,814	60,942	40,128	34.2%	N/A	N/A
	2011	20,138	60,388	40,250	33.3%	N/A	N/A
	2010	19,458	54,153	34,695	35.9%	N/A	N/A
	2009	18,600	53,421	34,821	34.8%	N/A	N/A
	2008	17,426	53,534	36,108	32.6%	N/A	N/A
	2007	15,937	55,917	39,980	28.5%	N/A	N/A

*Changes in the investment return assumptions were adopted by the Board for the 7-01-2008 valuation for all plans.*

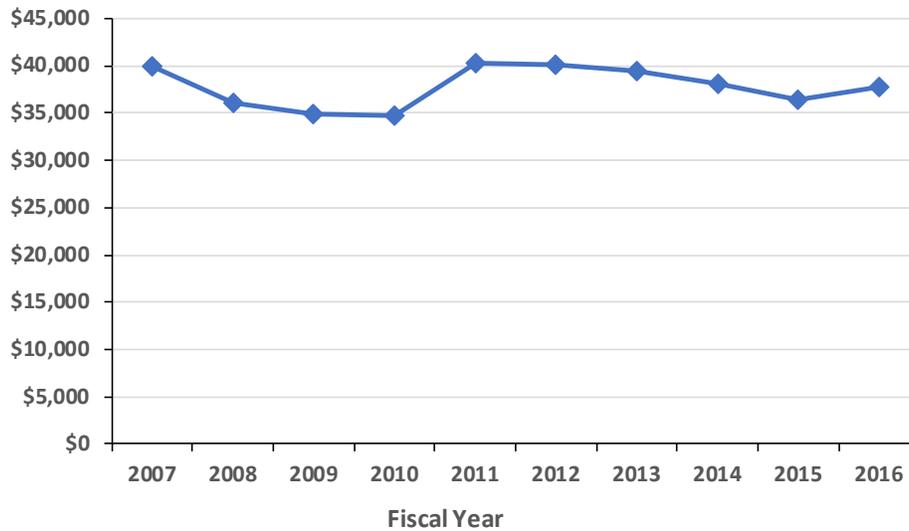
*Effective 7-1-2011, actuarial assumptions were changed as a result of a 5 year experience study. The investment return assumption, inflation assumption and the mortality assumption were revised for SCNG. The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method for SCNG.*

*Effective 7-1-2016, actuarial assumptions were changed as a result of a 5 year experience study. The inflation assumption, rate of salary increases, payroll growth assumption, post-retirement mortality tables, pre-retirement mortality assumption and rates of withdrawal, disability and retirement were revised for SCNG. The actuarial valuation of asset method was changed such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year for SCNG.*

# South Carolina National Guard Supplemental Retirement Plan Funding Progress with Funded Ratios<sup>1</sup>

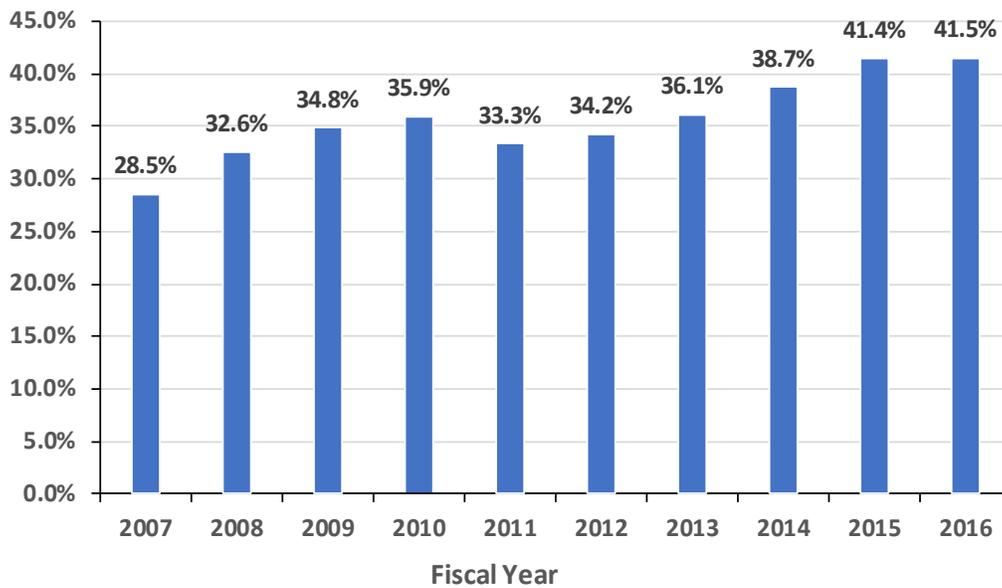
## Unfunded Accrued Liabilities

(Amounts expressed in thousands)



## Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)



<sup>1</sup>A 10-year schedule of actuarially determined and actual contributions can be found in the Required Supplementary Information portion of the Financial Section as part of the Schedule of Employers' Contributions.

## South Carolina Retirement System Reconciliation of UAAL

As of July 1, 2016  
(Amounts expressed in thousands)

<b>Item</b>	<b>Amount of Increase/Decrease</b>
Beginning of year UAAL	\$ 16,753,255
Interest on UAAL	1,256,494
Amortization payment	(1,017,186)
Assumption/method changes	467,722
Asset experience	1,131,589
Salary experience	(17,241)
Other liability experience	(8,695)
Legislative changes	0
End of year UAAL	<u>\$ 18,565,938</u>

## Police Officers Retirement System Reconciliation of UAAL

As of July 1, 2016  
(Amounts expressed in thousands)

<b>Item</b>	<b>Amount of Increase/Decrease</b>
Beginning of year UAAL	\$ 1,895,301
Interest on UAAL	142,148
Amortization payment	(123,814)
Assumption/method changes	120,909
Asset experience	160,261
Salary experience	17,265
Other liability experience	474
Legislative changes	0
End of year UAAL	<u>\$ 2,212,544</u>

## General Assembly Retirement System Reconciliation of UAAL

As of July 1, 2016  
(Amounts expressed in thousands)

<b>Item</b>	<b>Amount of Increase/Decrease</b>
Beginning of year UAAL	\$ 37,197
Interest on UAAL	2,790
Amortization payment	(4,542)
Assumption/method changes	808
Asset experience	2,099
Liability experience	718
Legislative changes	0
End of year UAAL	<u>\$ 39,070</u>

## Judges and Solicitors Retirement System Reconciliation of UAAL

As of July 1, 2016  
(Amounts expressed in thousands)

<b>Item</b>	<b>Amount of Increase/Decrease</b>
Beginning of year UAAL	\$ 111,692
Interest on UAAL	8,377
Amortization payment	(7,609)
Assumption/method changes	6,102
Asset experience	6,129
COLA	907
Salary experience	(2,346)
Other liability experience	1,215
Legislative changes	0
End of year UAAL	<u>\$ 124,467</u>

# South Carolina National Guard Supplemental Retirement Plan

## Reconciliation of UAAL

As of July 1, 2016  
(Amounts expressed in thousands)

<b>Item</b>	<b>Amount of Increase/Decrease</b>
Beginning of year UAAL	\$ 36,414
Interest on UAAL	2,731
Amortization payment	(4,194)
Assumption/method changes	2,276
Asset experience	1,197
Liability experience	(730)
Legislative changes	0
End of year UAAL	<u>\$ 37,694</u>

# Solvency Test

(Amounts expressed in thousands)

SCRS	Actuarial Accrued Liability					Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member	Retirants & Beneficiaries	Active & Inactive Members (Employer Financed)	Valuation Assets	Active	Retirants	ER Financed	
	July 1, Contributions	Beneficiaries	Members	Assets	Active	Retirants	ER Financed	
	2016	\$ 7,447,442	\$ 29,830,649	\$ 8,581,815	\$ 27,293,968	100%	66.5%	0%
	2015	7,054,277	28,645,954	8,418,945	27,365,921	100%	70.9%	0%
	2014	6,717,327	27,942,644	8,229,643	26,910,740	100%	72.3%	0%
	2013	6,491,895	26,548,472	8,155,695	25,753,068	100%	72.6%	0%
	2012	6,459,192	24,732,406	8,266,110	25,540,749	100%	77.2%	0%
	2011	6,472,646	23,160,658	8,378,306	25,604,823	100%	82.6%	0%
	2010	6,222,854	22,585,243	9,965,932	25,400,331	100%	84.9%	0%
	2009	5,980,022	21,381,561	9,788,732	25,183,062	100%	89.8%	0%
	2008	5,708,022	20,624,862	9,329,937	24,699,678	100%	92.1%	0%
	2007	5,464,756	19,084,672	9,217,250	23,541,438	100%	94.7%	0%
<b>PORS</b>	2016	\$ 968,722	\$ 3,881,514	\$ 1,717,161	\$ 4,354,853	100%	87.2%	0.0%
	2015	905,768	3,624,713	1,631,614	4,266,794	100%	92.7%	0.0%
	2014	850,383	3,490,161	1,565,284	4,105,308	100%	93.3%	0.0%
	2013	793,414	3,385,496	1,484,846	3,922,041	100%	92.4%	0.0%
	2012	773,710	3,118,016	1,465,766	3,808,934	100%	97.3%	0.0%
	2011	786,724	2,784,144	1,551,633	3,728,241	100%	100.0%	10.1%
	2010	758,695	2,577,772	1,513,990	3,612,700	100%	100.0%	18.2%
	2009	726,214	2,348,685	1,489,212	3,482,220	100%	100.0%	27.4%
	2008	697,423	2,183,645	1,437,887	3,363,136	100%	100.0%	33.5%
	2007	658,023	1,818,914	1,253,607	3,160,240	100%	100.0%	54.5%

Effective 7-1-2008, actuarial assumptions for SCRS were changed as a result of a 5 year experience study. Changes in the investment return assumptions were adopted by the Board for the 7-1-2008 valuation for all plans.

Effective 7-1-2011, actuarial assumptions were changed as a result of a 5 year experience study. The investment return assumption, inflation assumption, rate of salary increases, payroll growth assumption, post-retirement mortality assumption for all groups, retirement rates and termination rates were revised for both SCRS and PORS. The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method for both SCRS and PORS. In addition, there were minor changes to the rates of disability incidence for SCRS.

July 1, 2011, valuation adjusted to reflect pension reform legislation in Act 278.

Effective 7-1-2012, disability and retirement rates were updated to more appropriately reflect the anticipated plan experience as a result of the enactment of Act 278. Act 278 became law in June 2012, which resulted in substantial changes to the benefit provisions of both SCRS and PORS.

Effective 7-1-2016, actuarial assumptions were changed as a result of a 5 year experience study. The inflation assumption, rate of salary increases, payroll growth assumption, post-retirement mortality tables and pre-retirement mortality assumption were revised for both SCRS and PORS. The actuarial valuation of asset method was changed such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year for both SCRS and PORS. In addition, there were changes to the rates of withdrawal and retirement for SCRS and changes to the rates of retirement and disability for PORS.

# Solvency Test

(Amounts expressed in thousands)

GARS	July 1,	Actuarial Accrued Liability				Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
		Active Member	Retirants & Beneficiaries	Active & Inactive Members (Employer Financed)			Active	Retirants	ER Financed
		Contributions							
	2016	\$ 7,334	\$ 57,314	\$ 10,348	\$ 35,926	100%	49.9%	0%	
	2015	7,295	58,384	8,830	37,312	100%	51.4%	0%	
	2014	7,358	58,098	9,058	37,646	100%	52.1%	0%	
	2013	7,164	59,592	8,883	38,033	100%	51.8%	0%	
	2012	7,267	58,213	8,852	39,233	100%	54.9%	0%	
	2011	7,100	58,291	9,213	41,484	100%	59.0%	0%	
	2010	7,265	53,486	7,920	43,712	100%	68.1%	0%	
	2009	6,822	54,586	7,083	45,891	100%	71.6%	0%	
	2008	7,265	53,240	8,617	47,189	100%	75.0%	0%	
	2007	7,735	54,115	9,164	46,925	100%	72.4%	0%	
<b>JSRS</b>	2016	\$ 25,082	\$ 200,323	\$ 57,899	\$ 158,837	100%	66.8%	0%	
	2015	24,650	186,481	58,544	157,983	100%	71.5%	0%	
	2014	22,926	184,625	56,742	152,839	100%	70.4%	0%	
	2013	21,369	178,526	57,093	147,648	100%	70.7%	0%	
	2012	20,005	177,483	54,241	145,604	100%	70.8%	0%	
	2011	18,864	169,841	54,809	144,927	100%	74.2%	0%	
	2010	17,816	150,696	47,311	142,871	100%	83.0%	0%	
	2009	18,431	144,464	51,468	141,797	100%	85.4%	0%	
	2008	17,367	141,510	54,529	138,323	100%	85.5%	0%	
	2007	18,999	149,435	60,954	132,990	100%	76.3%	0%	

Changes in the investment return assumptions were adopted by the Board for the 7-1-2008 valuation for all plans.

Effective 7-1-2011, actuarial assumptions were changed as a result of a 5 year experience study. The investment return assumption, inflation assumption and the mortality assumption were revised for both GARS and JSRS. The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method for both GARS and JSRS.

Effective 7-1-2012, Act 278 became law in June 2012 and increased the member contribution rate from 10 percent of pay to 11 percent of pay effective 1-1-2013 for GARS members. The legislation also closed GARS to new members. Newly elected members of the General Assembly on or after the general election of 2012 shall elect to become members of SCRS, State ORP or non-membership.

Effective 7-1-2016, actuarial assumptions were changed as a result of a 5 year experience study. The inflation assumption, post-retirement mortality tables and pre-retirement mortality assumption were revised for both GARS and JSRS. The actuarial valuation of asset method was changed such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year for both GARS and JSRS. In addition, there were changes to the disability rates for GARS and changes to the rate of salary increases, COLA, payroll growth assumption, rates of retirement and disability for JSRS.

## Solvency Test

(Amounts expressed in thousands)

SCNG	July 1,	Actuarial Accrued Liability				Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
		Active Member Contributions	Retirants & Beneficiaries	Active & Inactive Members (Employer Financed)			Active	Retirants	ER Financed
	2016	\$ 0	\$ 34,562	\$ 29,883	\$ 26,751	N/A	77.4%	0%	
	2015	0	33,521	28,620	25,727	N/A	76.7%	0%	
	2014	0	33,739	28,361	24,029	N/A	71.2%	0%	
	2013	0	33,590	27,986	22,208	N/A	66.1%	0%	
	2012	0	32,989	27,953	20,814	N/A	63.1%	0%	
	2011	0	32,038	28,350	20,138	N/A	62.9%	0%	
	2010	0	28,492	25,661	19,458	N/A	68.3%	0%	
	2009	0	27,558	25,863	18,600	N/A	67.5%	0%	
	2008	0	25,554	27,980	17,426	N/A	68.2%	0%	
	2007	0	24,627	31,290	15,937	N/A	64.7%	0%	

Changes in the investment return assumptions were adopted by the Board for the 7-1-2008 valuation for all plans.

Effective 7-1-2011, actuarial assumptions were changed as a result of a 5 year experience study. The investment return assumption, inflation assumption and the mortality assumption were revised for SCNG. The actuarial valuation of asset method was changed from one that recognized the difference between the expected and actual return on the market value of assets over a 10-year period, to a modified 5-year asset smoothing method for SCNG.

Effective 7-1-2016, actuarial assumptions were changed as a result of a 5 year experience study. The inflation assumption, rate of salary increases, payroll growth assumption, post-retirement mortality tables, pre-retirement mortality assumption and rates of withdrawal, disability and retirement were revised for SCNG. The actuarial valuation of asset method was changed such that each year's investment gain or loss (determined on a market value of asset basis) is recognized over a closed five-year period at the rate of 20% per year for SCNG.

# Summary of Basic Provisions

As of June 30, 2016

SCRS	PORS	GARS	JSRS	SCNG
<b>1. Membership</b>				
<p>All permanent, full-time and part-time employees of covered employers must join unless specifically exempted by statute or are eligible and elect to participate in the State ORP.</p> <p>Individuals first elected to serve in the General Assembly in the general election in November 2012 or after must elect membership in either SCRS or State ORP or elect to be a nonmember.</p>	<p>To be eligible for PORS membership, an employee must be required by the terms of his employment, by election or appointment, to preserve public order, protect life and property, and detect crimes in the state; to prevent and control property destruction by fire; be a coroner or deputy coroner in a full-time permanent position; or be a peace officer employed by the SC Department of Corrections, the SC Department of Juvenile Justice, or the SC Department of Mental Health. Probate judges and coroners may elect membership in PORS. Magistrates are required to participate in PORS for service as a magistrate. PORS members, other than magistrates and probate judges, must also earn at least \$2,000 per year and devote at least 1,600 hours per year to this work, unless exempted by statute.</p>	<p>Generally all persons are required to participate upon taking office as a member of the General Assembly unless exempted by Statue.</p> <p>Closed to new members. Individuals first elected to serve in the General Assembly in the general election in November 2012 or after must elect membership in either SCRS or State ORP or elect to be a nonmember.</p>	<p>All solicitors, circuit public defenders, judges of a Circuit or Family Court, and justices of the Court of Appeals and Supreme Court are required to participate upon taking office prior to age 72 unless exempted by statute.</p> <p>Effective July 1, 2014, the definition of judge is expanded to include administrative law judges. Administrative law judges who have not retired are allowed to become members.</p>	<p>Individuals serving in the South Carolina National Guard.</p>
<b>2. Employee Contributions</b>				
<p><b>Class II</b> 8.66% of earnable compensation</p> <p><b>Class III</b> 8.66% of earnable compensation</p> <p>Effective January 1, 2013, earnable compensation does not include pay for non-mandatory overtime.</p>	<p><b>Class I</b> \$21 per month</p> <p><b>Class II</b> 9.24% of earnable compensation</p> <p><b>Class III</b> 9.24% of earnable compensation</p>	<p>11% of earnable compensation</p>	<p>10% of earnable compensation</p>	<p>Not applicable as this is a non-contributory plan</p>

SCRS	PORS	GARS	JSRS	SCNG
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### 3. Employer Contributions

<b>Class II &amp; III</b> 11.41% of earnable compensation	<b>Class I</b> 7.8% of earnable compensation	Annual lump-sum appropriation	47.52% of earnable compensation	Annual lump-sum appropriation
<b>Death Benefit Program</b> 0.15% of earnable compensation	<b>Class II &amp; III</b> 13.84% of earnable compensation	<b>Death Benefit Program</b> Included within annual lump-sum appropriation	<b>Death Benefit Program</b> 0.45% of earnable compensation	<b>Death Benefit Program</b> Not applicable
<b>Accidental Death Program</b> Not applicable	<b>Death Benefit Program</b> 0.2% of earnable compensation	<b>Accidental Death Program</b> Not applicable	<b>Accidental Death Program</b> Not applicable	<b>Accidental Death Program</b> Not applicable
	<b>Accidental Death Program</b> 0.2% of earnable compensation			

### 4. Requirements for Service Annuity

<b>Class II</b> 5 years earned service  The member is entitled to a deferred reduced annuity at age 60.	<b>Class II</b> 5 years earned service  The member is entitled to a deferred annuity at age 55.	8 years of service  The member is entitled to a deferred annuity at age 60.	Members are vested in the system with 10 years earned service in position of judge; 8 years earned service in position of solicitor or circuit public defender.  For vested members who joined prior to 7/1/2004, member is eligible for a deferred annuity at age 55. For members who joined after 6/30/2004, member is eligible for a deferred annuity at age 65.	20 years total creditable military service, at least 15 of which must have been served in the South Carolina National Guard. Additionally, the last 10 years of service must have been served in the South Carolina National Guard.
<b>Class III</b> 8 years earned service  The member is entitled to a deferred reduced annuity at age 60.	<b>Class III</b> 8 years earned service			

### 5. Normal Retirement Age

Not applicable	Not applicable	Not applicable	Age 60	Not applicable
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### 6. Requirements for Full Service Retirement

<b>Class II</b> Age 65 or 28 years of credited service. The member must have a minimum of five years of earned service to qualify for retirement.	<b>Class II</b> Age 55 with 5 years of service or 25 years of credited service. The member must have a minimum of five years of earned service to qualify for retirement.	Age 60 or 30 years of service  Age 70 or 30 years of service while continuing to serve in the General Assembly	Age 70 with 15 years of service  Age 65 with 20 years of service  25 years of service as judge regardless of age  24 years of service as solicitor or circuit public defender regardless of age	Age 60 provided the member was honorably discharged from active duty with at least 20 years of total creditable military service. Of that 20 years of service, 15 years, and the final 10 years, must have been served in the South Carolina National Guard.
<b>Class III</b> Age 65 or meet the rule of 90 requirement. This means that the member's age plus the years of service must add up to a total of at least 90. The member must have a minimum of 8 years of earned service to qualify for retirement.	<b>Class III</b> Age 55 or 27 years of credited service. The member must have a minimum of 8 years of earned service to qualify for retirement.		Age 65 with 4 years earned service as judge or solicitor and at least 25 years other service with the state if a member as of 6/30/2004.	

SCRS	PORS	GARS	JSRS	SCNG
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## 7. Early Retirement

<p><b>Class II</b> Age 60 with 5% reduction for each year of age under age 65</p> <p>Age 55 with 25 years of service, reduced 4% for each year of service under 28.</p> <p>The member must have a minimum of five years of earned service to qualify for early retirement.</p> <p><b>Class III</b> Age 60 with 5% reduction for each year under age 65</p> <p>The member must have a minimum of eight years of earned service to qualify for early retirement.</p>	Not applicable	Age 60 with 8 years of service credit	<p>Members are vested in the system with 10 years earned service in position of judge; 8 years earned service in position of solicitor or circuit public defender.</p> <p>For vested members who joined prior to 7/1/2004, member is eligible for a deferred annuity at age 55. For members who joined after 6/30/2004, member is eligible for a deferred annuity at age 65.</p>	Not applicable
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## 8. Formula for Normal Service Retirement

<p><b>Class I</b> 1.45% of Average Final Compensation times years of credited service</p> <p><b>Class II</b> 1.82% of Average Final Compensation (AFC) times years of credited service (annual benefit amount). AFC is the average annual earnable compensation during 12 consecutive quarters and includes an amount for up to 45 days termination pay at retirement for unused annual leave.</p> <p><b>Class III</b> 1.82% of Average Final Compensation times years of credited service. AFC is the average annual earnable compensation during 20 consecutive quarters and termination pay for unused annual leave at retirement is not included.</p>	<p><b>Class I</b> \$10.97 per month for each year of service</p> <p><b>Class II</b> 2.14% of Average Final Compensation (AFC) times years of credited service (annual benefit amount). AFC is the average annual compensation during 12 consecutive quarters and includes an amount for up to 45 days termination pay for unused annual leave.</p> <p><b>Class III</b> 2.14% of Average Final Compensation times years of credited service. AFC is the average annual earnable compensation during 20 consecutive quarters and termination pay for unused annual leave at retirement is not included.</p>	4.82% of earnable compensation times years of credited service	<p>Annual allowance of 71.3% of the current active salary of the member's position. Benefit formula increases by 2.67% for each year of active service over 25 years for judges or over 24 years for solicitors or circuit public defenders. The monthly retirement allowance may not exceed 90% of the current active salary for the member's position. Upon retirement, a member will receive an additional benefit equal to employee contributions and accumulated interest remitted after reaching the maximum 90% benefit.</p>	For 20 years of service, retirees receive a \$50 monthly benefit. For each year of service beyond the 20 years, up to 30 years of service, the retiree receives an additional \$5. The maximum monthly benefit a retiree can receive is \$100.
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SCRS	PORS	GARS	JSRS	SCNG
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## 9. Requirements for Disability Retirement

<p><b>Class II</b> Permanent incapacity to perform regular duties of the member's job; 5 years of earned service, unless injury is job related.</p>	<p><b>Class II</b> Permanent incapacity to perform regular duties of the member's job; 5 years of earned service, unless injury is job related.</p>	<p>5 years of credited service. Must be disabled based on job specific standard.</p>	<p>5 years of credited service. Must be disabled based on job specific standard.</p>	<p>Not applicable</p>
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<p><b>Class III</b> Permanent incapacity to perform the regular duties of the member's job; 8 years of earned service, unless injury is job related</p>	<p><b>Class III</b> Permanent incapacity to perform regular duties of the member's job; 8 years of earned service, unless injury is job related</p>
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For applications received after 12/31/2013, a member of SCRS will have to be approved for disability benefits from the Social Security Administration in order to be eligible for SCRS disability retirement benefits.

<p>Disability retirement benefit is based on years of credited service at retirement, average final compensation at retirement and the current benefit multiplier for service retirement benefits. Minimum benefit of 15% of AFC at any age.</p>	<p>Disability retirement benefit is based on a projection of service credit to age 55 or 25 years of service credit, whichever is less, AFC at retirement and the current benefit multiplier for service retirement benefits. Minimum benefit of 15% of AFC at any age.</p>	<p>The disability retirement benefit is based on the greater of the following options:</p> <ol style="list-style-type: none"> <li>Service benefit based upon actual credited service or</li> <li>50% of service benefit based on projection of service to earlier of age 60 or 35 years of service.</li> </ol>	<p>The disability retirement benefit is based on the service retirement formula.</p>	<p>Not applicable</p>
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SCRS	PORS	GARS	JSRS	SCNG
<b>11. Benefit Options</b>				
<p><b>Option A (Maximum/Retiree Only)</b> Formula benefit as calculated in item 8. Non-recovered contributions paid upon death.</p> <p><b>Option B (100% - 100% Joint Retiree/Survivor)</b> Provides a reduced (from Option A) lifetime benefit that upon retiree's death continues to retiree's beneficiary. This option is subject to non-spousal beneficiary limitations based on state statute and an Internal Revenue Code formula.</p> <p><b>Option C (100% - 50% Joint Retiree/Survivor)</b> Provides a reduced (from Option A) lifetime benefit that upon retiree's death will continue to retiree's beneficiary at 50% of the retiree's annuity.</p> <p>Note: If a retiree selects Option B or Option C and all of the retiree's beneficiaries predecease the retiree, the retiree's benefit will revert to Option A.</p>	<p><b>Option A (Maximum/Retiree Only)</b> Formula benefit as calculated in item 8. Non-recovered contributions paid upon death.</p> <p><b>Option B (100% - 100% Joint Retiree/Survivor)</b> Provides a reduced (from Option A) lifetime benefit that upon retiree's death continues to retiree's beneficiary. This option is subject to non-spousal beneficiary limitations based on state statute and an Internal Revenue Code formula.</p> <p><b>Option C (100% - 50% Joint Retiree/Survivor)</b> Provides a reduced (from Option A) lifetime benefit that upon retiree's death will continue to retiree's beneficiary at 50% of the retiree's annuity.</p> <p>Note: If a retiree selects Option B or Option C and all of the retiree's beneficiaries predecease the retiree, the retiree's benefit will revert to Option A.</p>	<p><b>Maximum Benefit (Retiree Only)</b> Formula benefit as calculated in item 8. Non-recovered contributions paid upon death.</p> <p><b>Option 1</b> Provides a reduced (from the Maximum Benefit) lifetime benefit that upon retiree's death continues to retiree's beneficiary. Benefit will not revert to Maximum if all of the retiree's beneficiaries predecease the retiree.</p> <p><b>Option 2</b> Provides a reduced (from the Maximum Benefit) lifetime benefit that upon retiree's death will continue to retiree's beneficiary at 50% of the retiree's annuity. Benefit will not revert to Maximum if all of the retiree's beneficiaries predecease the retiree.</p> <p><b>Revert to Maximum (1A or 2A)</b> This feature will allow benefits to be changed to the Maximum Benefit if the retiree selects Option 1 or Option 2 and all of the retiree's beneficiaries predecease the retiree.</p>	<p><b>Maximum Benefit (Retiree/One-Third Spouse)</b> Formula as calculated in item 8. Continued annuity of one-third of member's benefit to a spouse beneficiary upon death of retiree or return of contributions to a designated non-spouse beneficiary.</p> <p><b>Optional Allowance</b> Provides a reduced (from the Maximum Benefit) lifetime annuity that upon the retiree's death will continue at one-third of the retiree's annuity to a non-spouse beneficiary (or in equal shares to multiple beneficiaries).</p>	<p>Formula benefit as calculated in item 8.</p>

## 12. Deferred Retirement Option Programs

### Class II

Not applicable

Not applicable

TERI is a deferred retirement option program (DROP). Upon meeting normal retirement eligibility, a member can elect to retire and continue working under the TERI program for a maximum of five years, after which employment will cease. During the TERI participation, the retirement annuity is not paid to the TERI retirees, but monthly benefits are accumulated in TERI accounts and are distributed to the members upon termination of employment. For members retiring after June 30, 2005, a payment for annual leave is not included in calculating benefits. Upon termination, however, benefits are increased prospectively to include payment for up to 45 days annual leave paid at termination of employment. No interest is credited to the TERI account. TERI participants who entered the program after June 30, 2005, must continue to contribute at the same rate as active members. No additional service credit is earned during this period and participants are ineligible for disability retirement benefits. The TERI program will end effective June 30, 2018. New enrollees in the TERI program after June 30, 2012, must end their participation within 5 years after their retirement date or June 30, 2018, whichever is earlier.

A JSRS member who has not reached age 60, but is eligible to retire and receive the 90 percent maximum JSRS annuity may retire and continue to serve as a judge, solicitor, or circuit public defender. However, the monthly annuity will be deferred, without interest, until the member reaches age 60. Payout of the deferred annuity will be made when the retired JSRS member reaches the normal retirement age of 60.

Not applicable

Employee and employer contributions must continue to be paid while a member is participating in the JSRS deferred retirement program, but no additional service is earned.

### Class III

TERI program is not available.

### 13. Return to Work Provisions

There is no earning limitation for members who retired prior to 1/1/2013. For members retiring after 1/1/2013, in order to return to work for a covered employer after retirement, the member must first have a complete, bona fide severance or termination of employment. After 30 days of retirement, he may be hired by an employer covered by one of the retirement systems administered by PEBA Retirement Benefits. If the member is under age 62 at retirement and returns to covered employment, he will be subject to a \$10,000 per year earnings limitation. A member can earn up to \$10,000 per year and continue to receive his monthly annuity. If wages earned exceed \$10,000 in a calendar year, the monthly annuity will be suspended for the remainder of that year. The \$10,000 earnings limitation does not apply to a retired member who receives compensation for service as an elected official, service as an appointee of the Governor with confirmation by the Senate, or service by appointment or election by the General Assembly. A retired member may return to covered employment without affecting his monthly annuity if he is a certified teacher and is employed by a school district to teach in the classroom in his area of certification. The \$10,000 earnings limitation does not apply if the State Department of Education determines that no qualified, non-retired member is available for employment in the position, and 1) that a certified teacher is teaching in

[Continued on Next Page](#)

There is no earning limitation for members who retired prior to 1/1/2013. For members retiring after 1/1/2013, in order to return to work for a covered employer after retirement, the member must first have a complete, bona fide severance or termination of employment. After 30 days of retirement, he may be hired by an employer covered by one of the retirement systems administered by PEBA Retirement Benefits. If the member is under age 57 at retirement and returns to covered employment, he will be subject to a \$10,000 per year earnings limitation. A member can earn up to \$10,000 per year and continue to receive his monthly annuity. If wages earned exceed \$10,000 in a calendar year, the monthly annuity will be suspended for the remainder of that year. The \$10,000 earnings limitation does not apply to a retired member who receives compensation for service as an elected official, service as an appointee of the Governor with confirmation by the Senate, or service by appointment or election by the General Assembly.

An active GARS member who has reached age 70 or has 30 years of service credit may retire and begin receiving a GARS retirement annuity while continuing to serve in office. The retired GARS member will receive a retirement annuity in lieu of a per diem salary and additional line item pay for certain positions. Generally, a retired member of GARS may return to work after retirement with no limit on the dollar amount that may be earned as compensation; however, certain conditions and restrictions may apply to employers covered by SCRS, PORS, GARS and JSRS.

A member who is age 60 and eligible to receive the maximum monthly benefit, may retire and receive a retirement benefit while continuing to serve as a judge, solicitor, or circuit public defender until the end of the calendar year in which the member reaches age 72. Employee and employer contributions must continue to be paid as if the retiree was an active contributing member, but no additional service credit accrues and no additional interest is credited to their retirement account. Prior to July 1, 2014, a retired judge may continue to receive a retirement benefit while employed by a public institution of education, provided the judge does not contribute to or receive service credit in SCRS. This exemption was repealed effective July 1, 2014. Effective July 1, 2014, a retired member who has been retired for 30 days may be rehired by an SCRS or PORS employer and earn up to \$10,000 per year. The earnings limit does not apply to members who retired prior to July 1, 2014, were at least 62 at retirement or are serving as appointed or elected official. Employee and employer contributions must continue to be paid as if the member were active in SCRS or PORS; however, the member cannot be an active member and does not accrue service credit.

Not applicable

**Return to Work Provisions (continued)**

a critical academic need area or a geographic need area as defined by the State Board of Education, or 2) that a retired certified school teacher or certified employee is employed in a school or school district that has received a "below average" or "unsatisfactory" academic performance rating pursuant to the Education Accountability Act. After approval is received from the Department of Education, school districts must notify PEBA Retirement Benefits of the member's exemption from the earnings limitation.

**14. Post Retirement Increase**

Eligible annuitant payees receive an annual benefit adjustment equal to the lesser of 1% or \$500.	Eligible annuitant payees receive an annual benefit adjustment equal to the lesser of 1% or \$500.	Retired member receives benefit based on current salary for member's position.	Retired member receives benefit based on current salary for member's position.	Post retirement increases are not provided.
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**15. Accidental Death Program**

Not applicable	Provides 50% of earnable compensation at time of accidental death in the line of duty as an annuity to either the surviving spouse, children, or parents. The annuity to surviving children ends upon each child's 18th birthday.	Not applicable	Not applicable	Not applicable
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SCRS	PORS	GARS	JSRS	SCNG
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### 16. Death Benefit Program

Lump-sum payment equal to one year's salary payable to the beneficiary upon the death of an active or working retired contributing member with at least one year of service.	Lump-sum payment equal to one year's salary payable to the beneficiary upon the death of an active member or working retired contributing member with at least one year of service.	Lump-sum payment equal to one year's salary payable to the beneficiary upon the death of an active member with at least one year of service.	Lump-sum payment equal to one year's salary payable to the beneficiary upon the death of an active member with at least one year of service.	Not applicable
No service requirement for death resulting from an injury arising out of the actual performance of duties for an active member.	No service requirements for death resulting from an injury arising out of the actual performance of duties for an active member.	No service requirement for death resulting from an injury arising out of the actual performance of duties for an active member.	No service requirement for death resulting from an injury arising out of the actual performance of duties for an active member.	
Lump-sum payment to retiree's beneficiary of up to \$6,000 based upon years of service at retirement. TERI participants and working retired contributing members are eligible for an increased death benefit payment equal to their annual salary in lieu of the standard retired member benefit.	Lump-sum payment to retiree's beneficiary of up to \$6,000 based upon years of service at retirement. Retired contributing members are eligible for an increased death benefit payment equal to their annual salary in lieu of the standard retired member benefit.	Lump-sum payment to retiree's beneficiary of up to \$3,000 based upon years of service at retirement.	Lump-sum payment to retiree's beneficiary of up to \$3,000 based upon years of service at retirement.	

### 17. Withdrawal of Employee Contributions

Accumulated contributions, plus interest, payable upon request 90 days after termination of all covered employment.	Accumulated contributions, plus interest, payable upon request 90 days after termination of all covered employment.	Accumulated contributions, plus interest, paid as promptly as feasible upon request after termination of all covered employment.	Accumulated contributions, plus interest, paid as promptly as feasible upon request after termination of all covered employment.	Not applicable as this is a non-contributory plan.
Effective July 1, 2012, no interest is accrued on inactive accounts.	Effective July 1, 2012, no interest is accrued on inactive accounts.	Effective July 1, 2012, no interest is accrued on inactive accounts.	Effective July 1, 2012, no interest is accrued on inactive accounts.	

## 18. Actuarial Cost Method

The individual Entry Age Normal cost method is used for the actuarial valuation of the retirement systems for funding purposes. Under this cost method, the cost of each member's projected pension benefit is allocated on a level percent of payroll over the member's projected service with the Retirement System. Employers also finance the unfunded actuarial accrued liability as a level percentage of pay over a funding period that does not exceed 30 years. This method was selected because it is the method that will produce the most level contributions as a percentage of payroll from year to year. It is also the method that most equitably allocates pension costs among various generations of taxpayers.

The individual Entry Age Normal cost method is used for the actuarial valuation of the retirement systems for funding purposes. Under this cost method, the cost of each member's projected pension benefit is allocated on a level percent of payroll over the member's projected service with the Retirement System. Employers also finance the unfunded actuarial accrued liability as a level percentage of pay over a funding period that does not exceed 30 years. This method was selected because it is the method that will produce the most level contributions as a percentage of payroll from year to year. It is also the method that most equitably allocates pension costs among various generations of taxpayers.

The individual Entry Age Normal cost method is used for the actuarial valuation of the retirement systems for funding purposes. Under this cost method, the cost of each member's projected pension benefit is allocated on a level percent of payroll over the member's projected service with the Retirement System. Employers also finance the unfunded actuarial accrued liability as a level percentage of pay over a funding period that does not exceed 30 years. This method was selected because it is the method that will produce the most level contributions as a percentage of payroll from year to year. It is also the method that most equitably allocates pension costs among various generations of taxpayers.

The individual Entry Age Normal cost method is used for the actuarial valuation of the retirement systems for funding purposes. Under this cost method, the cost of each member's projected pension benefit is allocated on a level percent of payroll over the member's projected service with the Retirement System. Employers also finance the unfunded actuarial accrued liability as a level percentage of pay over a funding period that does not exceed 30 years. This method was selected because it is the method that will produce the most level contributions as a percentage of payroll from year to year. It is also the method that most equitably allocates pension costs among various generations of taxpayers.

The individual Entry Age Normal cost method is used for the actuarial valuation of the retirement systems for funding purposes. Under this cost method, the cost of each member's projected pension benefit is allocated on a level percent of payroll over the member's projected service with the Retirement System. Employers also finance the unfunded actuarial accrued liability as a level percentage of pay over a funding period that does not exceed 30 years. This method was selected because it is the method that will produce the most level contributions as a percentage of payroll from year to year. It is also the method that most equitably allocates pension costs among various generations of taxpayers.

The individual Entry Age Normal cost method is also the actuarial cost method used for financial reporting purposes.

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## 19. Funding Policy

Legislative reform was enacted in 2012 and as a result, SC State Statute now establishes the base funding policy for SCRS. Additionally, the State Fiscal Accountability Authority (SFAA) and PEBA Board as trustees and fiduciaries of the plans, have the authority to maintain or adopt further policy changes above the floor, if they should choose to do so.

Legislative reform was enacted in 2012 and as a result, SC State Statute now establishes the base funding policy for PORS. Additionally, the State Fiscal Accountability Authority (SFAA) and PEBA Board as trustees and fiduciaries of the plans, have the authority to maintain or adopt further policy changes above the floor, if they should choose to do so.

The State Fiscal Accountability Authority (SFAA) and PEBA Board as trustees and fiduciaries of the plan are responsible for establishing and maintaining funding policy. The funding policy currently in place was adopted by the Budget and Control Board in April 1996 in an effort to establish and set forth the essential funding goals and methods by which to measure progress toward those goals.

The State Fiscal Accountability Authority (SFAA) and PEBA Board as trustees and fiduciaries of the plan are responsible for establishing and maintaining funding policy. The funding policy currently in place was adopted by the Budget and Control Board in April 1996 in an effort to establish and set forth the essential funding goals and methods by which to measure progress toward those goals.

The State Fiscal Accountability Authority (SFAA) and PEBA Board as trustees and fiduciaries of the plan are responsible for establishing and maintaining funding policy. The funding policy currently in place was adopted by the Budget and Control Board in April 1996 in an effort to establish and set forth the essential funding goals and methods by which to measure progress toward those goals.

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# Statistical Section



# Statistical Section Summary

The objective of the Statistical Section is to provide financial statement users with additional historical perspective, context, and detail to assist in using information presented in the Financial Statements, Notes to the Financial Statements, and Required Supplementary Information to understand and assess the Systems' economic condition. Information reported in the Systems' statistical section is presented in four main categories: Financial Trends Information, Operating Information, Revenue Capacity Information, and Demographic and Economic Information.

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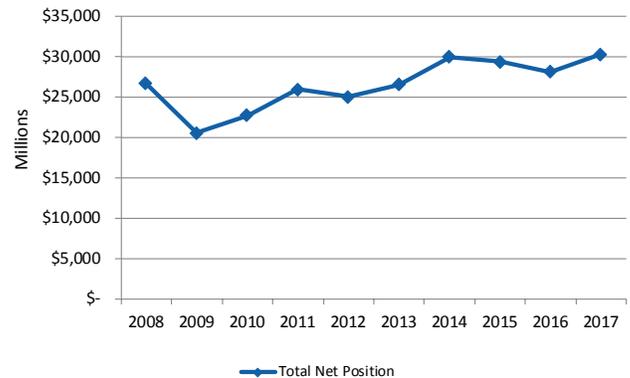
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## Financial Trends Information

*Financial Trends Information* is intended to assist users in understanding and assessing how the Systems' financial position has changed over time. The 10 year summary of fiduciary net position and 10 year schedules of changes in fiduciary net position as well as the additions by source, deductions by type, and benefit expenses by type for the last 10 fiscal years may be considered useful in determining financial trends.

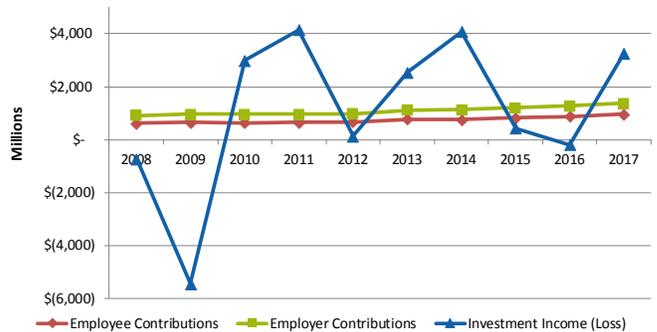
### Trend of Total Fiduciary Net Position Values

A trend of the total fiduciary net position over the past 10 years reflects an overall increase; however, the plans are in a net cash outflow position with benefit payments exceeding contributions; therefore, investment performance must first make up this gap before fiduciary net position can grow. Negative investment returns and relatively flat investment performance realized during fiscal years 2008, 2009, 2012, 2015 and 2016 resulted in decreases in the net position of the portfolio. The increase in 2017 was primarily attributable to positive investment performance.



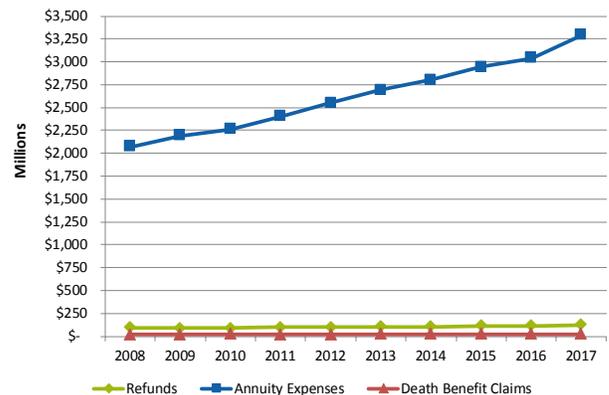
### Trend of Total Pension Trust Funds Additions by Source

The overall trend in the dollar amount of employee and employer contributions has gradually increased primarily due to increases in contribution rates, although changes in the amount of covered payroll have also had an impact. During fiscal year 2013, employee contributions were inflated due to an influx of members purchasing service, therefore employee contributions collected in 2014 decreased. Investment income is much more volatile due to its dependence on the market.



### Trend of Total Pension Trust Funds Deductions by Type

The combined impact of an increase in the number of retired members and benefit adjustments granted to retirees has resulted in a rise in the annuity expense over the past 10 years. In addition, the surge in the amount of distributions paid to members ending their participation in the TERI program had a large effect on the increase in 2017.



# South Carolina Retirement Systems

## 10 Year Summary of Fiduciary Net Position

As of June 30

(Amounts expressed in thousands)

	2017	2016	2015	2014	2013 <sup>1</sup>
<b>Assets</b>					
Cash and cash equivalents, receivables, and prepaid expenses	\$ 3,712,085	\$ 4,979,349	\$ 3,622,210	\$ 4,063,173	\$ 4,023,274
Investments, at fair value	27,995,164	24,790,218	27,093,961	26,754,819	24,587,950
Securities lending cash collateral invested	123,275	55,737	70,177	72,645	106,633
Capital assets, net of accumulated depreciation	2,537	2,741	3,005	2,912	3,083
<b>Total Assets</b>	<u>31,833,061</u>	<u>29,828,045</u>	<u>30,789,353</u>	<u>30,893,549</u>	<u>28,720,940</u>
<b>Liabilities</b>					
Deferred retirement benefits	95,327	71,693	68,104	56,901	68,344
Obligations under securities lending	123,275	55,737	70,177	72,645	106,633
Other liabilities	1,397,531	1,633,962	1,345,382	836,292	1,645,150
<b>Total Liabilities</b>	<u>1,616,133</u>	<u>1,761,392</u>	<u>1,483,663</u>	<u>965,838</u>	<u>1,820,127</u>
<b>Net Position Restricted for Pensions</b>	<u>\$ 30,216,928</u>	<u>\$ 28,066,653</u>	<u>\$ 29,305,690</u>	<u>\$ 29,927,711</u>	<u>\$ 26,900,813</u>

	2012 <sup>2</sup>	2011	2010	2009	2008
<b>Assets</b>					
Cash and cash equivalents, receivables, and prepaid expenses	\$ 3,416,972	\$ 3,977,880	\$ 5,298,443	\$ 3,403,752	\$ 2,835,196
Investments, at fair value	23,157,144	23,870,891	18,829,568	17,915,982	24,697,700
Securities lending cash collateral invested	184,025	229,161	324,593	1,845,862	3,796,183
Capital assets, net of accumulated depreciation	2,984	3,103	3,221	3,340	3,459
<b>Total Assets</b>	<u>26,761,125</u>	<u>28,081,035</u>	<u>24,455,825</u>	<u>23,168,936</u>	<u>31,332,538</u>
<b>Liabilities</b>					
Deferred retirement benefits	386,302	364,005	323,093	431,503	552,260
Obligations under securities lending	184,025	229,161	324,593	1,845,862	3,796,183
Other liabilities	1,211,693	1,596,020	1,116,479	399,193	351,050
<b>Total Liabilities</b>	<u>1,782,020</u>	<u>2,189,186</u>	<u>1,764,165</u>	<u>2,676,558</u>	<u>4,699,493</u>
<b>Net Position Restricted for Pensions</b>	<u>\$ 24,979,105</u>	<u>\$ 25,891,849</u>	<u>\$ 22,691,660</u>	<u>\$ 20,492,378</u>	<u>\$ 26,633,045</u>

<sup>1</sup> In accordance with GASB 67, financial statements for fiscal year 2013 were restated to report a liability only for benefits due but not yet distributed to members who had ended their participation in the DROP program at June 30. Also, in an effort to more closely align with RSIC and their investment advisor, Global asset allocation and certain derivative investments such as swaps, options and futures were reclassified for fiscal year 2013 to conform to the presentation in FY 2014.

<sup>2</sup> Certain assets held in strategic partnerships were reclassified for fiscal year 2012 to conform to the change in presentation for fiscal year 2013. In an effort to conform to investment reporting by the RSIC; cash, short duration and high yield investments held in the strategic partnerships that were previously classified as alternatives are now presented in the respective categories of cash and cash equivalents, short term securities and domestic fixed income.

# South Carolina Retirement System

## 10 Year Schedule of Changes in Fiduciary Net Position

Year Ended June 30  
(Amounts expressed in thousands)

	2017	2016	2015	2014	2013 <sup>1</sup>
<b>Additions</b>					
Employee contributions	\$ 826,543	\$ 754,153	\$ 716,107	\$ 652,631	\$ 674,783
Employer contributions	1,168,847	1,072,659	1,022,478	962,798	948,157
Investment income (loss)	2,791,215	(165,394)	374,152	3,517,324	2,195,648
Other income	393	611	514	587	657
<b>Total Additions</b>	<u>4,786,998</u>	<u>1,662,029</u>	<u>2,113,251</u>	<u>5,133,340</u>	<u>3,819,245</u>
<b>Deductions</b>					
Annuity benefits	2,907,666	2,668,819	2,590,806	2,462,146	2,368,510
Refunds	105,169	93,694	95,104	90,250	87,212
Death benefits	22,677	20,659	20,144	19,240	19,133
Administrative & other expenses	15,019	14,323	13,890	14,235	16,629
<b>Total Deductions</b>	<u>3,050,531</u>	<u>2,797,495</u>	<u>2,719,944</u>	<u>2,585,871</u>	<u>2,491,484</u>
<b>Net Increase (Decrease) in Net Position</b>	<u>1,736,467</u>	<u>(1,135,466)</u>	<u>(606,693)</u>	<u>2,547,469</u>	<u>1,327,761</u>
<b>Net Position Restricted for Pensions</b>					
Beginning of year	<u>23,996,362</u>	<u>25,131,828</u>	<u>25,738,521</u>	<u>23,191,052</u>	<u>21,863,291</u>
End of year	<u>\$ 25,732,829</u>	<u>\$ 23,996,362</u>	<u>\$ 25,131,828</u>	<u>\$ 25,738,521</u>	<u>\$ 23,191,052</u>
<hr/>					
	2012	2011	2010	2009	2008
<b>Additions</b>					
Employee contributions	\$ 586,818	\$ 562,170	\$ 561,261	\$ 564,872	\$ 540,872
Employer contributions	824,652	808,343	818,523	827,502	774,269
Investment income (loss)	109,307	3,598,069	2,612,663	(4,754,668)	(641,196)
Other income	733	884	957	1,233	1,321
<b>Total Additions</b>	<u>1,521,510</u>	<u>4,969,466</u>	<u>3,993,404</u>	<u>(3,361,061)</u>	<u>675,266</u>
<b>Deductions</b>					
Annuity benefits	2,256,519	2,134,031	2,014,418	1,956,446	1,853,892
Refunds	83,134	84,591	75,814	73,882	79,027
Death benefits	18,295	16,485	19,921	17,908	17,617
Administrative & other expenses	21,683	20,467	19,593	20,371	20,752
<b>Total Deductions</b>	<u>2,379,631</u>	<u>2,255,574</u>	<u>2,129,746</u>	<u>2,068,607</u>	<u>1,971,288</u>
<b>Net Increase (Decrease) in Net Position</b>	<u>(858,121)</u>	<u>2,713,892</u>	<u>1,863,658</u>	<u>(5,429,668)</u>	<u>(1,296,022)</u>
<b>Net Position Restricted for Pensions</b>					
Beginning of year	<u>22,395,029</u>	<u>19,681,137</u>	<u>17,817,479</u>	<u>23,247,147</u>	<u>24,543,169</u>
End of year	<u>\$ 21,536,908</u>	<u>\$ 22,395,029</u>	<u>\$ 19,681,137</u>	<u>\$ 17,817,479</u>	<u>\$ 23,247,147</u>

<sup>1</sup> In accordance with GASB 67, Annuities reported in fiscal year 2013 were restated to include only DROP amounts actually distributed to participants as well as amounts due but not yet distributed. Also in accordance with GASB 67, RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014.

# Police Officers Retirement System

## 10 Year Schedule of Changes in Fiduciary Net Position

Year Ended June 30  
(Amounts expressed in thousands)

	2017	2016	2015	2014	2013 <sup>1</sup>
<b>Additions</b>					
Employee contributions	\$ 127,840	\$ 115,188	\$ 106,854	\$ 96,004	\$ 97,164
Employer contributions	192,006	175,223	166,451	155,608	143,389
Investment income (loss)	455,914	(24,636)	58,705	538,386	329,467
Other income	1,293	1,192	1,083	2,286	3,043
<b>Total Additions</b>	<u>777,053</u>	<u>266,967</u>	<u>333,093</u>	<u>792,284</u>	<u>573,063</u>
<b>Deductions</b>					
Annuity benefits	354,749	339,536	324,829	313,216	297,631
Refunds	19,964	19,178	17,453	16,184	14,983
Death benefits	2,104	1,960	2,150	2,410	1,985
Administrative & other expenses	2,149	2,082	1,938	1,820	2,006
<b>Total Deductions</b>	<u>378,966</u>	<u>362,756</u>	<u>346,370</u>	<u>333,630</u>	<u>316,605</u>
<b>Net Increase (Decrease) in Net Position</b>	<u>398,087</u>	<u>(95,789)</u>	<u>(13,277)</u>	<u>458,654</u>	<u>256,458</u>
<b>Net Position Restricted for Pensions</b>					
<b>Beginning of year</b>	<u>3,876,036</u>	<u>3,971,825</u>	<u>3,985,102</u>	<u>3,526,448</u>	<u>3,269,990</u>
<b>End of year</b>	<u>\$ 4,274,123</u>	<u>\$ 3,876,036</u>	<u>\$ 3,971,825</u>	<u>\$ 3,985,102</u>	<u>\$ 3,526,448</u>

	2012	2011	2010	2009	2008
<b>Additions</b>					
Employee contributions	\$ 84,470	\$ 79,334	\$ 77,051	\$ 77,014	\$ 76,907
Employer contributions	134,299	129,314	123,163	124,148	114,862
Investment income (loss)	17,198	519,531	362,566	(638,389)	(85,415)
Other income	1,957	1,944	1,308	1,671	52
<b>Total Additions</b>	<u>237,924</u>	<u>730,123</u>	<u>564,088</u>	<u>(435,556)</u>	<u>106,406</u>
<b>Deductions</b>					
Annuity benefits	265,582	244,443	224,977	211,873	195,989
Refunds	15,162	14,902	13,673	13,753	13,754
Death benefits	1,851	1,984	2,019	1,720	2,068
Administrative & other expenses	2,872	2,735	2,577	2,537	2,505
<b>Total Deductions</b>	<u>285,467</u>	<u>264,064</u>	<u>243,246</u>	<u>229,883</u>	<u>214,316</u>
<b>Net Increase (Decrease) in Net Position</b>	<u>(47,543)</u>	<u>466,059</u>	<u>320,842</u>	<u>(665,439)</u>	<u>(107,910)</u>
<b>Net Position Restricted for Pensions</b>					
<b>Beginning of year</b>	<u>3,317,533</u>	<u>2,851,474</u>	<u>2,530,632</u>	<u>3,196,071</u>	<u>3,303,981</u>
<b>End of year</b>	<u>\$ 3,269,990</u>	<u>\$ 3,317,533</u>	<u>\$ 2,851,474</u>	<u>\$ 2,530,632</u>	<u>\$ 3,196,071</u>

<sup>1</sup>In accordance with GASB 67, RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014.

# General Assembly Retirement System

## 10 Year Schedule of Changes in Fiduciary Net Position

Year Ended June 30  
(Amounts expressed in thousands)

	2017	2016	2015	2014	2013 <sup>1</sup>
<b>Additions</b>					
Employee contributions	\$ 468	\$ 292	\$ 369	\$ 384	\$ 1,091
Employer contributions	4,539	4,501	4,275	4,063	2,831
Investment income (loss)	3,329	(266)	500	4,545	3,111
Other income	19			15	199
<b>Total Additions</b>	<u>8,355</u>	<u>4,527</u>	<u>5,144</u>	<u>9,007</u>	<u>7,232</u>
<b>Deductions</b>					
Annuity benefits	6,678	6,625	6,639	6,799	6,720
Refunds		22		41	3
Death benefits	59	9	21	20	16
Administrative & other expenses	17	165	36	17	20
<b>Total Deductions</b>	<u>6,754</u>	<u>6,821</u>	<u>6,696</u>	<u>6,877</u>	<u>6,759</u>
<b>Net Increase (Decrease) in Net Position</b>	1,601	(2,294)	(1,552)	2,130	473
<b>Net Position Restricted for Pensions</b>					
Beginning of year	30,188	32,482	34,034	31,904	31,431
End of year	<u>\$ 31,789</u>	<u>\$ 30,188</u>	<u>\$ 32,482</u>	<u>\$ 34,034</u>	<u>\$ 31,904</u>
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
<b>Additions</b>					
Employee contributions	\$ 724	\$ 624	\$ 544	\$ 706	\$ 733
Employer contributions	2,532	2,414	2,598	2,495	2,440
Investment income (loss)	172	5,682	4,642	(9,409)	(1,136)
Other income		1	36	84	
<b>Total Additions</b>	<u>3,428</u>	<u>8,721</u>	<u>7,820</u>	<u>(6,124)</u>	<u>2,037</u>
<b>Deductions</b>					
Annuity benefits	6,570	6,528	6,512	6,416	6,181
Refunds	31	57	4	33	102
Death benefits	35	58	6	14	28
Administrative & other expenses	30	179	33	116	64
<b>Total Deductions</b>	<u>6,666</u>	<u>6,822</u>	<u>6,555</u>	<u>6,579</u>	<u>6,375</u>
<b>Net Increase (Decrease) in Net Position</b>	(3,238)	1,899	1,265	(12,703)	(4,338)
<b>Net Position Restricted for Pensions</b>					
Beginning of year	34,669	32,770	31,505	44,208	48,546
End of year	<u>\$ 31,431</u>	<u>\$ 34,669</u>	<u>\$ 32,770</u>	<u>\$ 31,505</u>	<u>\$ 44,208</u>

<sup>1</sup>In accordance with GASB 67, RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014.

# Judges and Solicitors Retirement System

## 10 Year Schedule of Changes in Fiduciary Net Position

Year Ended June 30  
(Amounts expressed in thousands)

	2017	2016	2015	2014	2013 <sup>1</sup>
<b>Additions</b>					
Employee contributions	\$ 2,928	\$ 2,303	\$ 3,153	\$ 2,448	\$ 2,596
Employer contributions	10,534	10,202	10,109	9,659	8,667
Investment income (loss)	16,399	(871)	2,216	19,962	12,605
Other income	253	27	286	195	184
<b>Total Additions</b>	<u>30,114</u>	<u>11,661</u>	<u>15,764</u>	<u>32,264</u>	<u>24,052</u>
<b>Deductions</b>					
Annuity benefits	17,679	16,989	16,832	16,675	15,745
Refunds	629	60			57
Death benefits	293	143	4	10	134
Administrative & other expenses	79	105	71	68	76
<b>Total Deductions</b>	<u>18,680</u>	<u>17,297</u>	<u>16,907</u>	<u>16,753</u>	<u>16,012</u>
<b>Net Increase (Decrease) in Net Position</b>	<u>11,434</u>	<u>(5,636)</u>	<u>(1,143)</u>	<u>15,511</u>	<u>8,040</u>
<b>Net Position Restricted for Pensions</b>					
Beginning of year	<u>140,717</u>	<u>146,353</u>	<u>147,496</u>	<u>131,985</u>	<u>123,945</u>
End of year	<u>\$ 152,151</u>	<u>\$ 140,717</u>	<u>\$ 146,353</u>	<u>\$ 147,496</u>	<u>\$ 131,985</u>
	2012	2011	2010	2009	2008
<b>Additions</b>					
Employee contributions	\$ 2,299	\$ 2,209	\$ 2,343	\$ 2,524	\$ 1,416
Employer contributions	8,414	8,414	8,414	8,414	7,613
Investment income (loss)	783	20,092	14,646	(26,741)	(3,371)
Other income	261	193	114	83	
<b>Total Additions</b>	<u>11,757</u>	<u>30,908</u>	<u>25,517</u>	<u>(15,720)</u>	<u>5,658</u>
<b>Deductions</b>					
Annuity benefits	15,171	14,750	14,168	13,484	12,848
Refunds	134				211
Death benefits	134	128	11	134	256
Administrative & other expenses	111	104	101	104	103
<b>Total Deductions</b>	<u>15,550</u>	<u>14,982</u>	<u>14,280</u>	<u>13,722</u>	<u>13,418</u>
<b>Net Increase (Decrease) in Net Position</b>	<u>(3,793)</u>	<u>15,926</u>	<u>11,237</u>	<u>(29,442)</u>	<u>(7,760)</u>
<b>Net Position Restricted for Pensions</b>					
Beginning of year	<u>127,152</u>	<u>111,226</u>	<u>99,989</u>	<u>129,431</u>	<u>137,191</u>
End of year	<u>\$ 123,359</u>	<u>\$ 127,152</u>	<u>\$ 111,226</u>	<u>\$ 99,989</u>	<u>\$ 129,431</u>

<sup>1</sup>In accordance with GASB 67, Annuities reported in fiscal year 2013 were restated to include only DROP amounts actually distributed to participants as well as amounts due but not yet distributed. Also in accordance with GASB 67, RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014.

# South Carolina National Guard Supplemental Retirement Plan

## 10 Year Schedule of Changes in Fiduciary Net Position

Year Ended June 30  
(Amounts expressed in thousands)

	2017	2016	2015	2014	2013 <sup>1</sup>
<b>Additions</b>					
State appropriated contributions	\$ 4,591	\$ 4,591	\$ 4,591	\$ 4,586	\$ 4,539
Investment income (loss)	2,533	(121)	313	2,806	1,671
Other income					
<b>Total Additions</b>	<u>7,124</u>	<u>4,470</u>	<u>4,904</u>	<u>7,392</u>	<u>6,210</u>
<b>Deductions</b>					
Annuity benefits	4,425	4,310	4,249	4,248	4,193
Administrative & other expenses	13	12	11	10	10
<b>Total Deductions</b>	<u>4,438</u>	<u>4,322</u>	<u>4,260</u>	<u>4,258</u>	<u>4,203</u>
<b>Net Increase (Decrease) in Net Position</b>	2,686	148	644	3,134	2,007
<b>Net Position Restricted for Pensions</b>					
<b>Beginning of year</b>	23,350	23,202	22,558	19,424	17,417
<b>End of year</b>	<u>\$ 26,036</u>	<u>\$ 23,350</u>	<u>\$ 23,202</u>	<u>\$ 22,558</u>	<u>\$ 19,424</u>
	2012	2011	2010	2009	2008
<b>Additions</b>					
State-appropriated contributions	\$ 3,937	\$ 3,904	\$ 4,052	\$ 4,052	\$ 3,948
Investment income (loss)	94	2,533	1,865	(4,020)	(348)
Other income	-	-	-	-	50
<b>Total Additions</b>	<u>4,031</u>	<u>6,437</u>	<u>5,917</u>	<u>32</u>	<u>3,650</u>
<b>Deductions</b>					
Annuity benefits	4,065	4,011	3,624	3,432	3,199
Administrative & other expenses	15	13	13	15	156
<b>Total Deductions</b>	<u>4,080</u>	<u>4,024</u>	<u>3,637</u>	<u>3,447</u>	<u>3,355</u>
<b>Net Increase (Decrease) in Net Position</b>	(49)	2,413	2,280	(3,415)	295
<b>Net Position Restricted for Pensions</b>					
<b>Beginning of year</b>	17,466	15,053	12,773	16,188	15,893
<b>End of year</b>	<u>\$ 17,417</u>	<u>\$ 17,466</u>	<u>\$ 15,053</u>	<u>\$ 12,773</u>	<u>\$ 16,188</u>

<sup>1</sup>In accordance with GASB 67, RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014.

## Pension Trust Funds Additions by Source

(Amounts expressed in thousands)

Year Ended June 30,	Employee Contributions <sup>1</sup>	Employer Contributions <sup>1</sup>	Investment Income(Loss) <sup>2</sup>	Other	Total
<b>South Carolina Retirement System (SCRS)</b>					
2017	\$ 826,543	\$ 1,168,847	\$ 2,791,215	\$ 393	\$ 4,786,998
2016	754,330	1,072,659	(165,394)	434	1,662,029
2015	716,114	1,022,478	374,152	507	2,113,251
2014	652,631	962,798	3,517,324	587	5,133,340
2013	674,783	948,157	2,195,648	657	3,819,245
2012	586,818	824,652	109,307	733	1,521,510
2011	562,222	808,343	3,598,069	832	4,969,466
2010	561,261	818,523	2,612,663	957	3,993,404
2009	564,953	827,502	(4,754,668)	1,152	(3,361,061)
2008	540,872	774,269	(641,196)	1,321	675,266
<b>Police Officer's Retirement System (PORS)</b>					
2017	\$ 128,623	\$ 192,501	\$ 455,914	\$ 15	\$ 777,053
2016	115,910	175,675	(24,636)	18	266,967
2015	107,504	166,862	58,705	22	333,093
2014	97,418	156,454	538,386	26	792,284
2013	99,106	144,460	329,467	30	573,063
2012	85,701	134,991	17,198	34	237,924
2011	80,582	129,973	519,531	37	730,123
2010	77,844	123,636	362,566	42	564,088
2009	78,018	124,769	(638,389)	46	(435,556)
2008	76,907	114,862	(85,415)	52	106,406
<b>General Assembly Retirement System (GARS)</b>					
2017	\$ 487	\$ 4,539	\$ 3,329	\$ -	\$ 8,355
2016	292	4,501	(266)		4,527
2015	369	4,275	500		5,144
2014	399	4,063	4,545		9,007
2013	1,286	2,835	3,111		7,232
2012	724	2,532	172		3,428
2011	625	2,414	5,682		8,721
2010	580	2,598	4,642		7,820
2009	790	2,495	(9,409)		(6,124)
2008	733	2,440	(1,136)		2,037
<b>Judges and Solicitors Retirement System (JSRS)</b>					
2017	\$ 3,181	\$ 10,534	\$ 16,399	\$ -	\$ 30,114
2016	2,330	10,202	(871)		11,661
2015	3,439	10,109	2,216		15,764
2014	2,632	9,670	19,962		32,264
2013	2,780	8,667	12,605		24,052
2012	2,560	8,414	783		11,757
2011	2,402	8,414	20,092		30,908
2010	2,457	8,414	14,646		25,517
2009	2,607	8,414	(26,741)		(15,720)
2008	1,416	7,613	(3,371)		5,658
<b>South Carolina National Guard Supplemental Retirement Plan (SCNG)</b>					
2017	\$ -	\$ 4,591	\$ 2,533	\$ -	\$ 7,124
2016		4,591	(121)		4,470
2015		4,591	313		4,904
2014		4,586	2,806		7,392
2013		4,539	1,671		6,210
2012		3,937	94		4,031
2011		3,904	2,533		6,437
2010		4,052	1,865		5,917
2009		4,052	(4,020)		32
2008		3,948	(348)	50	3,650

<sup>1</sup>Includes transfers between systems. SCNG employer contributions are provided annually by a State appropriation.

<sup>2</sup>Includes unrealized gains and losses in accordance with GASB Statement 67 and RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014. This resulted in a decrease to Total Net Investment Income.

# Pension Trust Funds Deductions by Type

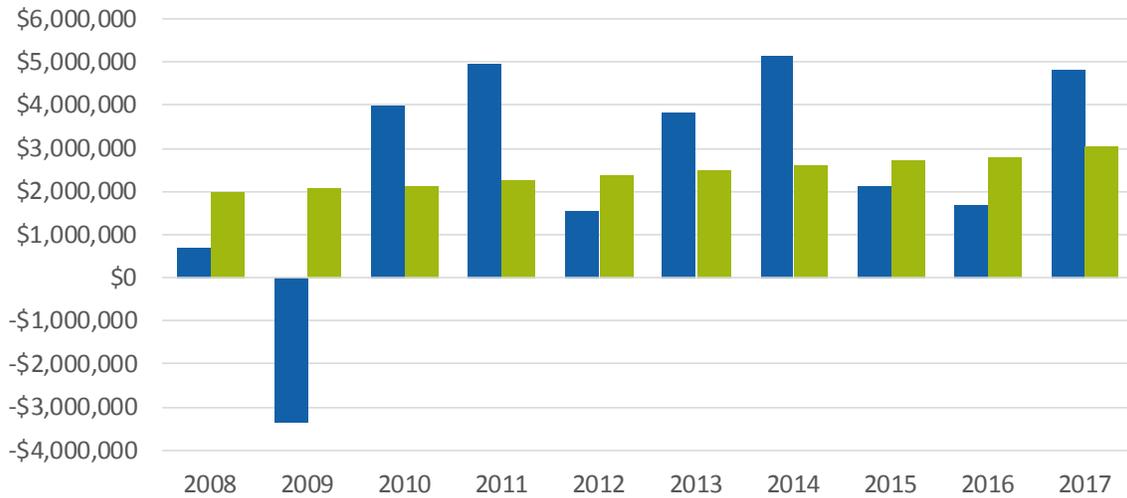
(Amounts expressed in thousands)

Year Ended June 30,	Refunds	Annuity Benefits	Death Benefits	Administrative and Other Expenses <sup>1</sup>	Total
<b>South Carolina Retirement System (SCRS)</b>					
2017	\$ 105,169	\$ 2,907,666	\$ 22,677	\$ 15,019	\$ 3,050,531
2016	93,694	2,668,819	20,659	14,323	2,797,495
2015	95,104	2,590,806	20,144	13,890	2,719,944
2014	90,250	2,462,146	19,240	14,235	2,585,871
2013	87,212	2,368,510	19,133	16,629	2,491,484
2012	83,134	2,256,519	18,295	21,683	2,379,631
2011	84,591	2,134,031	16,485	20,467	2,255,574
2010	75,814	2,014,418	19,921	19,593	2,129,746
2009	73,882	1,956,446	17,908	20,371	2,068,607
2008	79,027	1,853,892	17,617	20,752	1,971,288
<b>Police Officer's Retirement System (PORS)</b>					
2017	\$ 19,964	\$ 354,749	\$ 2,104	\$ 2,149	\$ 378,966
2016	19,178	339,536	1,960	2,082	362,756
2015	17,453	324,829	2,150	1,938	346,370
2014	16,184	313,216	2,410	1,820	333,630
2013	14,983	297,631	1,985	2,006	316,605
2012	15,162	265,582	1,851	2,872	285,467
2011	14,902	244,443	1,984	2,735	264,064
2010	13,673	224,977	2,019	2,577	243,246
2009	13,753	211,873	1,720	2,537	229,883
2008	13,754	195,989	2,068	2,505	214,316
<b>General Assembly Retirement System (GARS)</b>					
2017	\$ -	\$ 6,678	\$ 59	\$ 17	\$ 6,754
2016	22	6,625	9	165	6,821
2015		6,639	21	36	6,696
2014	41	6,799	20	17	6,877
2013	3	6,720	16	20	6,759
2012	31	6,570	35	30	6,666
2011	57	6,528	58	179	6,822
2010	4	6,512	6	33	6,555
2009	33	6,416	14	116	6,579
2008	102	6,181	28	64	6,375
<b>Judges and Solicitors Retirement System (JSRS)</b>					
2017	\$ 629	\$ 17,679	\$ 293	\$ 79	\$ 18,680
2016	60	16,989	143	105	17,297
2015		16,832	4	71	16,907
2014		16,675	10	68	16,753
2013	57	15,745	134	76	16,012
2012	134	15,171	134	111	15,550
2011		14,750	128	104	14,982
2010		14,168	11	101	14,280
2009		13,484	134	104	13,722
2008	211	12,848	256	103	13,418
<b>South Carolina National Guard Supplemental Retirement Plan (SCNG)</b>					
2017	\$ -	\$ 4,425	\$ -	\$ 13	\$ 4,438
2016		4,310		12	4,322
2015		4,249		11	4,260
2014		4,248		10	4,258
2013		4,193		10	4,203
2012		4,065		15	4,080
2011		4,011		13	4,024
2010		3,624		13	3,637
2009		3,432		15	3,447
2008		3,199		156	3,355

<sup>1</sup>In accordance with GASB 67, RSIC administrative expenses previously classified as administrative expenses were reclassified as investment expenses for fiscal year 2013 to conform to the presentation for fiscal year 2014.

## South Carolina Retirement System Pension Trust Funds Additions and Deductions

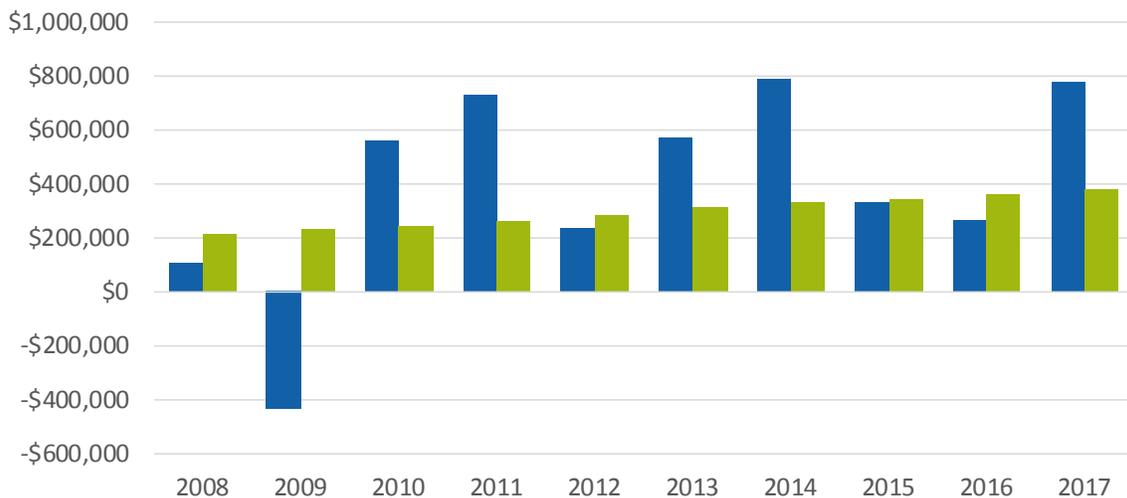
(Amounts expressed in thousands)



- Total Additions (Employee and Employer Contributions, Investment Income/Loss and Other)
- Total Deductions (Refunds, Annuity Benefits, Death Benefits & Administrative and Other Expenses)

## Police Officers Retirement System Pension Trust Funds Additions and Deductions

(Amounts expressed in thousands)



- Total Additions (Employee and Employer Contributions, Investment Income/Loss and Other)
- Total Deductions (Refunds, Annuity Benefits, Death Benefits & Administrative and Other Expenses)

## General Assembly Retirement System Pension Trust Funds Additions and Deductions

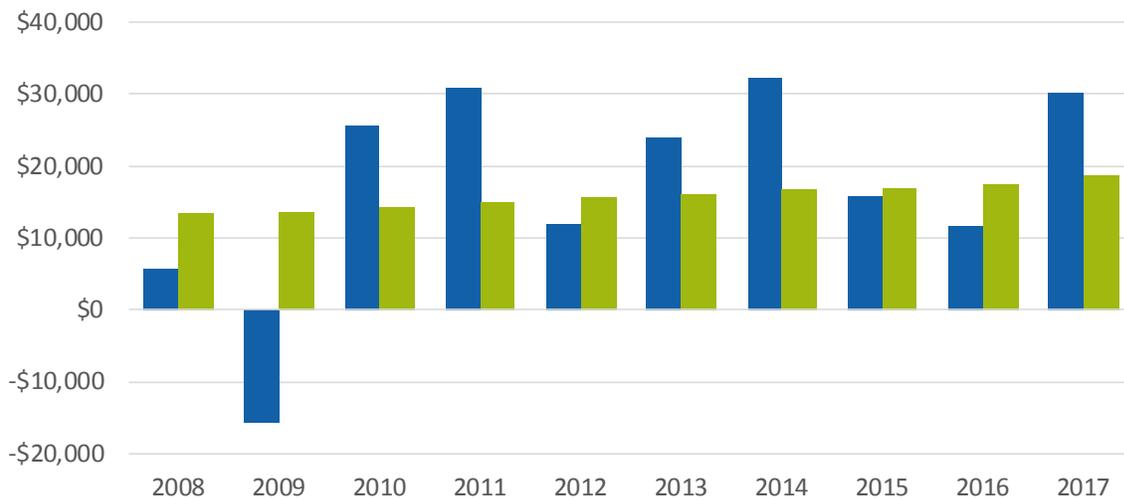
(Amounts expressed in thousands)



- Total Additions (Employee and Employer Contributions, Investment Income/Loss and Other)
- Total Deductions (Refunds, Annuity Benefits, Death Benefits & Administrative and Other Expenses)

## Judges and Solicitors Retirement System Pension Trust Funds Additions and Deductions

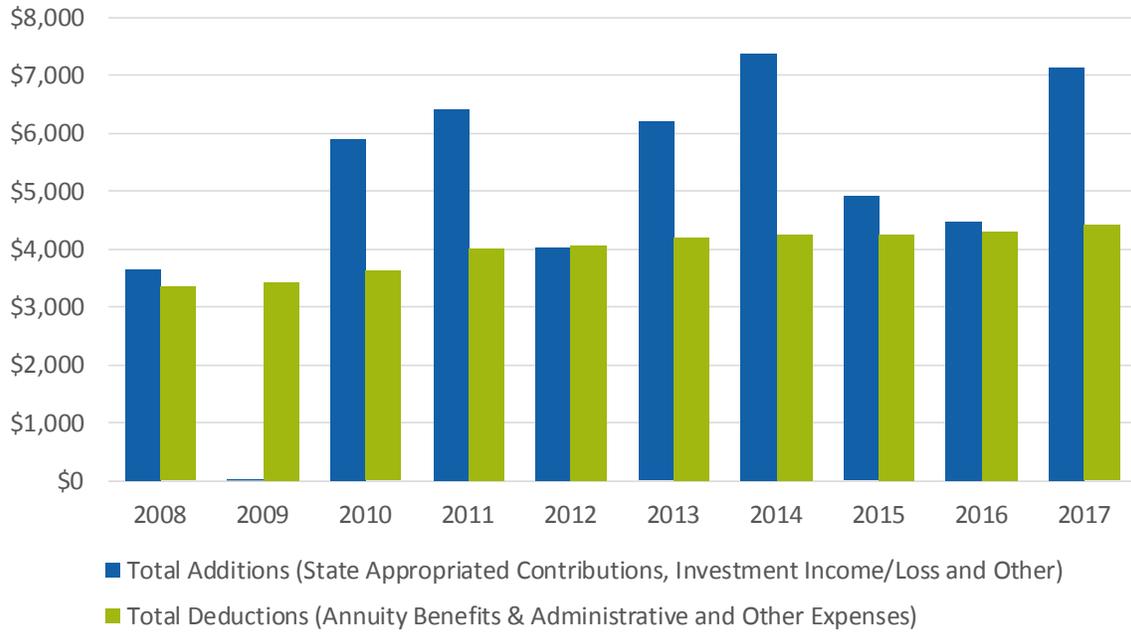
(Amounts expressed in thousands)



- Total Additions (Employee and Employer Contributions, Investment Income/Loss and Other)
- Total Deductions (Refunds, Annuity Benefits, Death Benefits & Administrative and Other Expenses)

# South Carolina National Guard Supplemental Retirement Plan Pension Trust Funds Additions and Deductions

(Amounts expressed in thousands)



# Pension Trust Funds Benefit Expenses by Type

(Amounts expressed in thousands)

Year Ended June 30,	Refunds		Annuity Benefits		Death Benefits		Total
	Member	Survivor/Other	Member	Survivor/Other	Active	Retired	
<b>South Carolina Retirement System (SCRS)</b>							
2017	\$ 97,372	\$ 7,797	\$ 2,785,394	\$ 122,272	\$ 10,819	\$ 11,858	\$ 3,035,512
2016	87,419	6,275	2,552,413	116,406	8,626	12,033	2,783,172
2015	88,952	6,152	2,480,965	109,841	8,427	11,717	2,706,054
2014	84,678	5,572	2,356,997	105,149	8,452	10,788	2,571,636
2013 <sup>1</sup>	81,754	5,458	2,267,657	100,853	8,245	10,888	2,474,855
2012	77,707	5,427	2,160,393	96,126	8,469	9,826	2,357,948
2011	79,238	5,353	2,043,662	90,369	7,815	8,670	2,235,107
2010	70,917	4,897	1,929,281	85,137	7,495	12,426	2,110,153
2009	68,762	5,120	1,873,998	82,448	8,063	9,845	2,048,236
2008	74,233	4,794	1,776,592	77,300	7,791	9,826	1,950,536
<b>Police Officers Retirement System (PORS)</b>							
2017	\$ 19,663	\$ 301	\$ 334,460	\$ 20,289	\$ 934	\$ 1,170	\$ 376,817
2016	18,565	613	320,079	19,457	971	989	360,674
2015	16,603	850	306,383	18,446	976	1,174	344,432
2014	15,551	633	295,566	17,650	1,192	1,218	331,810
2013	14,246	737	280,699	16,932	1,020	965	314,599
2012	14,618	544	249,123	16,459	872	979	282,595
2011	14,518	384	228,739	15,704	912	1,072	261,329
2010	13,300	373	210,242	14,735	1,086	933	240,669
2009	13,243	510	197,529	14,344	936	784	227,346
2008	13,438	316	182,229	13,760	1,174	894	211,811
<b>General Assembly Retirement System (GARS)</b>							
2017	\$ -	\$ -	\$ 5,550	\$ 1,128	\$ 45	\$ 14	\$ 6,737
2016	22	-	5,469	1,156	-	9	6,656
2015	-	-	5,443	1,196	-	21	6,660
2014	41	-	5,587	1,212	-	20	6,860
2013	-	3	5,554	1,166	-	16	6,739
2012	7	24	5,389	1,181	22	13	6,636
2011	45	12	5,359	1,169	45	13	6,643
2010	-	4	5,296	1,216	-	6	6,522
2009	33	-	5,187	1,229	-	14	6,463
2008	55	47	5,016	1,165	22	6	6,311
<b>Judges and Solicitors Retirement System (JSRS)</b>							
2017	\$ -	\$ 629	\$ 15,755	\$ 1,924	\$ 286	\$ 7	\$ 18,601
2016	-	60	15,193	1,796	134	9	17,192
2015	-	-	14,996	1,836	-	4	16,836
2014	-	-	14,839	1,836	-	10	16,685
2013 <sup>1</sup>	57	-	13,997	1,748	131	3	15,936
2012	83	51	13,322	1,849	130	4	15,439
2011	-	-	12,864	1,886	127	1	14,878
2010	-	-	12,213	1,955	-	11	14,179
2009	-	-	11,668	1,816	130	4	13,618
2008	-	211	11,094	1,754	252	4	13,315
<b>South Carolina National Guard Supplemental Retirement Plan (SCNG)</b>							
2017	\$ -	\$ -	\$ 4,424	\$ 1	\$ -	\$ -	\$ 4,425
2016	-	-	4,309	1	-	-	4,310
2015	-	-	4,248	1	-	-	4,249
2014	-	-	4,247	1	-	-	4,248
2013	-	-	4,192	1	-	-	4,193
2012	-	-	4,064	1	-	-	4,065
2011	-	-	4,010	1	-	-	4,011
2010	-	-	3,623	1	-	-	3,624
2009	-	-	3,431	1	-	-	3,432
2008	-	-	3,198	1	-	-	3,199

<sup>1</sup>In accordance with GASB 67, Annuities reported in fiscal year 2013 were restated to include only DROP amounts actually distributed to participants as well as amounts due but not yet distributed.

## Operating Information

*Operating Information* is intended to provide contextual information about the Systems' operations and resources to assist readers in using financial statement information to comprehend and evaluate the Systems' fiscal state. Schedules containing operating information include retired members by type of benefit and retired members by years of service, and principal participating employers for the current fiscal year and ten years prior.

Although retirement types include service, disability and beneficiary payees, members retiring at normal retirement based on age and service represent the majority of the systems' annuitant payees. Various payment options are available at retirement; however, the majority of members elect to receive benefits under the maximum benefit level.

As of June 30, 2017, more than 164,000 retirees or their beneficiaries were receiving annuity benefits from the five plans. Benefit terms are prescribed in Title 9 of the South Carolina Code of Laws. PEBA does not have the authority to establish or amend benefit terms without a change in the code of laws. Key elements of the benefit calculation include the benefit multiplier, years of service and average final compensation/current annual salary.

## South Carolina Retirement System Retired Members by Type of Benefit

As of June 30, 2017

Monthly Benefit <sup>1</sup>	Number of												
	Payees	Type 1	Type 2	Type 3	Type 4	Type 5	Opt 0	Opt 1	Opt 2	Opt 3	Opt 4	Opt 5	Opt 6
\$ 1 - \$ 500	26,759	20,258	256	2,638	2,574	1,033	18,333	107	1,403	463	244	4,450	1,759
\$ 501 - \$1,000	25,864	18,080	777	1,948	4,329	730	17,940	101	1,017	374	473	3,945	2,014
\$1,001 - \$1,500	19,668	14,292	1,186	1,219	2,656	315	12,750	67	622	191	875	3,222	1,941
\$1,501 - \$2,000	16,878	13,275	1,213	765	1,484	141	10,025	60	401	172	1,377	2,987	1,856
\$2,001 - \$2,500	17,964	15,530	976	480	914	64	10,264	59	235	135	1,516	3,460	2,295
\$2,501 - \$3,000	15,839	14,543	451	279	543	23	10,757	46	174	91	603	2,346	1,822
\$3,001 - \$3,500	7,509	6,920	159	184	229	17	4,776	24	138	69	308	1,255	939
\$3,501 - \$4,000	4,051	3,777	72	95	103	4	2,474	7	92	44	176	673	585
\$4,001 - \$4,500	2,431	2,274	37	71	46	3	1,486	10	64	39	82	397	353
\$4,501 - \$5,000	1,360	1,283	22	29	23	3	765	6	38	32	37	270	212
Over \$5,000	2,321	2,208	22	69	21	1	1,093	13	85	72	25	556	477
<b>Totals</b>	<b>140,644</b>	<b>112,440</b>	<b>5,171</b>	<b>7,777</b>	<b>12,922</b>	<b>2,334</b>	<b>90,663</b>	<b>500</b>	<b>4,269</b>	<b>1,682</b>	<b>5,716</b>	<b>23,561</b>	<b>14,253</b>

Type 1: Normal Retirement for Age and Service

Type 2: Early Retirement

Type 3: Beneficiary Payment<sup>2</sup>

Type 4: Disability Payment

Type 5: Beneficiary Payment, Disability Payment

Option 0: Maximum Benefit

Option 1: 10 Year Beneficiary Protection

Option 2: Survivor Benefit, Full Payment

Option 3: Survivor Benefit, Half Payment

Option 4: Social Security Option

Option 5: Survivor Benefit, Full Payment, Revert to Maximum

Option 6: Survivor Benefit, Half Payment, Revert to Maximum

## Police Officers Retirement System Retired Members by Type of Benefit

As of June 30, 2017

Monthly Benefit <sup>1</sup>	Number of											
	Payees	Type 1	Type 2	Type 3	Type 4	Type 5	Opt 0	Opt 1	Opt 2	Opt 3	Opt 5	Opt 6
\$ 1 - \$ 500	2,736	1,795	352	385	122	82	1,617	122	56	101	625	215
\$ 501 - \$1,000	3,225	2,057	224	409	430	105	1,931	163	57	126	626	322
\$1,001 - \$1,500	2,847	1,685	242	279	587	54	1,627	94	56	150	580	340
\$1,501 - \$2,000	2,899	1,849	240	161	626	23	1,626	62	37	227	575	372
\$2,001 - \$2,500	2,547	1,844	140	82	468	13	1,494	38	14	123	512	366
\$2,501 - \$3,000	1,711	1,344	68	40	256	3	1,046	22	17	85	301	240
\$3,001 - \$3,500	887	743	24	23	95	2	594	13	12	25	131	112
\$3,501 - \$4,000	540	471	8	7	54		374	5	6	14	60	81
\$4,001 - \$4,500	290	264	1	5	20		193	4	1	6	41	45
\$4,501 - \$5,000	146	138		1	7		92	1	7	4	14	28
Over \$5,000	200	192	2	3	3		137	4	3	5	11	40
<b>Totals</b>	<b>18,028</b>	<b>12,382</b>	<b>1,301</b>	<b>1,395</b>	<b>2,668</b>	<b>282</b>	<b>10,731</b>	<b>528</b>	<b>266</b>	<b>866</b>	<b>3,476</b>	<b>2,161</b>

Type 1: Normal Retirement for Age and Service

Type 2: Early Retirement

Type 3: Beneficiary Payment<sup>2</sup>

Type 4: Disability Payment

Type 5: Beneficiary Payment, Disability Payment

Option 0: Maximum Benefit

Option 1: Survivor Benefit, Full Payment

Option 2: Survivor Benefit, Half Payment

Option 3: Social Security Option

Option 5: Survivor Benefit, Full Payment, Revert to Maximum

Option 6: Survivor Benefit, Half Payment, Revert to Maximum

<sup>1</sup>Monthly benefit amounts represent current payment levels for all annuitant payees receiving monthly benefits, including any applicable benefit adjustments.

<sup>2</sup>Beneficiary payments include payments to alternate payees in accordance with Qualified Domestic Relations Orders.

## General Assembly Retirement System Retired Members by Type of Benefit

As of June 30, 2017

Monthly Benefit <sup>1</sup>	Number of Annuitant Payees										
	Type 1	Type 2	Type 3	Type 4	Type 5	Opt 0	Opt 1	Opt 2	Opt 5	Opt 6	
\$ 1 - \$ 500	32	10	4	18		9	9	4	4	6	
\$ 501 - \$1,000	65	37	5	23		23	17	4	14	7	
\$1,001 - \$1,500	69	46	6	17		23	22	10	7	7	
\$1,501 - \$2,000	107	73	23	11		44	30	12	14	7	
\$2,001 - \$2,500	45	31	6	8		18	10	4	10	3	
\$2,501 - \$3,000	25	22	1	2		10	5	2	6	2	
\$3,001 - \$3,500	11	7	1	3		5	4	1	1		
\$3,501 - \$4,000	3	2		1			3				
\$4,001 - \$4,500	2	2				2					
\$4,501 - \$5,000											
Over \$5,000											
<b>Totals</b>	<b>359</b>	<b>230</b>	<b>46</b>	<b>83</b>		<b>134</b>	<b>100</b>	<b>37</b>	<b>56</b>	<b>32</b>	

Type 1: Normal Retirement for Age and Service

Type 2: Early Retirement

Type 3: Beneficiary Payment<sup>2</sup>

Type 4: Disability Payment

Type 5: Beneficiary Payment, Disability Payment

Option 0: Maximum Benefit

Option 1: Survivor Benefit, Full Payment

Option 2: Survivor Benefit, Half Payment

Option 5: Survivor Benefit, Full Payment, Revert to Maximum

Option 6: Survivor Benefit, Half Payment, Revert to Maximum

## Judges and Solicitors Retirement System Retired Members by Type of Benefit

As of June 30, 2017

Monthly Benefit <sup>1</sup>	Number of Annuitant Payees							
	Type 1	Type 2	Type 3	Type 4	Type 5	Opt 0	Opt 1	
\$ 1 - \$ 500	1	1				1		
\$ 501 - \$1,000	10			10			10	
\$1,001 - \$1,500	1			1		1		
\$1,501 - \$2,000	5			5		2	3	
\$2,001 - \$2,500	3			3		2	1	
\$2,501 - \$3,000	27	1		26		26	1	
\$3,001 - \$3,500	13	1		12		12	1	
\$3,501 - \$4,000	4	1		3		3	1	
\$4,001 - \$4,500	2	1		1		2		
\$4,501 - \$5,000	3	3				3		
Over \$5,000	144	143		1		137	7	
<b>Totals</b>	<b>213</b>	<b>151</b>		<b>62</b>		<b>189</b>	<b>24</b>	

Type 1: Normal Retirement for Age and Service

Type 2: Early Retirement

Type 3: Beneficiary Payment<sup>2</sup>

Type 4: Disability Payment

Type 5: Beneficiary Payment, Disability Payment

Option 0: Maximum Benefit with Spouse Beneficiary

Option 1: Reduced Benefit with Non-Spouse Beneficiary

<sup>1</sup>Monthly benefit amounts represent current payment levels for all annuitant payees receiving monthly benefits, including any applicable benefit adjustments.

<sup>2</sup>Beneficiary payments include payments to alternate payees in accordance with Qualified Domestic Relations Orders.

# South Carolina National Guard Supplemental Retirement Plan

## Retired Members by Type of Benefit

As of June 30, 2017

<u>Monthly Benefit<sup>1</sup></u>	<u>Number of Annuitant Payees</u>	<u>Type 1</u>	<u>Opt 0</u>
\$ 1 - \$ 500	4,803	4,803	4,803
\$ 501 - \$1,000			
\$1,001 - \$1,500			
\$1,501 - \$2,000			
\$2,001 - \$2,500			
\$2,501 - \$3,000			
\$3,001 - \$3,500			
\$3,501 - \$4,000			
\$4,001 - \$4,500			
\$4,501 - \$5,000			
Over \$5,000			
Totals	4,803	4,803	4,803

Type 1: Normal Retirement for Age and Service  
Option 0: Maximum Benefit

*<sup>1</sup>Monthly benefit amounts represent current payment levels for all annuitant payees receiving monthly benefits, including any applicable benefit adjustments.*

## South Carolina Retirement System Retired Members by Years of Service

	Years of Credited Service							Avgs/Tot
	0 to 5	5+ to 10	10+ to 15	15+ to 20	20+ to 25	25+ to 30	30 Plus	
<b>Period 07/01/2007 to 06/30/2008</b>								
Average Monthly benefit	\$ 176.70	\$ 364.13	\$ 595.88	\$ 909.41	\$ 1,246.61	\$ 2,044.18	\$ 2,679.92	\$ 1,403.35
Average AFC	\$ 31,761.84	\$ 30,201.39	\$ 33,050.24	\$ 36,763.05	\$ 40,219.11	\$ 50,516.64	\$ 58,801.46	\$ 42,826.60
Number of Retired members	120	794	878	675	568	2,478	404	5,917
<b>Period 07/01/2008 to 06/30/2009</b>								
Average Monthly benefit	\$ 185.74	\$ 367.59	\$ 618.72	\$ 946.54	\$ 1,303.52	\$ 2,165.04	\$ 2,970.18	\$ 1,462.10
Average AFC	\$ 28,729.29	\$ 30,154.09	\$ 34,626.66	\$ 38,205.49	\$ 42,049.14	\$ 53,625.28	\$ 65,133.55	\$ 44,749.97
Number of Retired members	121	786	892	689	645	2,197	451	5,781
<b>Period 07/01/2009 to 06/30/2010</b>								
Average Monthly benefit	\$ 208.16	\$ 383.06	\$ 645.01	\$ 981.09	\$ 1,344.74	\$ 2,221.16	\$ 2,908.79	\$ 1,485.99
Average AFC	\$ 31,836.52	\$ 30,557.99	\$ 35,746.52	\$ 40,111.25	\$ 43,257.40	\$ 55,242.31	\$ 63,116.06	\$ 45,746.76
Number of Retired members	123	826	1,023	750	729	2,123	597	6,171
<b>Period 07/01/2010 to 06/30/2011</b>								
Average Monthly benefit	\$ 201.31	\$ 377.33	\$ 657.18	\$ 1,009.75	\$ 1,368.58	\$ 2,283.04	\$ 2,888.47	\$ 1,444.41
Average AFC	\$ 30,617.92	\$ 31,040.25	\$ 35,794.70	\$ 40,266.56	\$ 43,960.69	\$ 56,937.57	\$ 63,063.96	\$ 45,577.10
Number of Retired members	148	905	1,102	845	757	1,901	587	6,245
<b>Period 07/01/2011 to 06/30/2012</b>								
Average Monthly benefit	\$ 157.11	\$ 383.35	\$ 676.41	\$ 1,059.95	\$ 1,359.51	\$ 2,311.68	\$ 2,875.91	\$ 1,635.53
Average AFC	\$ 33,828.02	\$ 33,025.61	\$ 37,652.63	\$ 43,506.61	\$ 44,316.00	\$ 57,935.75	\$ 62,247.34	\$ 49,044.18
Number of Retired members	170	1,027	1,369	1,006	1,048	3,291	1,204	9,115
<b>Period 07/01/2012 to 06/30/2013</b>								
Average Monthly benefit	\$ 163.89	\$ 374.75	\$ 667.88	\$ 1,019.03	\$ 1,402.10	\$ 2,306.62	\$ 2,939.99	\$ 1,669.18
Average AFC	\$ 33,386.42	\$ 32,997.75	\$ 36,736.51	\$ 41,833.35	\$ 45,162.28	\$ 56,973.61	\$ 62,374.56	\$ 48,830.49
Number of Retired members	126	1,058	1,206	937	832	3,366	1,143	8,668
<b>Period 07/01/2013 to 06/30/2014</b>								
Average Monthly benefit	\$ 171.12	\$ 412.43	\$ 699.63	\$ 1,043.84	\$ 1,432.54	\$ 2,189.67	\$ 3,085.95	\$ 1,468.16
Average AFC	\$ 38,671.40	\$ 37,728.77	\$ 39,320.54	\$ 43,553.62	\$ 46,362.79	\$ 54,791.47	\$ 65,219.09	\$ 47,710.77
Number of Retired members	109	965	1,050	1,004	755	2,159	533	6,575
<b>Period 07/01/2014 to 06/30/2015</b>								
Average Monthly benefit	\$ 99.03	\$ 348.85	\$ 622.23	\$ 948.48	\$ 1,397.50	\$ 2,172.19	\$ 2,909.38	\$ 1,377.28
Average AFC	\$ 32,198.66	\$ 35,062.59	\$ 37,734.08	\$ 41,754.51	\$ 47,613.22	\$ 54,492.07	\$ 60,744.27	\$ 46,093.47
Number of Retired members	105	903	1,026	900	777	2,018	394	6,123
<b>Period 07/01/2015 to 06/30/2016</b>								
Average Monthly benefit	\$ 120.76	\$ 384.04	\$ 650.17	\$ 981.56	\$ 1,427.23	\$ 2,167.94	\$ 2,842.28	\$ 1,369.09
Average AFC	\$ 35,061.28	\$ 37,362.67	\$ 39,284.17	\$ 42,814.57	\$ 48,552.48	\$ 54,353.63	\$ 59,958.01	\$ 46,714.42
Number of Retired members	76	827	1,057	980	762	1,903	329	5,934
<b>Period 07/01/2016 to 06/30/2017</b>								
Average Monthly benefit	\$ 121.22	\$ 362.56	\$ 637.87	\$ 980.90	\$ 1,435.95	\$ 2,227.14	\$ 2,932.01	\$ 1,391.09
Average AFC	\$ 38,122.61	\$ 36,128.59	\$ 38,938.96	\$ 42,544.29	\$ 48,347.02	\$ 55,499.88	\$ 60,683.69	\$ 46,873.78
Number of Retired members	93	767	966	838	719	1,631	378	5,392
<b>Ten year Averages</b>								
Average Monthly benefit	\$ 164.51	\$ 376.47	\$ 649.73	\$ 992.79	\$ 1,375.65	\$ 2,216.09	\$ 2,908.94	\$ 1,487.14
Average AFC	\$ 33,164.68	\$ 33,475.50	\$ 36,987.00	\$ 41,411.68	\$ 45,121.03	\$ 55,194.81	\$ 62,364.17	\$ 46,650.46
Number of Retired members	1,191	8,858	10,569	8,624	7,592	23,067	6,020	65,921

*Note: Benefit amounts represent original monthly benefit at retirement for all retirees who retired during the referenced period and, for comparison purposes, do not include benefit adjustments. Although a member's retirement eligibility and AFC may include service from other correlated Systems, the Years of Credited Service in this schedule represents only service credit used for calculating the monthly benefit under this respective System.*

# Police Officers Retirement System

## Retired Members by Years of Service

	Years of Credited Service							Avg/Tot
	0 to 5	5+ to 10	10+ to 15	15+ to 20	20+ to 25	25+ to 30	30 Plus	
<b>Period 07/01/2007 to 06/30/2008</b>								
Average Monthly benefit	\$ 339.75	\$ 672.20	\$ 1,029.33	\$ 1,338.21	\$ 1,913.22	\$ 2,437.16	\$ 3,760.37	\$ 1,561.75
Average AFC	\$ 38,746.31	\$ 36,996.15	\$ 39,502.53	\$ 41,671.69	\$ 47,970.26	\$ 54,925.42	\$ 69,695.78	\$ 45,930.96
Number of Retired members	72	132	119	97	98	197	38	753
<b>Period 07/01/2008 to 06/30/2009</b>								
Average Monthly benefit	\$ 359.33	\$ 666.06	\$ 1,060.74	\$ 1,460.31	\$ 1,945.46	\$ 2,549.57	\$ 3,777.66	\$ 1,760.83
Average AFC	\$ 41,358.25	\$ 40,388.45	\$ 41,602.78	\$ 43,217.29	\$ 49,465.82	\$ 56,365.99	\$ 67,110.63	\$ 49,025.04
Number of Retired members	67	133	136	88	106	272	63	865
<b>Period 07/01/2009 to 06/30/2010</b>								
Average Monthly benefit	\$ 417.61	\$ 699.54	\$ 984.23	\$ 1,357.38	\$ 1,975.74	\$ 2,447.52	\$ 3,581.54	\$ 1,633.07
Average AFC	\$ 40,722.91	\$ 39,473.83	\$ 40,088.38	\$ 42,712.24	\$ 48,826.52	\$ 55,428.90	\$ 63,527.80	\$ 47,202.77
Number of Retired members	80	121	127	129	120	240	47	864
<b>Period 07/01/2010 to 06/30/2011</b>								
Average Monthly benefit	\$ 247.37	\$ 708.00	\$ 1,021.53	\$ 1,474.19	\$ 1,929.16	\$ 2,482.99	\$ 3,569.41	\$ 1,584.62
Average AFC	\$ 37,600.27	\$ 39,952.37	\$ 40,400.70	\$ 44,622.87	\$ 47,089.42	\$ 55,621.41	\$ 65,042.40	\$ 46,655.15
Number of Retired members	92	157	181	117	145	274	40	1,006
<b>Period 07/01/2011 to 06/30/2012</b>								
Average Monthly benefit	\$ 298.11	\$ 714.20	\$ 1,052.50	\$ 1,427.66	\$ 2,045.54	\$ 2,498.87	\$ 3,609.15	\$ 1,773.18
Average AFC	\$ 44,750.04	\$ 39,977.95	\$ 42,779.30	\$ 43,692.98	\$ 51,114.24	\$ 56,323.94	\$ 66,397.34	\$ 49,905.44
Number of Retired members	125	200	184	156	217	552	67	1,501
<b>Period 07/01/2012 to 06/30/2013</b>								
Average Monthly benefit	\$ 225.26	\$ 644.56	\$ 1,061.28	\$ 1,544.22	\$ 1,920.39	\$ 2,419.31	\$ 3,640.68	\$ 1,670.88
Average AFC	\$ 45,104.35	\$ 38,218.81	\$ 41,442.32	\$ 47,487.15	\$ 48,478.52	\$ 54,611.27	\$ 68,020.52	\$ 48,265.26
Number of Retired members	80	170	164	161	185	421	25	1,206
<b>Period 07/01/2013 to 06/30/2014</b>								
Average Monthly benefit	\$ 271.83	\$ 869.08	\$ 1,200.91	\$ 1,448.09	\$ 2,051.64	\$ 2,363.73	\$ 4,282.03	\$ 1,481.97
Average AFC	\$ 43,936.82	\$ 40,535.67	\$ 43,476.29	\$ 45,089.53	\$ 50,432.14	\$ 52,417.06	\$ 76,060.04	\$ 46,688.91
Number of Retired members	86	144	147	125	85	145	22	754
<b>Period 07/01/2014 to 06/30/2015</b>								
Average Monthly benefit	\$ 233.65	\$ 719.35	\$ 994.86	\$ 1,378.34	\$ 1,922.56	\$ 2,562.22	\$ 3,469.56	\$ 1,508.86
Average AFC	\$ 40,223.03	\$ 39,792.49	\$ 42,077.87	\$ 43,569.64	\$ 49,715.38	\$ 57,066.54	\$ 66,611.71	\$ 46,878.43
Number of Retired members	60	173	131	152	145	176	28	865
<b>Period 07/01/2015 to 06/30/2016</b>								
Average Monthly benefit	\$ 278.10	\$ 763.54	\$ 1,097.95	\$ 1,444.82	\$ 2,029.49	\$ 2,457.14	\$ 3,375.67	\$ 1,581.73
Average AFC	\$ 43,963.21	\$ 41,074.05	\$ 42,664.16	\$ 45,791.64	\$ 52,667.52	\$ 54,743.27	\$ 61,777.51	\$ 48,090.19
Number of Retired members	66	152	137	128	118	204	35	840
<b>Period 07/01/2016 to 06/30/2017</b>								
Average Monthly benefit	\$ 251.29	\$ 748.07	\$ 1,099.68	\$ 1,558.74	\$ 1,954.84	\$ 2,581.84	\$ 3,692.66	\$ 1,702.05
Average AFC	\$ 43,017.93	\$ 41,435.40	\$ 44,274.34	\$ 48,274.71	\$ 50,662.52	\$ 56,995.71	\$ 69,973.66	\$ 50,080.31
Number of Retired members	77	125	151	139	135	214	60	901
<b>Ten year Averages</b>								
Average Monthly benefit	\$ 292.04	\$ 719.77	\$ 1,061.40	\$ 1,446.87	\$ 1,969.15	\$ 2,481.16	\$ 3,660.91	\$ 1,639.52
Average AFC	\$ 42,094.65	\$ 39,775.36	\$ 41,885.47	\$ 44,789.87	\$ 49,661.93	\$ 55,579.75	\$ 67,087.83	\$ 48,048.46
Number of Retired members	805	1,507	1,477	1,292	1,354	2,695	425	9,555

*Note: Benefit amounts represent original monthly benefit at retirement for all retirees who retired during the referenced period and, for comparison purposes, do not include benefit adjustments. Although a member's retirement eligibility and AFC may include service from other correlated Systems, the Years of Credited Service in this schedule represents only service credit used for calculating the monthly benefit under this respective System.*

## General Assembly Retirement System Retired Members by Years of Service

	Years of Credited Service							Avg/Tot
	0 to 5	5+ to 10	10+ to 15	15+ to 20	20+ to 25	25+ to 30	30 Plus	
<b>Period 07/01/2007 to 06/30/2008</b>								
Average Monthly benefit	\$ 319.69		\$ 969.43	\$ 1,649.07	\$ 1,684.61	\$ 2,095.51	\$ 2,555.55	\$ 1,687.41
Average AFC	\$ 22,400.00		\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00
Number of Retired members	1		2	5	5	1	3	17
<b>Period 07/01/2008 to 06/30/2009</b>								
Average Monthly benefit		\$ 683.40	\$ 971.68	\$ 1,324.67	\$ 1,738.19	\$ 2,416.04	\$ 2,590.37	\$ 1,587.90
Average AFC		\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00
Number of Retired members		2	3	4	7	2	2	20
<b>Period 07/01/2009 to 06/30/2010</b>								
Average Monthly benefit				\$ 1,298.78		\$ 2,476.92		\$ 1,887.50
Average AFC				\$ 22,400.00		\$ 22,400.00		\$ 22,400.00
Number of Retired members				2		2		4
<b>Period 07/01/2010 to 06/30/2011</b>								
Average Monthly benefit	\$ 132.70		\$ 1,068.00	\$ 1,142.12	\$ 1,901.69	\$ 2,838.65	\$ 3,207.33	\$ 1,852.00
Average AFC	\$ 22,400.00		\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 24,200.00	\$ 27,900.00	\$ 23,727.27
Number of Retired members	1		3	1	2	2	2	11
<b>Period 07/01/2011 to 06/30/2012</b>								
Average Monthly benefit		\$ 719.79	\$ 1,097.69	\$ 1,541.77	\$ 1,945.10		\$ 2,092.90	\$ 1,468.33
Average AFC		\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00		\$ 22,400.00	\$ 22,400.00
Number of Retired members		1	5	1	4		1	12
<b>Period 07/01/2012 to 06/30/2013</b>								
Average Monthly benefit		\$ 831.73	\$ 1,039.12	\$ 1,448.99	\$ 1,898.75	\$ 1,886.18	\$ 2,305.65	\$ 1,652.52
Average AFC		\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00
Number of Retired members		1	5	2	4	3	4	19
<b>Period 07/01/2013 to 06/30/2014</b>								
Average Monthly benefit	\$ 152.97	\$ 539.84			\$ 2,313.46		\$ 2,547.40	\$ 1,387.75
Average AFC	\$ 22,400.00	\$ 22,400.00			\$ 26,000.00		\$ 22,400.00	\$ 23,300.00
Number of Retired members	1	1			1		1	4
<b>Period 07/01/2014 to 06/30/2015</b>								
Average Monthly benefit			\$ 997.75	\$ 1,281.62	\$ 1,822.57	\$ 2,256.56		\$ 1,440.18
Average AFC			\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00		\$ 22,400.00
Number of Retired members			3	4	3	1		11
<b>Period 07/01/2015 to 06/30/2016</b>								
Average Monthly benefit	\$ 407.65				\$ 1,798.98	\$ 3,194.91		\$ 1,799.50
Average AFC	\$ 22,400.00				\$ 22,400.00	\$ 33,400.00		\$ 25,150.00
Number of Retired members	1				2	1		4
<b>Period 07/01/2016 to 06/30/2017</b>								
Average Monthly benefit	\$ 342.95		\$ 1,169.65	\$ 1,485.73	\$ 2,008.43	\$ 1,696.83	\$ 2,193.18	\$ 1,525.90
Average AFC	\$ 26,000.00		\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,760.00
Number of Retired members	1		1	3	1	3	1	10
<b>Ten year Averages</b>								
Average Monthly benefit	\$ 271.19	\$ 691.63	\$ 1,041.13	\$ 1,423.05	\$ 1,832.99	\$ 2,250.61	\$ 2,522.72	\$ 1,618.39
Average AFC	\$ 23,120.00	\$ 22,400.00	\$ 22,400.00	\$ 22,400.00	\$ 22,524.13	\$ 23,373.33	\$ 23,185.71	\$ 22,692.85
Number of Retired members	5	5	22	22	29	15	14	112

*Note: Benefit amounts represent original monthly benefit at retirement for all retirees who retired during the referenced period and, for comparison purposes, do not include benefit adjustments. Although a member's retirement eligibility and AFC may include service from other correlated Systems, the Years of Credited Service in this schedule represents only service credit used for calculating the monthly benefit under this respective System.*

## Judges and Solicitors Retirement System Retired Members by Years of Service

	Years of Credited Service						Aves/Tot
	0 to 5	5+ to 10	10+ to 15	15+ to 20	20+ to 25	25+ to 30	
<b>Period 07/01/2007 to 06/30/2008</b>							
Average Monthly benefit		\$ 4,079.72	\$ 7,867.78		\$ 8,215.93	\$ 9,343.57	\$ 8,030.20
Average AFC		\$ 127,165.50	\$ 132,417.00		\$ 125,627.00	\$ 127,890.33	\$ 127,971.70
Number of Retired members		2	1		1	6	10
<b>Period 07/01/2008 to 06/30/2009</b>							
Average Monthly benefit		\$ 7,742.70		\$ 6,985.17	\$ 8,743.82	\$ 9,446.04	\$ 8,358.22
Average AFC		\$ 130,312.00		\$ 128,026.00	\$ 130,312.00	\$ 128,597.50	\$ 128,788.00
Number of Retired members		1		3	1	4	9
<b>Period 07/01/2009 to 06/30/2010</b>							
Average Monthly benefit				\$ 7,538.96	\$ 8,092.11	\$ 9,773.78	\$ 8,822.10
Average AFC				\$ 126,883.00	\$ 128,026.00	\$ 131,683.80	\$ 129,626.30
Number of Retired members				2	3	5	10
<b>Period 07/01/2010 to 06/30/2011</b>							
Average Monthly benefit				\$ 7,730.82	\$ 8,138.15	\$ 9,378.37	\$ 8,508.22
Average AFC				\$ 129,454.75	\$ 130,312.00	\$ 127,740.25	\$ 128,788.00
Number of Retired members				4	1	4	9
<b>Period 07/01/2011 to 06/30/2012</b>							
Average Monthly benefit			\$ 5,654.22		\$ 7,647.17	\$ 9,687.67	\$ 8,335.16
Average AFC			\$ 126,883.00		\$ 126,883.00	\$ 129,169.00	\$ 128,026.00
Number of Retired members			1		2	3	6
<b>Period 07/01/2012 to 06/30/2013</b>							
Average Monthly benefit		\$ 4,309.38	\$ 7,974.96	\$ 7,905.00		\$ 10,490.48	\$ 7,256.71
Average AFC		\$ 130,689.00	\$ 134,221.00	\$ 133,043.66		\$ 139,873.00	\$ 133,514.71
Number of Retired members		2	1	3		1	7
<b>Period 07/01/2013 to 06/30/2014</b>							
Average Monthly benefit			\$ 6,962.75	\$ 7,765.10	\$ 9,405.95	\$ 10,066.58	\$ 8,538.00
Average AFC			\$ 132,455.00	\$ 130,689.00	\$ 134,221.00	\$ 134,221.00	\$ 133,043.66
Number of Retired members			2	1	1	2	6
<b>Period 07/01/2014 to 06/30/2015</b>							
Average Monthly benefit			\$ 7,920.42	\$ 7,931.71	\$ 8,891.35	\$ 10,808.40	\$ 8,615.00
Average AFC			\$ 133,303.00	\$ 135,705.00	\$ 136,905.50	\$ 144,112.00	\$ 136,905.85
Number of Retired members			1	3	2	1	7
<b>Period 07/01/2015 to 06/30/2016</b>							
Average Monthly benefit						\$ 9,808.35	\$ 9,808.35
Average AFC						\$ 136,906.00	\$ 136,906.00
Number of Retired members						6	6
<b>Period 07/01/2016 to 06/30/2017</b>							
Average Monthly benefit	\$ 2,827.77			\$ 6,449.04	\$ 8,983.69	\$ 10,880.55	\$ 7,624.60
Average AFC	\$141,354.00			\$ 137,634.00	\$ 141,354.00	\$ 145,074.00	\$ 141,354.00
Number of Retired members	1			1	2	1	5
<b>Ten year Averages</b>							
Average Monthly benefit	\$ 2,827.77	\$ 4,904.18	\$ 7,223.81	\$ 7,569.47	\$ 8,448.04	\$ 9,710.72	\$ 8,395.34
Average AFC	\$141,354.00	\$ 129,204.20	\$ 131,955.66	\$ 131,190.11	\$ 131,910.38	\$ 132,047.15	\$ 131,756.42
Number of Retired members	1	5	6	17	13	33	75

*Note: Benefit amounts represent original monthly benefit at retirement for all retirees who retired during the referenced period and, for comparison purposes, do not include benefit adjustments.*

## South Carolina National Guard Supplemental Retirement Plan Retired Members by Years of Service

	Years of Credited Service						Avg/Tot	
	0 to 5	5+ to 10	10+ to 15	15+ to 20	20+ to 25	25+ to 30		30 Plus
<b>Period 07/01/2007 to 06/30/2008</b>								
Average Monthly benefit				\$ 50.00	\$ 61.76	\$ 90.06	\$ 100.00	\$ 74.13
Average AFC								
Number of Retired members				61	170	75	92	398
<b>Period 07/01/2008 to 06/30/2009</b>								
Average Monthly benefit				\$ 50.00	\$ 60.90	\$ 90.77	\$ 100.00	\$ 73.28
Average AFC								
Number of Retired members				60	143	71	72	346
<b>Period 07/01/2009 to 06/30/2010</b>								
Average Monthly benefit				\$ 50.00	\$ 61.55	\$ 90.29	\$ 100.00	\$ 73.43
Average AFC								
Number of Retired members				59	135	51	80	325
<b>Period 07/01/2010 to 06/30/2011</b>								
Average Monthly benefit				\$ 50.00	\$ 61.42	\$ 88.15	\$ 100.00	\$ 76.17
Average AFC								
Number of Retired members				39	116	65	82	302
<b>Period 07/01/2011 to 06/30/2012</b>								
Average Monthly benefit				\$ 50.00	\$ 62.26	\$ 91.02	\$ 100.00	\$ 73.43
Average AFC								
Number of Retired members				49	106	39	62	256
<b>Period 07/01/2012 to 06/30/2013</b>								
Average Monthly benefit				\$ 50.00	\$ 61.66	\$ 88.15	\$ 100.00	\$ 72.75
Average AFC								
Number of Retired members				47	105	46	56	254
<b>Period 07/01/2013 to 06/30/2014</b>								
Average Monthly benefit				\$ 50.00	\$ 61.96	\$ 90.71	\$ 100.00	\$ 71.78
Average AFC								
Number of Retired members				34	79	28	35	176
<b>Period 07/01/2014 to 06/30/2015</b>								
Average Monthly benefit				\$ 50.00	\$ 62.58	\$ 90.58	\$ 100.00	\$ 76.89
Average AFC								
Number of Retired members				23	62	34	45	164
<b>Period 07/01/2015 to 06/30/2016</b>								
Average Monthly benefit				\$ 50.00	\$ 61.43	\$ 89.45	\$ 100.00	\$ 73.78
Average AFC								
Number of Retired members				27	87	46	38	198
<b>Period 07/01/2016 to 06/30/2017</b>								
Average Monthly benefit				\$ 50.00	\$ 61.79	\$ 90.32	\$ 100.00	\$ 73.06
Average AFC								
Number of Retired members				26	89	46	30	191
<b>Ten year Averages</b>								
Average Monthly benefit				\$ 50.00	\$ 61.66	\$ 89.88	\$ 100.00	\$ 73.87
Average AFC								
Number of Retired members				425	1,092	501	592	2,610

*Note: Benefit amounts represent original monthly benefit at retirement for all retirees who retired during the referenced period.*

# South Carolina Retirement System

## Principal Participating Employers in Fiscal Year 2017 and Ten Years Prior Fiscal Year 2008

	Fiscal Year 2017					Fiscal Year 2008				
	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Total Active Members	Total Working Retirees	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Total Active Members	Total Working Retirees
<u>Participating Government</u>										
State Agency <sup>2</sup>	33,118	1	14.14%	28,727	4,391	37,206	1	16.26%	32,200	5,006
School District of Greenville County	9,104	2	3.88%	7,869	1,235	9,339	2	4.08%	8,069	1,270
Lexington Medical Center	6,171	3	2.63%	5,979	192	3,694		1.62%	3,553	141
Horry County School District	6,083	4	2.59%	5,477	606	4,884	5	2.13%	4,424	460
University of South Carolina	5,550	5	2.37%	4,596	954	5,477	4	2.39%	4,458	1,019
MUSC Hospital	5,215	6	2.22%	4,924	291	4,815	6	2.10%	4,575	240
Charleston County School District	5,015	7	2.14%	4,500	515	5,715	3	2.49%	5,015	700
Spartanburg Regional Medical Center	4,710	8	2.01%	4,365	345	4,637	7	2.02%	4,436	201
Richland County School District 1	4,516	9	1.92%	3,750	766	4,310	8	1.88%	3,573	737
Berkeley County Department of Education	4,127	10	1.76%	3,700	427	3,718	9	1.62%	3,250	468
Clemson University	3,706		1.58%	3,179	527	3,706	10	1.62%	3,102	604
All Other	146,788		62.76%	129,790	16,998	141,205		61.79%	125,437	15,768
Total <sup>3</sup>	234,103		100.00%	206,856	27,247	228,706		100.00%	202,092	26,614

**In 2017, "All Other" consisted of:**

Type	Number	Employees
Quasi-State/Higher Ed	29	15,881
City/County	576	56,109
Public Schools	113	74,798
<b>Total</b>	<b>718</b>	<b>146,788</b>

**In 2008, "All Other" consisted of:**

Type	Number	Employees
Quasi-State/Higher Ed	31	14,837
City/County	583	52,082
Public Schools	101	74,286
<b>Total</b>	<b>715</b>	<b>141,205</b>

<sup>1</sup>Employers are considered to be participating employers if they submit contributions for an active member or working retiree during the fiscal year. The number of covered employees represents the total number of employees reported by the employer throughout the fiscal year which includes working retirees and TERI participants.

<sup>2</sup>Although each state agency reports separately, the State is considered the primary government and therefore, all state agencies are included as a single employer. Quasi-State Agencies and Institutions of Higher Education are counted as separate employers and included within the "State" category.

<sup>3</sup>Fiscal Year 2017 total includes 729 governmental entities and fiscal year 2008 total includes 726 governmental entities.

# Police Officers Retirement System

## Principal Participating Employers in Fiscal Year 2017 and Ten Years Prior Fiscal Year 2008

Participating Government	Fiscal Year 2017					Fiscal Year 2008				
	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Total Active Members	Total Working Retirees	Covered Employees <sup>1</sup>	Rank	Percentage of Total System	Total Active Members	Total Working Retirees
State Agency <sup>2</sup>	10,245	1	4.37%	9,391	854	11,501	1	37.63%	10,674	827
County Council of Richland County	991	2	0.42%	833	158	915	2	2.99%	814	101
Horry County Council	974	3	0.41%	892	82	793	5	2.59%	763	30
City of Columbia	894	4	0.38%	815	79	844	3	2.76%	799	45
Greenville County Council	892	5	0.38%	760	132	816	4	2.67%	725	91
City of Charleston	826	6	0.35%	783	43	662	7	2.16%	607	55
County of Charleston	770	7	0.32%	648	122	710	6	2.32%	627	83
County of Lexington	694	8	0.29%	624	70	532	8	1.74%	478	54
City of North Charleston	633	9	0.27%	611	22	528	9	1.72%	507	21
Spartanburg County Council	562	10	0.24%	437	125	521	10	1.70%	443	78
All Other	15,041		92.57%	13,041	2,000	12,739		41.72%	11,540	1,199
Total <sup>3</sup>	32,522		100.00%	28,835	3,687	30,561		100.00%	27,977	2,584

In 2017, "All Other" consisted of:

Type	Number	Employees
Quasi-State/Higher Ed	29	636
City/County	324	14,213
Public Schools	53	192
<b>Total</b>	<b>406</b>	<b>15,041</b>

In 2008, "All Other" consisted of:

Type	Number	Employees
Quasi-State/Higher Ed	26	558
City/County	292	12,069
Public Schools	49	112
<b>Total</b>	<b>367</b>	<b>12,739</b>

<sup>1</sup>The number of covered employees represents the total number of employees reported by the employer throughout the fiscal year which includes working retirees.

<sup>2</sup>Although each state agency reports separately, the State is considered the primary government and therefore, all state agencies are included as a single employer. Quasi-State Agencies and Institutions of Higher Education are counted as separate employers and included within the "State" category.

<sup>3</sup>Fiscal Year 2017 total includes 416 governmental entities and 2008 total includes 377 governmental entities.

## Revenue Capacity Information

*Revenue Capacity Information* is intended to assist users in realizing and reviewing the factors that affect the Systems' ability to generate revenues. Employee and employer contribution rates for the most recent ten fiscal years are presented to aid in this category.

Prior to fiscal year 2012, the employee contribution rates for SCRS and PORS were fixed by statute and had historically been changed infrequently, and any contribution increases determined by the annual actuarial valuations of the systems were made in the employer contribution rate. Retirement reform legislation enacted in 2012 set an increased contribution schedule for SCRS and PORS employee and employer contribution rates. The Retirement Funding and Administration Act of 2017 again increases, but also established a ceiling for, employee contribution rates. Effective July 1, 2017, employee rates will increase to a capped rate of 9.00 percent for SCRS and 9.75 percent for PORS. The legislation also increases employer contribution rates effective July 1, 2017 for both SCRS and PORS by 2 percentage points to 13.56 percent and 16.24 percent, respectively. Employer contribution rates are scheduled to continue to increase by a minimum of 1 percentage point each year through July 1, 2022, and further, if the scheduled contributions are not sufficient to meet the funding periods set for the applicable year.

Pension reform legislation also authorized the employer contribution rates for SCRS and PORS to be increased after June 30, 2027, not to exceed one-half of one percent in any one year in order to improve the funding of the plans. Further, the legislation reduced the maximum amortization period for the retirement systems from 30 years to 20 years over a ten-year schedule for the unfunded liability of SCRS or PORS, as determined by the annual actuarial valuations of the plan. Finally, under the legislation, the contribution rates for SCRS and PORS may not be decreased until the plans are at least 85 percent funded.

## Employee Contribution Rates

Most Recent 10 Fiscal Years

Fiscal Year Ended June 30,	SCRS Class II & III	PORS Class II & III	GARS <sup>1</sup>	JSRS	SCNG
2017	8.66%	9.24%	11.00%	10.00%	N/A
2016	8.16%	8.74%	11.00%	10.00%	N/A
2015	8.00%	8.41%	11.00%	10.00%	N/A
2014	7.50%	7.84%	11.00%	10.00%	N/A
2013	7.00%	7.00%	11.00%	10.00%	N/A
2012	6.50%	6.50%	10.00%	10.00%	N/A
2011	6.50%	6.50%	10.00%	10.00%	N/A
2010	6.50%	6.50%	10.00%	10.00%	N/A
2009	6.50%	6.50%	10.00%	10.00%	N/A
2008	6.50%	6.50%	10.00%	10.00%	N/A

<sup>1</sup>The General Assembly Retirement System (GARS) employee contribution rate increased from 10 percent of earnable compensation to 11 percent of earnable compensation effective January 1, 2013.

## Employer Contribution Rates<sup>1</sup>

Most Recent 10 Fiscal Years

Fiscal Year Ended June 30,	SCRS - Class II & III <sup>2</sup>			PORS - Class II & III <sup>2</sup>			JSRS	
	State Dept & Public Schools	Local Government	Death Benefit	All Employers	Death Benefit	Accidental Death	All Employers	Death Benefit
2017	11.410%	11.410%	0.15%	13.840%	0.20%	0.20%	47.52%	0.45%
2016	10.910%	10.910%	0.15%	13.340%	0.20%	0.20%	47.52%	0.45%
2015	10.750%	10.750%	0.15%	13.010%	0.20%	0.20%	47.52%	0.45%
2014	10.450%	10.450%	0.15%	12.440%	0.20%	0.20%	46.88%	0.45%
2013	10.450%	10.450%	0.15%	11.900%	0.20%	0.20%	44.64%	0.45%
2012	9.385%	9.385%	0.15%	11.363%	0.20%	0.20%	44.64%	0.45%
2011	9.240%	9.240%	0.15%	11.130%	0.20%	0.20%	44.64%	0.45%
2010	9.240%	9.240%	0.15%	10.650%	0.20%	0.20%	44.64%	0.45%
2009	9.240%	9.240%	0.15%	10.650%	0.20%	0.20%	44.64%	0.45%
2008	9.060%	9.060%	0.15%	10.300%	0.20%	0.20%	44.64%	0.45%

<sup>1</sup>This schedule does not include employer contributions for the GARS because amounts are paid as an annual lump-sum appropriation, for which incidental death benefit contributions are included. The schedule also does not include employer contributions for the SCNG which are paid through an annual State appropriation.

<sup>2</sup>For employers with retiree insurance coverage, an additional retiree health insurance surcharge is collected by the Retirement Systems as a pass-through agency and amounts are remitted to the South Carolina Retiree Health Insurance Trust Fund; therefore, these insurance rates are not included in this schedule.

## Demographic and Economic Information

*Demographic and Economic Information* is intended to assist users in evaluating the socioeconomic environment within which the Systems operate and to provide information that facilitates comparisons of financial statement information over time and among pension plans. Active and retired member data for the past ten fiscal years can be found in the Actuarial Section on pages 171-173 and 179-181.

A list of the number of employers currently participating in the SCRS and PORS systems is presented in this section. State agencies, institutions of higher education, and public school districts are covered by Statute. The list of participating employers includes a directory of employers covered by separate agreement. This list includes employers who submitted contributions during the fiscal year ending June 30, 2017, for active members or working retirees.

## Participating Employers

As of June 30, 2017

<b>Participating Employers Covered by Statute</b>	<b><u>SCRS</u></b>	<b><u>PORS</u></b>
State Agencies & Institutions of Higher Education	33	30
Public School Districts	118	53
<b>Participating Employers Covered by Separate Agreement</b>	<b>578</b>	<b>333</b>

<b><u>Name</u></b>	<b><u>SCRS</u></b>	<b><u>PORS</u></b>
ABBEVILLE COUNTY COUNCIL	Y	Y
ABBEVILLE GREENWOOD REGIONAL LIBRARY BD	Y	
AIKEN BAMBERG BRNWELL EDGEFLD REG LIB BD	Y	
AIKEN COUNTY COMM ON ALCOHOL&DRUG ABUSE	Y	Y
ALLENDALE COUNTY COUNCIL	Y	Y
ALLENDALE COUNTY OFFICE ON AGING	Y	
ALLENDALE HAMPTON JASPER REG LIBRARY	Y	
ALLENDALE-BARNWELL DIS & SPEC NEEDS BD	Y	
ALLIGATOR RURAL WATER & SEWER CO	Y	
ANDERSON CO COMM ON ALCOHOL & DRUG ABUSE	Y	
ANDERSON CO COUNCIL-FINANCE OFFICE	Y	Y
ANDERSON CO DISABILITIES & SPEC NEEDS BD	Y	
ANDERSON CO FIRE PROTECTION COMMISSION	Y	Y
ANDERSON COUNTY LIBRARY BOARD	Y	
ANDERSON REGIONAL JOINT WATER SYSTEM	Y	
ASHLEY RIVER FIRE DISTRICT	Y	Y
AXIS I CENTER OF BARNWELL	Y	
BAMBERG BOARD OF PUBLIC WORKS	Y	
BAMBERG CO DISBILITIES & SPEC NEEDS BD	Y	
BAMBERG COUNTY COUNCIL	Y	Y
BAMBERG COUNTY OFFICE ON AGING	Y	Y
BARNWELL COUNTY COUNCIL	Y	Y
BDST SERVICES, INC.	Y	
BEAUFORT MEMORIAL HOSPITAL	Y	Y
BEAUFORT SOIL & WATER CONSERVATION DIST	Y	
BEAUFORT-JASPER CO WATER AUTHORITY	Y	
BEECH ISLAND RURAL COMMUNITY WATER DIST	Y	
BELMONT FIRE & SANITATION DIST COMM	Y	Y
BELTON-HONEA PATH WATER AUTHORITY	Y	
BEREA PUBLIC SERVICE DISTRICT COMMISSION	Y	
BERKELEY CHARLESTON DORCHESTER COUNCIL	Y	
BERKELEY CHARLESTON DORCHESTER RTMA	Y	
BERKELEY COUNTY GOVT-ATTN:FINANCE DEPT	Y	Y
BETHUNE RURAL WATER COMPANY INC	Y	
BIG CREEK WATER AND SEWERAGE DISTRICT	Y	
BLUE RIDGE RURAL WATER COMPANY, INC.	Y	
BLUFFTON TOWNSHIP FIRE DISTRICT	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
BOILING SPRINGS FIRE DEPARTMENT		Y
BOILING SPRINGS FIRE DISTRICT	Y	Y
BROADWAY WATER AND SEWER DISTRICT	Y	
BROWNS CREEK WATER COMPANY, INC.	Y	Y
BUCKSPORT WATER SYSTEM, INC.	Y	
BURTON CNTER FOR DIS & SPC ND	Y	Y
BURTON FIRE DISTRICT	Y	Y
CALHOUN CO DISABILITIES & SPEC NEEDS BD	Y	
CALHOUN COUNTY COUNCIL	Y	Y
CALHOUN COUNTY COUNCIL ON AGING	Y	
CAROMI VILLAGE VOLUNTEER FIRE DEPARTMENT		Y
CATAWBA AREA AGENCY ON AGING	Y	
CATAWBA REGIONAL COUNCIL OF GOVERNMENTS	Y	
CCHS DBA PALMETTO COMMUNITY ACTION PRS	Y	
CENTRAL MIDLANDS COUNCIL OF GOVERNMENTS	Y	
CENTRAL MIDLANDS REGIONAL TRANSIT AUTHOR	Y	
CHARLESTON AREA TRANSPORTATION AUTHORITY	Y	
CHARLESTON CO HOUSING & REDEV AUTHORITY	Y	
CHARLESTON CO PARK AND RECREATION COMM	Y	
CHARLESTON COMMISSIONERS OF PUBLIC WORKS	Y	
CHARLESTON COUNTY AIRPORT DISTRICT	Y	Y
CHARLESTON COUNTY LIBRARY	Y	
CHARLESTON NAVAL COMPLEX REDEVELOPMENT	Y	
CHEROKEE CO COMM ON ALCOHOL & DRUG ABUSE	Y	
CHEROKEE CO DISABILITIES & SPEC NEEDS BD	Y	Y
CHEROKEE COUNTY COUNCIL	Y	Y
CHEROKEE COUNTY DEVELOPMENT BOARD	Y	
CHEROKEE COUNTY PUBLIC LIBRARY	Y	
CHEROKEE COUNTY RECREATION DIST	Y	
CHEROKEE SPRINGS FIRE DISTRICT		Y
CHESCO SERVICES	Y	Y
CHESTER CO BD OF DIRECTORS	Y	Y
CHESTER CO HOSPITAL & NURSING CTR., INC.	Y	
CHESTER COUNTY LIBRARY	Y	
CHESTER METRO DISTRICT	Y	
CHESTER SEWER DISTRICT	Y	
CHESTER/LANCASTER CO DSN BOARD, INC.	Y	
CHESTERFIELD CO RURAL WATER CO INC	Y	Y
CHESTERFIELD COUNTY COUNCIL	Y	Y
CHESTERFIELD SOIL & WATER CONS DISTRICT	Y	
CITY OF ABBEVILLE	Y	Y
CITY OF AIKEN		Y
CITY OF ANDERSON		Y
CITY OF BAMBERG	Y	Y
CITY OF BARNWELL	Y	Y
CITY OF BEAUFORT	Y	Y
CITY OF BELTON	Y	Y
CITY OF BENNETTSVILLE	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
CITY OF CAMDEN & MUNICIPAL UTILITIES	Y	Y
CITY OF CAYCE	Y	Y
CITY OF CHARLESTON	Y	Y
CITY OF CHESTER	Y	Y
CITY OF CLEMSON	Y	Y
CITY OF CLINTON	Y	Y
CITY OF COLUMBIA	Y	Y
CITY OF CONWAY	Y	Y
CITY OF DARLINGTON	Y	Y
CITY OF DENMARK	Y	Y
CITY OF DILLON	Y	Y
CITY OF EASLEY	Y	Y
CITY OF FLORENCE	Y	Y
CITY OF FOLLY BEACH	Y	Y
CITY OF FOREST ACRES	Y	Y
CITY OF FOUNTAIN INN	Y	Y
CITY OF GAFFNEY	Y	Y
CITY OF GEORGETOWN	Y	Y
CITY OF GOOSE CREEK	Y	Y
CITY OF GREENVILLE	Y	Y
CITY OF GREENWOOD	Y	Y
CITY OF GREER	Y	Y
CITY OF HANAHAN	Y	Y
CITY OF HARDEEVILLE	Y	Y
CITY OF HARTSVILLE	Y	Y
CITY OF INMAN	Y	Y
CITY OF ISLE OF PALMS	Y	Y
CITY OF JOHNSONVILLE	Y	Y
CITY OF LAKE CITY	Y	Y
CITY OF LANCASTER	Y	Y
CITY OF LAURENS	Y	Y
CITY OF LIBERTY	Y	Y
CITY OF LORIS	Y	Y
CITY OF MANNING	Y	Y
CITY OF MARION	Y	Y
CITY OF MAULDIN	Y	Y
CITY OF MULLINS	Y	Y
CITY OF MYRTLE BEACH	Y	Y
CITY OF NEW ELLENTON	Y	Y
CITY OF NEWBERRY	Y	Y
CITY OF NORTH AUGUSTA	Y	Y
CITY OF NORTH CHARLESTON	Y	Y
CITY OF NORTH MYRTLE BEACH		Y
CITY OF ORANGEBURG	Y	Y
CITY OF PICKENS	Y	Y
CITY OF ROCK HILL	Y	Y
CITY OF SENECA	Y	Y
CITY OF SIMPSONVILLE	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
CITY OF SPARTANBURG	Y	Y
CITY OF SUMTER	Y	Y
CITY OF TEGA CAY	Y	Y
CITY OF TRAVELERS REST	Y	Y
CITY OF UNION	Y	Y
CITY OF WALHALLA	Y	Y
CITY OF WALTERBORO	Y	Y
CITY OF WEST COLUMBIA	Y	Y
CITY OF WOODRUFF	Y	Y
CITY OF YORK	Y	Y
CLARENDON CO COMM ON ALCOHOL & DRUG ABUS	Y	
CLARENDON CO DISB & SPECIAL NEEDS BOARD	Y	Y
CLARENDON COUNTY	Y	Y
CLEAR SPRING FIRE-RESCUE	Y	Y
CLINTON NEWBERRY NATURAL GAS AUTHORITY	Y	Y
COLLETON CO DISABILITIES & SPEC NEED BD	Y	
COLUMBIA HOUSING AUTHORITY	Y	
COLUMBIA MUSEUM OF ART	Y	
COMBINED UTILITY SYSTEM	Y	
COMM OF PUBLIC WORKS MUNICIPAL UTILITIES	Y	
COMMISSION ON PUBLIC WORKS	Y	
CONVERSE FIRE DISTRICT		Y
COUNTY COUNCIL FOR DORCHESTER COUNTY	Y	Y
COUNTY COUNCIL OF BEAUFORT COUNTY	Y	Y
COUNTY COUNCIL OF NEWBERRY COUNTY	Y	Y
COUNTY COUNCIL OF PICKENS COUNTY	Y	Y
COUNTY COUNCIL OF RICHLAND COUNTY	Y	Y
COUNTY OF AIKEN	Y	Y
COUNTY OF CHARLESTON	Y	Y
COUNTY OF COLLETON	Y	Y
COUNTY OF HAMPTON	Y	Y
COUNTY OF LAURENS	Y	Y
COUNTY OF LEXINGTON	Y	Y
COUNTY OF MARLBORO	Y	Y
COUNTY OF MCCORMICK	Y	Y
CROFT FIRE DISTRICT		Y
CULTURAL & HERITAGE COMM OF YORK COUNTY	Y	Y
DARLINGTON CO COMMUNITY ACTION AGENCY	Y	
DARLINGTON CO DISAB & SPECIAL NEEDS BD	Y	Y
DARLINGTON CO SOIL & WATER CONS DISTRICT	Y	
DARLINGTON CO WATER & SEWER COMMISSION	Y	
DARLINGTON COUNTY COUNCIL	Y	Y
DARLINGTON COUNTY COUNCIL ON AGING	Y	
DARLINGTON COURT LIBRARY COMM	Y	
DAUFUSKIE ISLAND FIRE DISTRICT		Y
DILLON COUNTY COUNCIL	Y	Y
DILLON SOIL & WATER CONSERVATION DIST	Y	
DONALDS-DUE WEST WATER & SEWER AUTHORITY	Y	

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
DONALDSON FIRE SERVICE AREA	Y	
DORCHESTER CO BD OF DIS & SPECIAL NEEDS	Y	Y
DORCHESTER CO COMM ON ALCOHOL&DRUG ABUSE	Y	
DORCHESTER COUNTY LIBRARY	Y	
DORCHESTER COUNTY WATER AUTHORITY	Y	
DORCHESTER SENIORS, INC	Y	
DUNCAN CHAPEL FIRE DISTRICT	Y	
EASLEY CENTRAL WATER DISTRICT	Y	
EAST RICHLAND CO PUBLIC SERVICE DIST	Y	
EDGEFIELD COUNTY COUNCIL	Y	Y
EDGEFIELD COUNTY WATER & SEWER AUTHORITY	Y	
ELLOREE COMMISSION OF PUBLIC WORKS	Y	
FAIRFIELD CO DISAB & SPECIAL NEEDS BD	Y	Y
FAIRFIELD CO SUBSTANCE ABUSE COMMISSION	Y	
FAIRFIELD COUNTY COUNCIL	Y	Y
FAIRFIELD COUNTY COUNCIL ON AGING	Y	
FAIRFIELD COUNTY LIBRARY	Y	
FAIRFIELD MEMORIAL HOSPITAL	Y	
FLINT HILL FIRE DISTRICT		Y
FLORENCE CO COMM ON ALCOHOL & DRUG ABUSE	Y	
FLORENCE CO DISABILITIES & SPEC NEEDS BD	Y	Y
FLORENCE COUNTY COUNCIL	Y	Y
FLORENCE REGIONAL AIRPORT	Y	Y
FRIPP ISLAND PUBLIC SERVICE DISTRICT	Y	Y
GAFFNEY BOARD OF PUBLIC WORKS	Y	
GANTT FIRE SEWER AND POLICE DISTRICT	Y	Y
GASTON RURAL COMMUNITY WATER DISTRICT	Y	
GATEWAY COUNSELING CENTER	Y	
GENERATIONS UNLIMITED	Y	
GEORGETOWN CO ALCOHOL & DRUG ABUSE COMM	Y	
GEORGETOWN CO DISAB & SPECIAL NEED BD	Y	
GEORGETOWN COUNTY COUNCIL	Y	Y
GEORGETOWN COUNTY WATER AND SEWER DIST	Y	
GEORGETOWN SOIL & WATER CONSERVATION DIS	Y	
GILBERT-SUMMIT RURAL WATER DISTRICT	Y	
GLASSY MOUNTAIN FIRE SERVICE AREA	Y	Y
GLEAMNS HUMAN RESOURCES COMMISSION	Y	
GLENDALE FIRE DISTRICT	Y	
GLENN SPRINGS-PAULINE FIRE DEPT		Y
GRAND STRAND WATER & SEWER AUTHORITY	Y	
GRASSY POND WATER CO.INC.	Y	
GREATER GREENVILLE SANITATION COMM	Y	
GREENVILLE AIRPORT COMMISSION	Y	
GREENVILLE AREA DEVELOPMENT CORPORATION	Y	
GREENVILLE CO COM ON ALCOHOL-DRUG ABUSE	Y	
GREENVILLE CO DISAB & SPECIAL NEEDS BD	Y	Y
GREENVILLE CO MUSEUM COMMISSION	Y	
GREENVILLE COMM OF PUBLIC WORKS	Y	

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
GREENVILLE COUNTY COUNCIL	Y	Y
GREENVILLE COUNTY LIBRARY	Y	Y
GREENVILLE REDEVELOPMENT AUTHORITY	Y	
GREENVILLE-SPARTANBURG AIRPORT DISTRICT	Y	Y
GREENWOOD CO COUNCIL-ADM & FIN OFFICE	Y	Y
GREENWOOD COMM OF PUBLIC WORKS	Y	
GREENWOOD METROPOLITAN DISTRICT COMM	Y	
GREENWOOD SOIL & WATER CONSERVATON DIST	Y	
GREER COMMISSION OF PUBLIC WORKS	Y	Y
GREER DEVELOPMENT CORP	Y	
HAMPTON CO DISABILITIES & SPEC NEEDS BD	Y	
HARTSVILLE COMMUNITY CENTER BLDG COMM	Y	
HARVIN CLARENDON COUNTY LIBRARY	Y	
HAZEL PITTMAN CENTER	Y	
HIGH HILLS RURAL WATER CO., INC.	Y	
HILLTOP FIRE DISTRICT		Y
HILTON HEAD NO 1 PUBLIC SERVICE DISTRICT	Y	
HOLLY SPRINGS FIRE-RESCUE DISTRICT		Y
HOMELAND PARK WATER DISTRICT	Y	
HORRY CO COUNCIL	Y	Y
HORRY CO DISABILITIES & SPECIAL NEEDS BD	Y	
HORRY COUNTY SOLID WASTE AUTHORITY, INC	Y	Y
HORRY SOIL CONSERVATION DISTRICT	Y	
HOUSING AUTH OF THE CITY OF CHARLESTON	Y	Y
HOUSING AUTH OF THE CITY OF EASLEY	Y	
HOUSING AUTH OF THE CITY OF GREENWOOD	Y	
HOUSING AUTH OF THE CITY OF MYRTLE BEACH	Y	Y
HOUSING AUTH OF THE CITY OF NO CHAS	Y	
HOUSING AUTHORITY OF THE CITY OF SPARTANBURG	Y	Y
HOUSING AUTHORITY OF CITY OF NEWBERRY	Y	
HOUSING AUTHORITY OF CITY OF UNION	Y	Y
HOUSING AUTHORITY OF DARLINGTON	Y	
HOUSING AUTHORITY OF FLORENCE	Y	
HOUSING AUTHORITY OF FORT MILL	Y	
HOUSING AUTHORITY OF LANCASTER	Y	
HOUSING AUTHORITY OF THE CITY OF AIKEN	Y	
HOUSING AUTHORITY OF THE CITY OF CHESTER	Y	
HOUSING AUTHORITY OF THE CITY OF CONWAY	Y	
HOUSING AUTHORITY OF THE CITY OF GAFFNEY	Y	
HOUSING AUTHORITY OF TOWN OF WOODRUFF	Y	
HOUSING AUTY OF CITY OF SUMTER	Y	
HOWE SPRINGS FIRE DISTRICT		Y
INMAN COMMUNITY FIRE DEPARTMENT		Y
INMAN-CAMPOBELLO WATER DISTRICT	Y	Y
IRMO CHAPIN RECREATION DISTRICT	Y	Y
IRMO FIRE DISTRICT	Y	Y
ISLE OF PALMS WATER & SEWER COMMISSION	Y	
JAMES ISLAND PUBLIC SERVICE DIST COMM	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
JASPER CO BD OF DIS & SPECIAL NEEDS	Y	
JASPER COUNTY COUNCIL	Y	Y
JOHNSONVILLE FIRE DEPARTMENT	Y	Y
JOINT MUNICIPAL WATER & SEWER COMMISSION	Y	
KEOWEE FIRE TAX DISTRICT		Y
KERSHAW CO BD DOF DIS & SPECIAL NEEDS	Y	
KERSHAW CO COMM ON ALCOHOL & DRUG ABUSE	Y	
KERSHAW COUNTY COUNCIL	Y	Y
KINGSTREE HOUSING AUTHORITY	Y	
LADYS ISLAND - ST HELENA FIRE DISTRICT	Y	Y
LAKE CITY HOUSING AUTHORITY	Y	
LAKE CUNNINGHAM FIRE DISTRICT	Y	Y
LANCASTER CO COMM ON ALCOHOL&DRUG ABUSE	Y	
LANCASTER CO WATER & SEWER DISTRICT	Y	
LANCASTER COUNTY COUNCIL	Y	Y
LANCASTER COUNTY COUNCIL ON AGING	Y	Y
LANCASTER COUNTY NATURAL GAS AUTHORITY	Y	
LANCASTER SOIL & WATER CONSERVATION DIST	Y	
LAURENS CO DISABILITIES & SPEC NEEDS BD	Y	
LAURENS COMMISSIONERS OF PUBLIC WORKS	Y	
LAURENS COUNTY WATER & SEWER COMMISSION	Y	
LEE CO DISABILITIES & SPECIAL NEEDS BD	Y	
LEE COUNTY COUNCIL	Y	Y
LEXINGTON MEDICAL CENTER	Y	Y
LEX-RICH ALCOHOL & DRUG ABUSE COUNCIL	Y	Y
LIBERTY-CHESNEE-FINGERVILLE WATER DIST	Y	
LITTLE RIVER WATER & SEWER CO., INC	Y	
LOWCOUNTRY COUNCIL OF GOVERNMENTS	Y	
LOWCOUNTRY REGIONAL EMS COUNCIL	Y	
LOWCOUNTRY REGIONAL TRANSPORTATION AUTH	Y	
LOWCOUNTRY REGIONAL WATER SYSTEM	Y	
LOWER SAVANNAH COUNCIL OF GOVERNMENTS	Y	
LUGOFF FIRE DISTRICT		Y
LUGOFF WATER DISTRICT OF KERSHAW COUNTY	Y	
MARCO RURAL WATER CO., INC.	Y	
MARION CO COM ON ALCOHOL & DRUG ABUSE	Y	
MARION COUNTY COUNCIL	Y	Y
MARION COUNTY LIBRARY	Y	
MARION-DILLON CO DISAB & SPEC NEEDS BD	Y	
MARLBORO CO DISABILITIES & SPEC NEEDS BD	Y	
MARLBORO WATER COMPANY	Y	
MCCORMICK COMM OF PUBLIC WORKS	Y	
MCCORMICK COUNTY COUNCIL ON AGING	Y	
MCCORMICK COUNTY WATER & SEWER AUTHORITY	Y	
METROPOLITAN SEWER SUB-DISTRICT	Y	
METROPOLITAN SUBDISTRICT B WATER & SEWER	Y	
MID COUNTY WATER COMPANY, INC	Y	
MONCK'S CORNER WATER WORKS COMMISSION	Y	

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
MT PLEASANT WATER & SEWER COMM	Y	
MUNICIPAL ASSOCIATION OF SOUTH CAROLINA	Y	
MURRELLS INLET-GARDEN CITY FIRE DIST	Y	Y
N SPARTANBURG AREA FIRE & RESCUE DIST	Y	
NEW ELLENTON COMM OF PUBLIC WORKS	Y	
NEW LIFE CENTER	Y	
NEWBERRY CO DISABILITIES & SP ND BD	Y	Y
NEWBERRY CO WATER AND SEWER AUTHORITY	Y	
NEWBERRY COUNTY LIBRARY	Y	
NORTH CHARLESTON SEWER DISTRICT	Y	
NORTH GREENVILLE FIRE DISTRICT		Y
OCONEE COUNTY	Y	Y
OCONEE DISABILITIES & SPEC NEEDS BD	Y	
OCONEE JOINT REGIONAL SEWER AUTHORITY	Y	
OLANTA RURAL FIRE DEPARTMENT		Y
OLD FORT FIRE DISTRICT	Y	Y
OLD NINETY SIX TOURISM COMMISSION	Y	
OLD TOWN FIRE AND RESCUE DEPARTMENT	Y	
OLDE ENGLISH DISTRICT TOURISM COMMISSION	Y	
ORANGEBURG CO DISAB & SPECIAL NEEDS BD	Y	Y
ORANGEBURG COUNTY COUNCIL	Y	Y
ORANGEBURG DEPT OF PUBLIC UTILITIES	Y	
PALMETTO STATE TEACHERS ASSOCIATION	Y	
PARKER SEWER & FIRE SUBDISTRICT	Y	Y
PEE DEE REGIONAL COUNCIL OF GOVERNMENTS	Y	
PEE DEE REGIONAL EMS, INC	Y	
PEE DEE REGIONAL TRANSPORTATION AUTH	Y	Y
PELHAM BATESVILLE FIRE DEPARTMENT	Y	Y
PENDLETON DIS HISTORICAL & REC COMM	Y	
PICKENS CO COMM ON ALCOHOL & DRUG ABUSE	Y	
PICKENS CO DISABILITIES & SPEC NEEDS BD	Y	
PIEDMONT PARK FIRE DISTRICT	Y	Y
PIEDMONT PUBLIC SERVICE DISTRICT		Y
PINE RIDGE FIRE DEPARTMENT		Y
PIONEER RURAL WATER DISTRICT	Y	
POPLAR SPRINGS FIRE DEPARTMENT		Y
POWDERSVILLE WATER DISTRICT	Y	
REC DIST & REC COMM OF RICHLAND COUNTY	Y	Y
RECREATION DIST LEXINGTON CO	Y	Y
REIDVILLE FIRE DISTRICT		Y
RENEWABLE WATER RESOURCES(RE-WA)	Y	
RICH/LEX CO DISAB & SPECIAL NEEDS BD	Y	
RICHLAND COUNTY PUBLIC LIBRARY	Y	Y
RICHLAND LEXINGTON AIRPORT DISTRICT	Y	Y
RICHLAND MEMORIAL/PALMETTO HEALTH	Y	
RIVERBANKS PARK COMMISSION	Y	Y
ROCKY CREEK WATER COMPANY, INC	Y	
ROEBUCK FIRE DEPARTMENT		Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
RUBICON	Y	
RURAL COMM WATER DIST OF GEORGETOWN CO	Y	
S C EDUCATION ASSN	Y	
S C HIGH SCHOOL LEAGUE	Y	
S C STATE EMPLOYEES' ASSOCIATION	Y	
SALUDA COMMISSION OF PUBLIC WORKS	Y	
SALUDA COUNTY COUNCIL	Y	Y
SALUDA COUNTY WATER & SEWER AUTHORITY	Y	
SANDY SPRINGS WATER COMPANY	Y	
SANTEE COOPER COUNTIES PROMOTION COMM	Y	
SANTEE FIRE SERVICE DISTRICT	Y	Y
SANTEE-LYNCHES COUNCIL FOR GOVERNMENTS	Y	
SANTEE-WATEREE REG TRANSPORTATION AUTH	Y	
SC APPALACHIAN COUNCIL OF GOVERNMENTS	Y	
SC ASSOCIATION OF COUNTIES	Y	
SC ASSOCIATION OF SCHOOL ADMINISTRATORS	Y	
SC ASSOCIATION OF SCHOOL BOARDS	Y	
SC ATHLETIC COACHES ASSOCIATION	Y	
SC LAW ENFORCEMENT OFFICERS ASSOCIATION	Y	
SC MIDLANDS EMER MED SER MGM ASSOC	Y	
SC STATE CREDIT UNION	Y	
SC STATE FIREMENS ASSOCIATION	Y	
SHELDON FIRE DISTRICT	Y	Y
SHORELINE BEHAVIORAL HEALTH SERVICES	Y	
SIX MILE RURAL WATER DISTRICT	Y	
SLATER-MARIETTA FIRE DEPT		Y
SOUTH CAROLINA SHERIFFS' ASSOCIATION	Y	
SOUTH CAROLINA TECHNOLOGY & AVIATION CTR	Y	
SOUTH GREENVILLE AREA FIRE DISTRICT	Y	Y
SOUTH ISLAND PUBLIC SERVICE DISTRICT	Y	
SOUTH LYNCHES FIRE DEPARTMENT		Y
SOUTHSIDE RURAL COMMUNITY WATER DIST	Y	
SPARTANBURG COMRS OF PUBLIC WORK	Y	
SPARTANBURG COUNTY COUNCIL	Y	Y
SPARTANBURG PUBLIC LIBRARY	Y	Y
SPARTANBURG REGIONAL MEDICAL CENTER	Y	Y
SPARTANBURG SANITARY SEWER DIST	Y	
ST ANDREWS PARISH PARKS & PLAYGROUNDS	Y	
ST ANDREWS PUBLIC SERVICE DIST COMM	Y	
ST GEORGE WATER AND SEWER DEPARTMENT	Y	
ST JOHNS FIRE DISTRICT	Y	Y
ST PAULS FIRE DISTRICT	Y	Y
STARR-IVA WATER COMPANY	Y	
STARTEX JACKSON WELLD DUNCAN WATER DIST	Y	
SUMTER CO COM ON ALCOHOL & DRUG ABUSE	Y	
SUMTER CO DISABILITIES & SPEC NEEDS BD	Y	Y
SUMTER CONSERVATION DISTRICT	Y	
SUMTER COUNTY COUNCIL	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
SUMTER COUNTY LIBRARY	Y	
TAYLORS FIRE AND SEWER DISTRICT	Y	Y
THE ERNEST E KENNEDY CENTER	Y	
THE PEE DEE TOURISM COMMISSION	Y	
THE RIVER ALLIANCE	Y	
THREE RIVERS SOLID WASTE AUTHORITY	Y	
TIGERVILLE FIRE DEPARTMENT		Y
TOWN OF ALLENDALE	Y	Y
TOWN OF ANDREWS	Y	Y
TOWN OF ATLANTIC BEACH	Y	Y
TOWN OF AYNOR	Y	Y
TOWN OF BATESBURG-LEESVILLE	Y	Y
TOWN OF BETHUNE	Y	Y
TOWN OF BISHOPVILLE	Y	Y
TOWN OF BLACKSBURG	Y	Y
TOWN OF BLACKVILLE	Y	
TOWN OF BLUFFTON	Y	Y
TOWN OF BLYTHEWOOD	Y	
TOWN OF BONNEAU		Y
TOWN OF BOWMAN	Y	Y
TOWN OF BRANCHVILLE	Y	Y
TOWN OF BRIARCLIFFE ACRES	Y	Y
TOWN OF BRUNSON	Y	
TOWN OF BURNETTOWN	Y	Y
TOWN OF CALHOUN FALLS	Y	Y
TOWN OF CAMERON	Y	Y
TOWN OF CAMPOBELLO	Y	Y
TOWN OF CARLISLE	Y	
TOWN OF CENTRAL	Y	Y
TOWN OF CHAPIN	Y	Y
TOWN OF CHERAW	Y	Y
TOWN OF CHESNEE	Y	Y
TOWN OF CHESTERFIELD	Y	Y
TOWN OF CLIO	Y	Y
TOWN OF CLOVER	Y	Y
TOWN OF CORDOVA	Y	
TOWN OF COTTAGEVILLE	Y	Y
TOWN OF COWARD	Y	Y
TOWN OF COWPENS	Y	Y
TOWN OF DUE WEST	Y	Y
TOWN OF DUNCAN	Y	Y
TOWN OF EASTOVER	Y	
TOWN OF EDGEFIELD	Y	Y
TOWN OF EDISTO BEACH	Y	Y
TOWN OF EHRHARDT	Y	Y
TOWN OF ELGIN	Y	Y
TOWN OF ELKO	Y	
TOWN OF ELLOREE	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
TOWN OF ESTILL	Y	Y
TOWN OF EUTAWVILLE	Y	Y
TOWN OF FAIRFAX	Y	Y
TOWN OF FORT LAWN	Y	Y
TOWN OF FORT MILL	Y	Y
TOWN OF GASTON	Y	Y
TOWN OF GILBERT	Y	
TOWN OF GRAY COURT	Y	
TOWN OF GREAT FALLS	Y	Y
TOWN OF GREELEYVILLE	Y	Y
TOWN OF HAMPTON	Y	Y
TOWN OF HARLEYVILLE	Y	Y
TOWN OF HEATH SPRINGS	Y	
TOWN OF HEMINGWAY	Y	Y
TOWN OF HILTON HEAD ISLAND		Y
TOWN OF HOLLY HILL	Y	Y
TOWN OF HOLLYWOOD	Y	
TOWN OF HONEA PATH	Y	Y
TOWN OF IRMO	Y	Y
TOWN OF IVA	Y	Y
TOWN OF JACKSON	Y	Y
TOWN OF JAMES ISLAND	Y	Y
TOWN OF JAMESTOWN	Y	Y
TOWN OF JEFFERSON	Y	
TOWN OF JOHNSTON	Y	Y
TOWN OF JONESVILLE	Y	Y
TOWN OF KERSHAW	Y	
TOWN OF KIAWAH ISLAND	Y	Y
TOWN OF KINGSTREE	Y	Y
TOWN OF LAKE VIEW	Y	Y
TOWN OF LAMAR		Y
TOWN OF LANDRUM	Y	Y
TOWN OF LANE	Y	Y
TOWN OF LATTA	Y	Y
TOWN OF LEXINGTON	Y	Y
TOWN OF LINCOLNVILLE	Y	
TOWN OF LITTLE MOUNTAIN	Y	
TOWN OF LIVINGSTON	Y	
TOWN OF LYMAN	Y	Y
TOWN OF MAYESVILLE	Y	
TOWN OF MCBEE	Y	Y
TOWN OF MCCLELLANVILLE	Y	
TOWN OF MCCOLL	Y	Y
TOWN OF MCCORMICK	Y	Y
TOWN OF MEGGETT	Y	
TOWN OF MONCK'S CORNER	Y	Y
TOWN OF MONETTA	Y	
TOWN OF MT PLEASANT	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
TOWN OF MT. CROGHAN	Y	
TOWN OF NICHOLS	Y	Y
TOWN OF NINETY-SIX	Y	Y
TOWN OF NORRIS	Y	
TOWN OF NORTH	Y	Y
TOWN OF NORWAY	Y	Y
TOWN OF OLANTA	Y	Y
TOWN OF OLAR	Y	Y
TOWN OF PACOLET	Y	Y
TOWN OF PAGELAND	Y	Y
TOWN OF PAMPLICO	Y	Y
TOWN OF PARKSVILLE	Y	
TOWN OF PATRICK	Y	
TOWN OF PELION	Y	Y
TOWN OF PELZER	Y	
TOWN OF PENDLETON	Y	Y
TOWN OF PERRY	Y	Y
TOWN OF PINE RIDGE	Y	Y
TOWN OF PINWOOD	Y	
TOWN OF POMARIA	Y	
TOWN OF PORT ROYAL	Y	Y
TOWN OF PROSPERITY	Y	Y
TOWN OF QUINBY	Y	Y
TOWN OF RAVENEL	Y	
TOWN OF REEVESVILLE	Y	
TOWN OF RIDGE SPRING	Y	Y
TOWN OF RIDGELAND	Y	Y
TOWN OF RIDGEVILLE	Y	Y
TOWN OF RIDGEWAY	Y	Y
TOWN OF RUBY	Y	
TOWN OF SALLEY	Y	Y
TOWN OF SALUDA	Y	Y
TOWN OF SANTEE	Y	Y
TOWN OF SCRANTON	Y	Y
TOWN OF SEABROOK ISLAND	Y	
TOWN OF SIX MILE	Y	
TOWN OF SNELLING	Y	
TOWN OF SOCIETY HILL	Y	Y
TOWN OF SOUTH CONGAREE	Y	Y
TOWN OF SPRINGDALE	Y	Y
TOWN OF SPRINGFIELD	Y	Y
TOWN OF ST GEORGE	Y	Y
TOWN OF ST MATTHEWS	Y	Y
TOWN OF ST STEPHEN	Y	Y
TOWN OF SULLIVANS ISLAND	Y	Y
TOWN OF SUMMERTON	Y	Y
TOWN OF SUMMERVILLE	Y	Y
TOWN OF SURFSIDE BEACH	Y	Y

<u>Name</u>	<u>SCRS</u>	<u>PORS</u>
TOWN OF SWANSEA	Y	Y
TOWN OF TIMMONSVILLE	Y	Y
TOWN OF TRENTON	Y	Y
TOWN OF TURBEVILLE	Y	Y
TOWN OF VARNVILLE	Y	Y
TOWN OF WAGENER	Y	Y
TOWN OF WARE SHOALS	Y	Y
TOWN OF WELLFORD	Y	Y
TOWN OF WEST PELZER	Y	Y
TOWN OF WEST UNION	Y	Y
TOWN OF WESTMINSTER	Y	Y
TOWN OF WHITMIRE	Y	Y
TOWN OF WILLIAMSTON	Y	Y
TOWN OF WILLISTON	Y	Y
TOWN OF WINNSBORO	Y	Y
TOWN OF YEMASSEE	Y	Y
TRI-COUNTY COMM ON ALCOHOL & DRUG ABUSE	Y	
TRI-COUNTY SOLID WASTE AUTHORITY	Y	
TYGER RIVER FIRE DISTRICT	Y	Y
UNA FIRE DEPARTMENT		Y
UNION CO DISABILITIES & SPECIAL NEEDS BD	Y	
UNION COUNTY CARNEGIE LIBRARY	Y	
UNION COUNTY COUNCIL OF AGING	Y	
UNION COUNTY DEVELOPMENT BOARD	Y	
UNION COUNTY SUPERVISOR	Y	Y
UPPER SAVANNAH COUNCIL OF GOVERNMENTS	Y	
VALLEY PUBLIC SERVICE AUTHORITY	Y	
WACCAMAW ECONOMIC OPPORTUNITY COUNCIL	Y	
WACCAMAW REGIONAL COUNCIL OF GOVERNMENTS	Y	
WACCAMAW REGIONAL TRANSPORTATION AUTH	Y	
WADE HAMPTON FIRE & SEWER DISTRICT	Y	Y
WEST FLORENCE RURAL VOLUNTEER FIRE DIST		Y
WESTVIEW BEHAVIORAL HEALTH SERVICES	Y	
WESTVIEW-FAIRFOREST FIRE DEPARTMENT	Y	Y
WHITESVILLE RURAL VOL FIRE DEPT		Y
WHITMIRE COMM OF PUBLIC WORKS	Y	
WHITNEY AREA FIRE DEPT		Y
WILLIAMSBURG CO DISAB & SPECIAL NEEDS BD	Y	
WILLIAMSBURG COUNTY COUNCIL	Y	Y
WILLIAMSBURG COUNTY LIBRARY	Y	
WINDY HILL VOLUNTEER FIRE COMPANY		Y
WOODRUFF ROEBUCK WATER DISTRICT	Y	
YORK CO COVENTION & VISITORS BUREAU	Y	
YORK CO DISABILITIES & SPECIAL NEEDS BD	Y	
YORK COUNTY	Y	Y
YORK COUNTY COUNCIL ON AGING	Y	Y
YORK COUNTY LIBRARY	Y	
YORK SOIL & WATER CONSERVATION DIST	Y	

This page contains no other content.



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