NORTH CAROLINA
DEPARTMENT OF STATE TREASURER

STATE TREASURER OF NORTH CAROLINA
DALE R. FOLWELL, CPA
Dale R. Folwell, CPA

FINANCIAL OPERATIONS

FRAN LAWRENCE
CHIEF FINANCIAL OFFICER

MEMORANDUM

DATE: January 8, 2018

TO: Teachers' and State Employees' Retirement System Board of Trustees
Local Governmental Employees' Retirement System Board of Trustees

FROM: Fran Lawrence, Deputy Treasurer/Chief Financial Officer FL

SUBJECT: Retirement Systems June 30, 2017 Financial Reporting Update

Purpose & Overview of Financial Data

The Office of the State Controller (OSC) released North Carolina's 2017 Comprehensive Annual Financial Report (CAFR) on December 14, 2017. Attached to this memo are excerpts of the CAFR that relate to the North Carolina Department of State Treasurer Retirement System's financial results for the year ended June 30, 2017. The purpose of this memo is to provide an overview of the Pension Plan data in the June 30, 2017 CAFR.

The CAFR is prepared each year by OSC and audited by the Office of the State Auditor (OSA). The report, which outlines North Carolina's financial condition, has received an unqualified opinion from the auditors, indicating that it fairly represents the financial position of the State. The full 2017 CAFR, as well as a summary Financial Highlights report of the 2017 CAFR, is available on the OSC website at https://www.osc.nc.gov/public-information/2017-cafr .

Every fiscal year, all State agencies and component units of the State prepare annual financial information in the form and time frame required by the State Controller. The Department of State Treasurer (DST) is a significant data provider to OSC regarding State debt, State Health Plan, Retirement Systems, External Investment Pools, and Escheat fund. Due to the volume of data, OSA conducts a separate audit of the DST information provided to OSC. There have been no audit findings in DST's CAFR audits in the last 6 years.

Pension Plan and Other Post-Employment (OPEB) Data in CAFR

The Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position on pages 66 and 67 have a column titled 'Pension and Other Employee Benefit Trust Funds'. This is the financial data that includes the Pension plan information that is referred to in footnotes 2, 3, 12, 14, 15, 16 and Required Supplementary Information.

'Changes in Financial Accounting and Reporting' is Note 2 beginning on page 82. All pension and other post-employment benefit related accounting statements that have changed are summarized in this footnote. GASB 73 was implemented with minimal impact to DST and GASB 74 had significant changes to the disclosures that DST prepares for OSC.

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Next year's CAFR will include another OPEB Statement that was issued in June 2015:

- Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,* provides guidance for reporting by governments that provide OPEB to their employees and for governments that finance OPEB for employees of other employers. Effective fiscal year end June 30, 2018.

'Deposits and Investments' is Note 3 beginning on page 84. The CAFR disclosures in Section A. 'Deposits and Investments with State Treasurer' are consistent with prior year and reference the separately issued stand-alone financial statement audit of the DST External Investment Pools. This was the third year that there were separately issued financial statements for which DST has received a clean opinion from an external audit firm. The link to the report is: https://www.nctreasurer.com/inv/Investment%20Reports/NC%20State%20Investment%20Trust%20FS%20-%20FINAL.pdf .

'Retirement Plans' is Note 12 beginning on page 123. There are seven pension plans that DST administers – Teachers' and State Employees' Retirement System, Local Government Employees' Retirement System, Firefighters' and Rescue Squad Workers' Pension Fund, Register of Deeds' Supplemental Pension Fund, Consolidated Judicial Retirement System, Legislative Retirement System, and North Carolina National Guard Pension Plan. Sections A through E is disclosure on each of the Pension Plans and includes Significant Accounting Policies, Plan Descriptions - overview of each plan, membership, Investment disclosures, Net pension liability/asset, and Actuarial Assumptions. Section F is disclosure for Employer Reporting.

'Other Postemployment Benefits' is Note 14 beginning on page 143. There are three OPEBs that DST administers - Retiree Health Benefit Trust Fund, the Disability Income Plan of North Carolina, and the Retirees' Contributory Death Benefit. Sections A through E is disclosure on the OPEBs and includes Significant Accounting Policies, OPEB Descriptions - overview of each OPEB, membership, Investment disclosures, Net OPEB liability/asset, and Actuarial Assumptions. Section F is disclosure for Employer Reporting.

'Risk Management and Insurance' is Note 15 beginning on page 153. Section B. 'Employee Benefit Plans' includes additional OPEB disclosure for the Death Benefit Plan of North Carolina and the Disability Income Plan of North Carolina.

'Individual Plan Financial Statements – Pension and Other Post Employee Benefit Trust Funds' is Note 16 beginning on page 160. These are the individual statements of fiduciary net position and changes in fiduciary net position by Plan. There are 12 Plans administered by DST in this note. The Sheriff's Pension Fund is administered by Department of Justice. The Total on the 'Combining Statement of Fiduciary Net Position' ties to the State level financial statements on page 66 column titled 'Pension and Other Employee Benefit Trust Funds' as referenced above.

'Required Supplementary Information' (RSI) for Pensions beginning on page 181 distinguishes between information required for Pension Plans and information required by Employers. There are five schedules for the Pension Plans and three schedules for Employers. Notes to the tables are included as deemed necessary by management in accordance with accounting guidance.

RSI for Other Post-Employment Benefit Plans beginning on page 201 contains four schedules. Notes to the tables are included as deemed necessary by management in accordance with accounting guidance.

I hope that you find this financial information useful. Please don't hesitate to contact me if you have any questions.

NORTH CAROLINA

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR THE FISCAL YEAR
ENDED JUNE 30, 2017

ROY COOPER
GOVERNOR

LINDA COMBS
STATE CONTROLLER

Prepared by Statewide Accounting staff
Office of the State Controller

https://www.osc.nc.gov

STATEMENT OF FIDUCIARY NET POSITION
FIDUCIARY FUNDS

June 30, 2017

Exhibit B-6

(Dollars in Thousands)

	Pension and Other Employee Benefit Trust Funds	Investment Trust Funds	Private-Purpose Trust Funds	Agency Funds
Assets				
Cash and cash equivalents (Note 3)	$ 462,920	$ 7,922	$ 123,375	$ 5,311,582
Investments (Note 3):				
U.S. government and agency securities	—	—	103	—
Corporate bonds	—	—	—	1,175
Certificates of deposit	—	—	36,885	525
Collective investment funds	194,479	—	—	—
State Treasurer investment pool	94,927,088	1,198,240	6,733	—
Unallocated insurance contracts	813,752	—	—	—
Synthetic guaranteed investment contracts	1,465,849	—	—	—
Non-State Treasurer pooled investments	7,299,953	—	—	—
Securities lending collateral (Note 3)	705,567	866	9	5,507
Receivables:				
Taxes receivable	—	—	—	176,458
Accounts receivable	35,767	—	—	9,681
Interest receivable	665	2,005	7	52
Contributions receivable	149,978	—	—	—
Due from other funds (Note 10)	71,978	—	—	44,331
Due from component units	18,001	—	—	—
Notes receivable	306,076	—	—	—
Sureties	—	—	865,929	81,785
Total Assets	106,452,073	1,209,033	1,033,041	5,631,096
Liabilities				
Accounts payable and accrued liabilities:				
Accounts payable	1,368	—	—	3
Intergovernmental payable	—	—	—	901,487
Benefits payable	5,121	—	—	—
Obligations under securities lending	705,567	866	9	5,507
Deposits payable	—	—	—	1,907
Funds held for others	6,854	—	—	4,722,192
Total Liabilities	718,910	866	9	5,631,096
Net Position				
Restricted for:				
Pension benefits	102,422,755	—	—	—
Other postemployment benefits	1,634,176	—	—	—
Other employee benefits	1,676,232	—	—	—
Pool participants	—	799,377	—	—
Individuals, organizations, and other governments	—	408,790	1,033,032	—
Total Net Position	$ 105,733,163	$ 1,208,167	$ 1,033,032	$ —

The accompanying Notes to the Financial Statements are an integral part of this statement.

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FIDUCIARY FUNDS

For the Fiscal Year Ended June 30, 2017 — *Exhibit B-7*

(Dollars in Thousands)

	Pension and Other Employee Benefit Trust Funds	Investment Trust Funds	Private-Purpose Trust Funds
Additions			
Contributions:			
Employer	$ 3,156,180	$ —	$ —
Members	1,699,221	—	—
Trustee deposits	—	—	143,778
Other contributions	51,498	—	—
Total contributions	4,906,899	—	143,778
Investment income:			
Investment earnings	10,449,655	73,623	1,997
Less investment expenses	(527,455)	(833)	(2)
Net investment income	9,922,200	72,790	1,995
Pool share transactions:			
Reinvestment of dividends	—	73,357	—
Net share purchases/(redemptions)	—	(6,648)	—
Net pool share transactions	—	66,709	—
Other additions:			
Fees, licenses, and fines	3,614	—	—
Interest earnings on loans	12,935	—	—
Miscellaneous	3,819	—	—
Total other additions	20,368	—	—
Total additions	14,849,467	139,499	145,773
Deductions			
Claims and benefits	6,436,036	—	—
Medical insurance premiums	916,089	—	—
Refund of contributions	169,905	—	—
Distributions paid and payable	—	73,357	—
Payments in accordance with trust arrangements	—	—	140,166
Administrative expenses	29,341	—	—
Other deductions	6,128	—	—
Total deductions	7,557,499	73,357	140,166
Change in net position	7,291,968	66,142	5,607
Net position — July 1	98,441,195	1,142,025	1,027,425
Net position — June 30	$ 105,733,163	$ 1,208,167	$ 1,033,032

The accompanying Notes to the Financial Statements are an integral part of this statement.

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DETAIL NOTES ON ALL FUNDS AND ACTIVITIES

NOTE 2: CHANGES IN FINANCIAL ACCOUNTING AND REPORTING

CHANGES RESULTING FROM ADOPTION OF NEW ACCOUNTING PRINCIPLES

For the fiscal year ended June 30, 2017, the State implemented the following pronouncements issued by the Governmental Accounting Standards Board (GASB):

- Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68,*
- Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans,*
- Statement No. 77, *Tax Abatement Disclosures,*
- Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans,*
- Statement No. 80, *Blending Requirements for Certain Component Units-an amendment of GASB Statement No. 14,*
- Statement No. 82, *Pension Issues-an amendment of GASB Statements No. 67, No. 68, and No. 73,*
- Implementation Guide No. 2016-1, *Implementation Guidance Update – 2016.*

Statement No. 73 establishes requirements for defined benefit pensions that are not within the scope of Statement No. 68, *Accounting and Financial Reporting for Pensions*, as well as for the assets accumulated for purposes of providing those pensions. In addition, it establishes requirements for defined contribution pensions that are not within the scope of Statement No. 68. This Statement also made minor technical changes to Statement No. 67, *Financial Reporting for Pension Plans*, and Statement No. 68. The requirements of this Statement that amend Statement Nos. 67 and 68 were effective for the fiscal year ended June 30, 2016. The requirements of this Statement related to assets accumulated for the purpose of providing pensions through defined benefit pension plans that are not administered through trusts were also effective for the fiscal year ending June 30, 2016; however, the State currently has no such assets. The requirements that address the accounting and financial reporting by employers (and governmental nonemployer contributing entities) for pensions that are not within the scope of Statement No. 68 are effective for the fiscal year ending June 30, 2017.

Statement No. 74 replaces the requirements of Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans,* and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans.* It also replaces the requirements for defined contribution OPEB plans in Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans,* and Statement No. 50, *Pension Disclosures.* This Statement covers OPEB plans (defined benefit and defined contribution) administered through trusts that meet the following criteria:

- Contributions from employers and nonemployer contributing entities to the OPEB plan and earnings on those contributions are irrevocable.
- OPEB plan assets are dedicated to providing OPEB to plan members in accordance with the benefit terms.
- OPEB plan assets are legally protected from the creditors of employers, nonemployer contributing entities, and the OPEB plan administrator. If the plan is a defined benefit OPEB plan, plan assets also are legally protected from creditors of the plan members.

For defined benefit OPEB plans that are administered through trusts that meet the specified criteria, this Statement requires a statement of fiduciary net position and a statement of changes in fiduciary net position. The notes to the financial statements for these plans must include descriptive information about the OPEB plans and plan investments (including new information about the annual money-weighted rates of return on OPEB plan investments) as well as additional disclosures. The plan's required supplementary information (RSI) must disclose new information for the ten most recent fiscal years as well as explanations of factors that significantly affect trends in the amounts reported. The net OPEB liability must be measured as the total OPEB liability, less the amount of the OPEB plan's fiduciary net position. The Statement also includes requirements to address financial reporting for defined contribution plans as well as for assets accumulated for purposes of providing defined benefit OPEB through OPEB plans that are not administered through trusts that meet the specified criteria.

Statement No. 77 establishes requirements for disclosure by governments of a reduction in taxes through agreements made with individuals or entities where the individual or entity promises to take a specific action that contributes to the economic development of the government. The disclosures include descriptive information about the program such as the name and purpose of program, tax being abated, authority to abate the taxes, eligibility criteria, abatement mechanism, recapture provisions, and types of recipient commitments. The disclosure requirements also include the gross dollar amount of taxes being abated or reduced on an accrual basis, the commitments by the government, and a brief description of the quantitative threshold the government used to determine which agreements to disclose individually. This information will allow financial statement users to better assess 1) whether the current-year revenues were sufficient to pay for current-year services, 2) compliance with finance-related legal or contractual requirements, 3) where a government's financial resources come from and how it uses them, and 4) financial position and economic condition of the government and how that economic and financial position has changed over time.

Statement No. 78 amends the scope and applicability of Statement No. 68 to exclude pensions provided to employees of state and local governmental employers through a cost-sharing multiple-employer defined benefit pension plan that 1) is not a state or local governmental pension plan, 2) is used to provide defined benefit pensions both to the employees of state or local governmental employers and to employees of employers that are not state or local governmental employers, and 3) has no predominant state or local governmental employer. This standard will have minimal application for the State.

Statement No. 80 amends the blending requirements for the financial statement presentation of component units of state and local governments. It amends the blending requirements of Statement No. 14, *The Financial Reporting Entity*. Statement 80 requires blending of a component unit incorporated as a not-for-profit corporation in which the primary government is the sole corporate member.

Statement No. 82 addresses issues with respect to Statement Nos. 67, 68, and 73. The issues addressed include 1) the presentation of payroll-related measures in RSI, 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.

Implementation Guide No. 2016-1 supersedes Implementation Guide No. 2015-1, Questions 5.116.9 and 8.18.3, as well as all questions in Sections 8.69-8.91. This Implementation Guide amends several other questions in Implementation Guide 2015-1. The Implementation Guide addresses questions raised relative to the standards on fair value and tax abatement disclosures.

NOTE 3: DEPOSITS AND INVESTMENTS

A. Deposits and Investments with State Treasurer

Unless specifically exempt, every agency of the State and certain component units are required by General Statute 147-77 to deposit moneys received with the State Treasurer or with a depository institution in the name of the State Treasurer. Certain local governmental units that are not part of the reporting entity are also allowed to invest money with the State Treasurer. Expenditures for the primary government and certain component units are made by wire transfers, ACH transactions, and warrants issued by the agencies and drawn on the State Treasurer. The State Treasurer processes these transactions each day. General Statute 147-69.1 authorizes the State Treasurer to invest all deposits in obligations of or fully guaranteed by the United States: obligations of certain federal agencies; specified repurchase agreements; obligations of the State of North Carolina; time deposits with specified financial institutions; prime quality commercial paper with specified ratings; specified bills of exchange or time drafts; asset-backed securities with specified ratings; and corporate bonds and notes with specified ratings.

General Statute 147-69.2 authorizes the State Treasurer to invest the deposits of certain special funds, including the Teachers' and State Employees' Retirement System, the Consolidated Judicial Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Local Governmental Employees' Retirement System, the Legislative Retirement System, the North Carolina National Guard Pension Fund, and the Retiree Health Benefit Fund (collectively referred to as the pension and OPEB trust funds in this note), the Register of Deeds' Supplemental Pension Fund, the Disability Income Plan of N.C., the Escheat Fund, the Public School Insurance Fund, the Local Government Other Post-Employment Benefits (OPEB) Trust, public hospitals, and deposits of certain component units including trust funds of the University of North Carolina System, and funds of the State Health Plan and State Education Assistance Authority in the investments authorized in General Statute 147-69.1; general obligations of other states; general obligations of North Carolina local governments; asset-backed securities bearing specific ratings; and obligations of any company incorporated within or outside the United States bearing specific ratings. The deposits of the pension and OPEB trust funds may be invested in all of the above plus certain insurance contracts; group trusts; individual, common or collective trusts of banks and trust companies; real estate investment trusts; limited partnership interest in limited liability partnerships or limited liability companies; and certain stocks and mutual funds.

<u>North Carolina Department of State Treasurer External Investment Pool (External Investment Pool)</u>

To ensure that these and other legal and regulatory limitations are met, all cash deposited with the State Treasurer, except for other investment programs, is maintained in the External Investment Pool. Other investment programs may include the public hospitals, certain investments of the Escheat Fund, certain investments of other funds and component units of the reporting entity, the Local Government OPEB Trust, and bond proceeds investment accounts. This pool, a government sponsored external investment pool, consists of the following individual investment portfolios:

Short-term Investment – This portfolio may hold any of the investments authorized by General Statute 147-69.1. The Short-term Investment portfolio is the primary cash management account for the State and is managed in such a manner as to be readily convertible into cash. The primary participants of this portfolio are the General Fund, Highway Fund, Highway Trust Fund, and the remaining portfolios listed below. Other participants include universities and various boards, commissions, community colleges, the Local Government OPEB Trust, and school administrative units that make voluntary deposits with the State Treasurer.

Long-term Investment – This portfolio may hold the fixed-income investments authorized by General Statutes 147-69.1 and 147-69.2. Since the deposits in this fund are typically not needed for day-to-day operations, the investment vehicles used generally have a longer term and higher yield than those held in the Short-term Investment portfolio. The State's pension and OPEB trust funds are the sole participants in this portfolio.

Fixed Income Investment – This portfolio holds a portion of the Short-term Investment portfolio pursuant to General Statute 147-69.2. The State's pension and OPEB trust funds are the sole participants in this portfolio.

Equity Investment – This portfolio is managed pursuant to General Statute 147-69.2(b)(8) and primarily holds an equity-based trust. The State's pension and OPEB trust funds are the sole participants in this portfolio.

Real Estate Investment – This portfolio holds investments in real estate-based trust funds, limited partnerships and other limited liability investment vehicles, and group annuity contracts, which is managed pursuant to General Statute 147-69.2(b)(7). The State's pension and OPEB trust funds are the sole participants in this portfolio.

Alternative Investment – This portfolio holds investments in various limited partnerships and limited liability companies, hedge funds, U.S. Treasuries, and equities, which is managed pursuant to General Statute 147-69.2(b)(9). The State's pension and OPEB trust funds are the sole participants in this portfolio.

Opportunistic Fixed Income Investment – This portfolio may hold investments in debt-related strategies made primarily through limited partnerships or other limited liability vehicles as defined by General Statutes 147-69.2(b)(6c). The State's pension and OPEB trust funds are the sole participants in this portfolio.

Inflation Sensitive Investment – This portfolio may hold investments in assets that are acquired for the primary purpose of providing protection against risks associated with inflation made primarily through limited partnerships or other limited liability vehicles, managed pursuant to General Statute 147-69.2(b)(9a). The State's pension and OPEB trust funds are the sole participants in this portfolio.

All of the preceding investment portfolios operate like individual investment pools, except that an investment portfolio may hold shares in other investment portfolios at the discretion of the State Treasurer and subject to the legal limitations discussed previously. To this extent, the deposits are commingled; and therefore, the State Treasurer considers all investment portfolios to be part of a single pool, the External Investment Pool. The External Investment Pool contains deposits from funds and component units of the reporting entity (internal portion) as well as deposits from certain legally separate organizations outside the reporting entity (external portion). This pool is not registered with the Securities and Exchange Commission and is not subject to any formal oversight other than that of the legislative body.

The external portion of the External Investment Pool is presented in the State's financial statements as an investment trust fund. Each fund and component unit's share of the internal equity in the External Investment Pool is reported in the State's financial statements as an asset of those funds or component units. Equity in the Short-term Investment portfolio is reported as cash and cash equivalents while equity in the Long-term Investment, Equity Investment, Real Estate Investment, Fixed Income Investment, Opportunistic Fixed Income Investment, Inflation Sensitive Investment, and Alternative Investment portfolios is reported as investments. The internal equity of the pool differs from the amount of assets reported by the funds and component units due to the typical banker/customer outstanding and in-transit items. Additionally, each fund reports its share of the assets and liabilities arising from securities lending transactions. The State reports the assets and liabilities arising from securities lending transactions for component units as part of the State's agency funds, rather than allocate them to the component units.

Net investment income earned by the External Investment Pool is generally distributed on a pro rata basis. However, in accordance with legal requirements, the General Fund receives all investment income earned by funds created for purposes of meeting appropriations. For the fiscal year ended June 30, 2017, $9.22 million of investment income associated with other funds was credited to the General Fund.

The External Investment Pool is included in the North Carolina Department of State Treasurer Investment Programs (State Treasurer Investments) separate report. This separately issued report can be obtained from the Department of State Treasurer, 3200 Atlantic Avenue, Raleigh, NC 27604 or can be accessed from the Department of State Treasurer internet page at https://www.nctreasurer.com/inv/Pages/Annual-Supplemental-Reports.aspx in the Audited Financial Statements section.

Bond Index External Investment Pool (BIF)

During fiscal year 2017, the North Carolina Department of State Treasurer established a government sponsored bond index external investment pool (BIF) in which the State Treasurer is authorized to invest funds for governmental entities that are outside the State's pension and OPEB trust funds as defined in this note. The BIF invests in high quality debt securities eligible under General Statute 147-69.2(b) (1 through 6).

Participants in the BIF may include public hospitals, the Local Government OPEB Trust, the Death Benefit Plan of N.C., the Disability Income Plan of N.C., the Register of Deeds' Supplemental Pension Fund, and other funds and component units of the reporting entity with investment authority under General Statute 147-69.2. Participation in the BIF is voluntary.

The deposits are commingled; and therefore, the State Treasurer considers all funds to be part of a single pool. The BIF contains deposits from funds and component units of the reporting entity (internal portion) as well as deposits from certain legally separate organizations outside the reporting entity (external portion). The BIF is not registered with the Securities and Exchange Commission and is not subject to any formal oversight other than that of the legislative body.

The external portion of the BIF is presented in the State's financial statements as an investment trust fund. Each fund and component unit's share of the internal equity in the BIF is reported in the State's financial statements as an investment asset of those funds or component units. Net investment income earned by the BIF is distributed on a pro rata basis.

The BIF is included in the State Treasurer Investments separate report. This separately issued report can be obtained from the Department of State Treasurer, 3200 Atlantic Avenue, Raleigh, NC 27604 or can be accessed from the Department of State Treasurer internet page at https://www.nctreasurer.com/inv/Pages/Annual-Supplemental-Reports.aspx in the Audited Financial Statements section.

Bond Proceeds Investment Accounts

The State Treasurer has established separate investment accounts for each State bond issue to comply with Internal Revenue Service regulations on bond arbitrage. A private investment company under contract with the State Treasurer manages these separate accounts. In the State's financial statements, each fund's equity in these accounts is reported as investments.

At year-end, the bond proceeds investment accounts had the following investments and maturities (dollars in thousands):

Investment Type	Carrying Amount	Weighted Average Maturity (Days)
Debt investments:		
Commercial paper	$ 58,635	63
Repurchase agreements	258,884	13
Total investments	$317,519	

Interest Rate Risk and Credit Risk. As established in the contract with the private investment company, all bond proceeds are managed in compliance with General Statute 147-69.1 and are invested in short-term maturities and/or securities that bear the highest rating of a least one nationally recognized rating service and do not bear a rating below the highest by any nationally recognized rating service.

Custodial Credit Risk. Investments purchased with bond proceeds were exposed to custodial credit risk since the securities were held by the counterparty and were not registered in the name of the State Treasurer. There is no custodial policy related to these investments.

Repurchase agreements are reported at cost. See Note 1E for additional information. Commercial paper is valued at fair value at June 30, 2017 ($58.6 million) and is classified as a Level 2 in the fair value hierarchy. The valuation technique for these securities is the market approach where data is gathered by the pricing vendor to obtain market yields on new securities. Month-end prices are then updated by applying the national market yields obtained by the pricing vendor.

Equity Index Investment Account (EIF)

The State Treasurer has contracted with an external party (Trustee) to create the equity index investment account (EIF). Participation in this equity index investment account consists of public hospital trusts and the Local Government OPEB Trust (OPEB) funds. These trusts are part of a commingled equity index investment trust (Trust). The Trustee manages the assets in the Trust, primarily in equity and equity-based securities in accordance with the General Statutes. The Trustee maintains custody of the underlying securities in the name of the Trust, services the securities, and maintains all related accounting records.

Pursuant to General Statute 159-30.1, the State Treasurer manages the OPEB trusts' assets. These trusts are established for local governments, public authorities, any entity eligible to participate in the State's Local Governmental Employees' Retirement System, and local school administrative units. Eligible participants make voluntary contributions to the trusts for the purpose of depositing and investing all or part of the contribution from their other post-employment benefit plans. As of June 30, 2017, there were sixteen OPEB trust participants in the EIF. Each participant is responsible for making its own investment decision.

The State Treasurer also manages the public hospitals' assets. As of June 30, 2017, there were four participants consisting of the Margaret R. Pardee Hospital Trust, New Hanover Regional Medical Center Trust, Columbus Regional Healthcare Trust and Watauga Medical Center Trust. One public hospital is also a participant in the BIF.

The Equity Index Investment Account is included in the State Treasurer Investments separate report. This separately issued report can be obtained from the Department of State Treasurer, 3200 Atlantic Avenue, Raleigh, NC 27604 or can be accessed from the Department of State Treasurer internet page at https://www.nctreasurer.com/inv/Pages/Annual-Supplemental-Reports.aspx in the Audited Financial Statements section.

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE PRIMARY GOVERNMENT'S AND COMPONENT UNITS' CONTRIBUTIONS COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Four Fiscal Years

(Dollars in Thousands)

Teachers' and State Employees'	2017	2016	2015	2014
Primary Government				
Contractually required contribution	$ 325,836	$ 303,031	$ 320,093	$ 282,898
Contributions in relation to the contractually required contribution	325,836	303,031	320,093	282,898
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered payroll	$ 3,264,890	$ 3,311,814	$ 3,498,284	$ 3,255,443
Contributions as a percentage of covered payroll	9.98%	9.15%	9.15%	8.69%
Component Units				
University of North Carolina System				
Contractually required contribution	$ 219,780	$ 193,767	$ 187,863	$ 181,611
Contributions in relation to the contractually required contribution	219,780	193,767	187,863	181,611
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered payroll	$ 2,202,204	$ 2,117,672	$ 2,053,148	$ 2,089,885
Contributions as a percentage of covered payroll	9.98%	9.15%	9.15%	8.69%
Community Colleges				
Contractually required contribution	$ 89,417	$ 79,733	$ 78,840	$ 74,159
Contributions in relation to the contractually required contribution	89,417	79,733	78,840	74,159
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered Payroll	$ 895,962	$ 871,399	$ 861,639	$ 853,383
Contributions as a percentage of covered payroll	9.98%	9.15%	9.15%	8.69%
Other Component Units				
Contractually required contribution	$ 2,710	$ 2,329	$ 2,340	$ 2,231
Contributions in relation to the contractually required contribution	2,710	2,329	2,340	2,231
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered Payroll	$ 27,154	$ 25,454	$ 25,574	$ 25,673
Contributions as a percentage of covered payroll	9.98%	9.15%	9.15%	8.69%

Escheat Investment Account

Pursuant to General Statute 147-69.2(b)(12), the State Treasurer has established a separate investment account on behalf of the Escheat Fund. At year-end. the Escheat investment account maintained by the State Treasurer had the following investments and recurring fair value measurements (dollars in thousands):

Investments Measured at the NAV	Fair Value 6/30/2017	Unfunded Commitments
Private credit limited partnership	$ 8,769	$ 314
Private equity investment partnerships	28,208	54,533
Private natural resources limited partnership	4,929	—
Total investments measured at the NAV	$ 41,906	

Private Credit Limited Partnership. This type includes two private credit funds. These investments are valued using net assets valued as of the previous quarter-end, plus current quarter cash flows. These investments include a mix of non-investment grade or unrated obligations, debt securities and asset-backed securities, including but not limited to bank loans, high yield, mortgage-backed securities, convertibles, whole loans, mezzanine debt, credit default swaps, collateralized debt obligations and sovereign debt. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.

Private Equity Investment Partnership. This type incudes eight private equity funds. These investments are valued using net assets valued as of the previous quarter-end. plus current quarter cash flows. These investments include a mix of buyout, venture capital, growth equity, and private special situations vehicles. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.

Private Natural Resources Limited Partnership. This type includes one private natural resources fund. This investment is valued using net assets valued as of the previous quarter-end, plus current quarter cash flows. This strategy may make non-public equity or debt investments in timberland, energy, agriculture, and other natural resources implementations. Currently, the strategy represented in this category is one which invests in oil and gas properties within the U.S. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.

B. Deposits Outside the State Treasurer

In addition to the pooled deposits maintained by the State Treasurer, other deposits are maintained outside the State Treasurer by the primary government and certain component units. As a general rule, these deposits are not covered by the rules in Chapter 20 NCAC 7 requiring collateralization of uninsured deposits.

Primary Government

The majority of the uninsured and uncollateralized deposits held outside the State Treasurer were maintained by the USS N.C. Battleship Commission. The USS N.C. Battleship Commission does not have a deposit policy for custodial credit risk. At year-end, the bank balances maintained outside the State Treasurer by the primary government were exposed to custodial credit risk as follows (dollars in thousands):

Uninsured and uncollateralized	$ 7,306

Component Units

The University of North Carolina (UNC) System does not have a deposit policy for custodial credit risk. At year-end, the bank balances maintained outside the State Treasurer by the UNC System were exposed to custodial credit risk as follows (dollars in thousands):

Uninsured and uncollateralized	$ 641,197
Uninsured and collateral held by pledging bank's trust department or agent but not in the entity's name	1,992
Total	$ 643,189

C. Investments Outside the State Treasurer

Primary Government

At year-end, 94% of investments held outside the State Treasurer were maintained by the Supplemental Retirement Income Plan of North Carolina and the North Carolina Public Employee Deferred Compensation Plan.

Supplemental Retirement Income Plan of North Carolina and North Carolina Public Employee Deferred Compensation Plan

The Iran Divestment Act (North Carolina General Statutes Sections 147-86.55 through 147-86.63) places investment restrictions on the Supplemental Retirement Income Plan of North Carolina (the 401(k) Plan) and the North Carolina Public Employee Deferred Compensation Plan (the 457 Plan). Specifically, pursuant to the North Carolina Department of State Treasurer's "Iran Divestment Policy", adopted in compliance with the statute, the Department of State Treasurer, including the Supplemental Retirement Plans, shall refrain from making investments in companies on the State Treasurer's list of entities engaging in certain investment activities in Iran. The form of governance over the investments would be the prudent-person or prudent-expert rule. These rules are broad statements of intent, generally requiring investment selection and management to be made with prudent, discreet, and intelligent judgment and care.

At December 31, 2016, the 401(k) and 457 Plans of North Carolina had the following investments and maturities that were maintained outside the State Treasurer (dollars in thousands). Investments in the Pooled Account total $7.3 billion. The 401(k) and 457 Plans' investments are held in a group trust established as of January 4, 2016. Their Board authorized the establishment of the North Carolina Supplemental Retirement Plans Group Trust (the "Group Trust") for the purpose of commingling the corpus of the separate trusts of the Plans; and their Board adopted the Declaration of Trust establishing the Group Trust. The Pooled Account offers nine equity funds, an inflation responsive fund, and two fixed income funds. The actively managed separate account funds have multiple investment managers, and the passively managed separate accounts each have a single investment manager. The remainder of the investments is the Stable Value Fund, which consists of three synthetic guaranteed investment contracts, two separate account guaranteed investment contracts, a pooled stable value fund and a government money market fund.

		Investment Maturities (in Years)			
Investment Type	Carrying Amount	Less Than 1	1 to 5	6 to 10	More Than 10
Debt investments:					
U.S. Treasuries	$ 234,431	$ 51,870	$ 159,774	$ 10,042	$ 12,745
U.S. Treasury STRIPS	60,023	1,664	24,263	11,941	22,155
U.S. agencies	29,540	2,884	23,906	1,435	1,315
Mortgage pass-throughs	165,384	19,012	6,674	17,155	122,543
Collateralized mortgage obligations	69,009	6,653	7,034	17,118	38,204
State and local government	8,635	4,108	3,651	176	700
Asset-backed securities	115,229	647	53,711	29,476	31,395
Collective investment funds	1,385,142	20,648	590,848	344,115	429,531
Pooled debt funds	331,119	—	—	331,119	—
Domestic corporate bonds	247,142	34,116	118,932	81,620	12,474
Foreign corporate bonds	87,047	10,946	63,041	10,984	2,076
Foreign government bonds	10,692	802	8,108	1,645	137
	2,743,393	$ 153,350	$ 1,059,942	$ 856,826	$ 673,275
Other investments:					
Equity mutual funds	1,674,601				
Unallocated insurance contracts	813,752				
Domestic stocks	2,725,939				
Foreign stocks	1,296,695				
Hedge/debt mutual fund	403,212				
Short-term investment collective trust	128,921				
Total investments	$ 9,786,513				

In the above table, the underlying investments of fully benefit-responsive synthetic guaranteed investment contracts (SGICs) are disclosed at fair value. On the Statement of Net Position, SGICs are reported at contract value. At year-end, the fair value of the underlying investments of fully benefit-responsive SGICs exceeded contract value by $12.13 million.

Interest Rate Risk. The 401(k) and 457 Plans have a formal investment policy that limits duration as a means of managing their exposure to fair value losses arising from increasing interest rates. The managers within the NC Fixed Income Fund have duration targets relative to a specified benchmark. Asset-backed securities are securities that are primarily serviced by the cash flows of a discrete pool of receivables or other financial assets, either fixed or revolving, that by their terms convert into cash within a finite time period, plus any rights or other assets designed to assure the servicing or timely distribution of proceeds to the security holders. Collective investment funds include units in the various funds. The interest rate risk in each of the funds is dependent upon the weighted average maturity of each of the collective investment funds which hold securities with maturities ranging from short to intermediate in duration. As a result, the collective investments funds are sensitive to changes in interest rates. Collateralized mortgage obligations generate a return based upon either the payment of interest or principal on mortgages in an underlying pool. The relationship between interest rates and prepayments make the fair value sensitive to changes in interest rates. Investments consist of units in various commingled funds, each with an investment objective relative to maturity and liquidity with interest rate risk dependent upon the weighted average maturity of each of the funds.

Credit Risk. The 401(k) and 457 Plans have a formal investment policy on credit risk. The investment policy statement applicable to the NC Fixed Income Fund places restrictions on the total risk exposure of the Fund and specifically the concentration of the debt securities in which the fund invests. At December 31, 2016, the 401(k) and 457 Plan investments maintained outside the State Treasurer had the following credit quality distribution for securities with credit exposure (dollars in thousands):

	Carrying Amount by Credit Rating - Moody's/S&P/Fitch					
Investment Type	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
U.S. agencies	$ —	$ 29,540	$ —	$ —	$ —	$ —
Mortgage pass-throughs	—	137,396	—	—	—	—
Collateralized mortgage obligations	4,907	57,446	1,204	3,241	1,483	728
State and local government	—	6,015	2,465	155	—	—
Asset-backed securities	92,443	19,436	1,131	260	34	1,925
Collective investment funds	—	—	—	—	—	1,385,142
Pooled debt funds	—	—	—	—	—	331,119
Domestic corporate bonds	2,281	14,996	64,776	155,762	9,327	—
Foreign corporate bonds	721	18,264	35,693	32,010	359	—
Foreign government bonds	5,168	3,017	1,265	1,242	—	—
	$ 105,520	$ 286,110	$ 106,534	$ 192,670	$ 11,203	$ 1,718,914

Custodial Credit Risk. The 401(k) and 457 Plans do not have formal investment policies that address custodial credit risk.

Foreign Currency Risk. Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair market value of an investment. The 401(k) and 457 Plans do not have formal investment policies that address foreign currency risk. At December 31, 2016, the Plans' exposure to foreign currency risk was as follows (dollars in thousands):

	Carrying Amount
Currency	Foreign stocks
Euro	$ 234,387
British Pound Sterling	131,879
Japanese Yen	131,337
Swiss Franc	68,511
Hong Kong Dollar	38,191
South Korean Won	30,300
Swedish Krona	28,940
New Taiwan Dollar	26,366
Australian Dollar	18,386
Singapore Dollar	16,613
Canadian Dollar	16,578
South African Rand	13,736
Danish Krone	11,739
Indian Rupee	11,608
Brazilian Real	10,692
Malaysian Ringgit	4,830
Thai Baht	4,541
Other Currencies	14,191
Total	$ 812,825

Note: The totals in this table do not agree to the totals disclosed in the previous investment maturities table because the investment maturities table includes foreign stocks that are denominated in U.S. currency.

The fair value measurements of the 401(k) and 457 Plans' investments are categorized within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

At December 31, 2016, the investments of these Plans maintained outside the State Treasurer had the following recurring fair value measurements (dollars in thousands):

		Fair Value Measurements Using	
	6/30/2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Investments by fair value level			
U.S. Treasuries	$ 234,431	$ —	$ 234,431
U.S. Treasury STRIPS	60,023	—	60,023
U.S. agencies	29,540	—	29,540
Mortgage pass-throughs	165,384	—	165,384
Collateralized mortgage obligations	69,009	—	69,009
State and local government	8,635	—	8,635
Asset-backed securities	115,229	—	115,229
Domestic corporate bonds	247,142	—	247,142
Foreign corporate bonds	87,047	—	87,047
Foreign government bonds	10,692	—	10,692
Domestic stocks	2,725,939	2,725,939	—
Foreign stocks	1,296,695	1,296,695	—
Total investments by fair value level	5,049,766	$ 4,022,634	$ 1,027,132
Investments measured at the net asset value (NAV)			
Hedge/Debt Mutual Fund	403,212		
Short-term investment collective trust	128,921		
Equity mutual funds	1,674,601		
Pooled debt funds	331,119		
Collective investment trusts	1,385,142		
Total investments measured at the NAV	3,922,995		
Total investments measured at fair value	$ 8,972,761		

U.S. Treasuries, U.S. Treasury STRIPS, U.S. agencies, mortgage pass-throughs, collateralized mortgage obligations, and state and local government securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Asset-backed securities, domestic corporate bonds, foreign corporate bonds, and foreign government bonds classified in Level 2 of the fair value hierarchy are valued using discounted cash flow techniques.

Investments measured at the net asset value (NAV) per share is presented on the following table (dollars in thousand):

Investments Measured at the NAV	Fair Value 6/30/2017	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Hedge/debt mutual fund	$ 403,212	Daily	1 day
Short-term investment collective trust	128,921	Daily	1 day
Equity mutual funds	1,674,601	Daily	1-2 days
Pooled debt funds	331,119	Daily	5 days
Collective investment funds	1,385,142	Daily and monthly	1 day - 12 months
Total investments measured at the NAV	$ 3,922,995		

Hedge/Debt Mutual Fund – This type includes one fund, the NC Inflation Response Fund. This fund is a real return asset allocation strategy designed to hedge global inflation risks. The fund primarily invests in inflation linked bonds, commodities, emerging market currencies, real estate investment trusts (REITs), and gold. The net asset value is determined by dividing the total value of the fund's portfolio investments and other assets attributable to the fund, less liabilities, by the total number of shares outstanding. The value is determined at the end of each day the New York Stock Exchange is open.

Short-term Investment Collective Trust - This fund is invested in the BNY Mellon EB Temporary Investment Fund. The fund primarily invests in instruments issued by the U.S. Government and federal agencies, short-term corporate obligations, commercial paper, and certificates of deposit. The average weighted maturity of these funds does not exceed 60 days. This fund is valued with a NAV at $1/unit.

Equity Mutual Funds – This type includes three equity index funds. The BlackRock Large Cap Index Fund seeks to replicate the composition and performance of the S&P 500 Index. The BlackRock Small Mid Cap Index Fund seeks to replicate the composition and performance of the Russell 2500 Index. The BlackRock International Index Fund seeks to replicate the composition and performance of the MSCI ACWI Ex-USA Index. Each are valued at the net asset value of units held at the end of the period, based upon the fair value of the underlying investments.

Pooled Debt Funds – This type includes one fund, the PIM Fund in Fixed Income. The fund is an actively managed bond fund that seeks an excess return over the Bloomberg Barclays U.S. Aggregate Bond Index. The fund invests in a diversified portfolio of fixed income securities including corporate obligations, structured products, and U.S. Treasuries. The fund actively allocates to both benchmark and non-benchmark sectors, with heavy emphasis on the credit-oriented sectors. The fund is valued at the net asset value of units held at the end of the period, based upon the fair value of the underlying investments.

Collective Investment Funds – This type includes five funds, the Commingled BlackRock Fixed Income Index Fund, the Prudential Wrapped Commingled Fund in the Stable Value Fund, the Nationwide Wrapped Commingled Fund in the Stable Value Fund, the Wells Fargo Commingled Fund in the Stable Value Fund, and a small Wells Fargo government money market fund. The Commingled BlackRock Fixed Income Index Fund seeks to replicate the composition and performance of the Bloomberg Barclays Aggregate Index. The Prudential and Nationwide wrapped commingled funds in the Stable Value Fund seeks preservation of principal and an above average level of income with the goal of minimizing overall portfolio risk. The funds primarily invest in U.S. Treasuries, U.S. agencies, corporate obligations, asset-backed securities, and mortgage-backed securities. The Wells Fargo Commingled Fund in the Stable Value Fund is primarily comprised of investment contracts issued by financial companies including guaranteed investment contracts (GICs), separate account GICs, and security-backed investment contracts. The Wells Fargo Commingled Fund seeks safety of principal and consistency of returns while attempting to maintain minimal volatility. The Wells Fargo money market fund seeks current income while preserving capital and liquidity. This fund invests in high quality, short-term money market instruments that consist of U.S. Government obligations and repurchase agreements collateralized by U.S. Government obligations. The Commingled BlackRock Fixed Income Index Fund, the Prudential Wrapped Commingled Fund, and the Nationwide Wrapped Commingled Fund are valued at the net asset value of units held at the end of the period, based upon the fair value of the underlying investments. The Wells Fargo Commingled Fund is valued at contract value and its fair value is derived using a market/book ratio. The Wells Fargo money market fund is valued with a NAV at $1/unit.

Other Primary Government Investments

The other primary government investments held outside the State Treasurer consisted almost entirely of separate investment accounts held by trustees for special obligation and revenue debt issues to comply with IRS regulations on bond arbitrage, and escheated securities held for owners.

At year-end, the other primary government investments maintained outside the State Treasurer had the following investments and maturities (dollars in thousands):

Investment Type	Carrying Amount	Investment Maturities (in Years) Less Than 1	1 to 5	6 to 10	More Than 10
Debt investments:					
U.S. Treasuries	$ 38,276	$ 3,342	$ 34,547	$ 387	$ —
U.S. agencies	5,608	—	4,145	1,463	—
State and local government	512	—	—	512	—
Repurchase agreements	104,063	104,063	—	—	—
Annuity contracts	71,142	5,781	25,680	25,680	14,001
Money market mutual funds	98,494	98,494	—	—	—
Pooled debt funds	172,278	—	172,278	—	—
	490,373	$ 211,680	$236,650	$ 28,042	$ 14,001
Other investments:					
Domestic stocks	96,074				
Total investment securities	$ 586,447				

Interest Rate Risk and Credit Risk. The special obligation debt proceeds are generally invested in repurchase agreements. As established in the debt covenants for certain issues, repurchase agreements with respect to government obligations can only be entered into with 1) a dealer recognized as a primary dealer by a Federal Reserve Bank; or 2) any commercial bank, trust company, or national banking association reporting to the Federal Reserve. There are no formally adopted investment policies or debt covenants for special obligation debt proceeds that address interest rate or credit risk.

At year-end, the other primary government investments maintained outside the State Treasurer had the following credit quality distribution for securities with credit exposure (dollars in thousands):

	Carrying Amount by Credit Rating - Moody's/S&P/Fitch		
Investment Type	Aaa/AAA	Aa/AA	Unrated
U.S. agencies	$ 5,608	$ —	$ —
State and local government	512	—	—
Annuity contracts	—	71,142	—
Money market mutual funds	98,494	—	—
Pooled debt funds	—	—	172,278
Total	$ 104,614	$ 71,142	$ 172,278

Custodial Credit Risk. There were no formally adopted policies that address custodial credit risk of other primary government investments outside the State Treasurer.

Foreign Currency Risk. Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair market value of an investment. At year-end, there were no formally adopted policies that address foreign currency risk of other primary government investments outside the State Treasurer.

The fair value measurements of the other primary government investments are categorized within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

At year-end, the other primary government investments maintained outside the State Treasurer had the following recurring fair value measurements (dollars in thousands):

		Fair Value Measurements Using	
	6/30/2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Investments by fair value level:			
U.S. Treasuries	$ 38,276	$ 38,276	$ —
U.S. agencies	5,608	1,533	4,075
State and local government	512	512	—
Annuity contracts	71,142	71,142	—
Pooled debt funds	172,278	—	172,278
Domestic stocks	96,074	96,074	—
Total investments by fair value level	$ 383,890	$ 207,537	$ 176,353

Note: The total in this table does not agree to the total disclosed in the previous investment maturities table because this table does not include investments reported at cost. See Note 1E for additional information.

U.S. agency securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Pooled debt funds classified in Level 2 of the fair value hierarchy are valued based on the ownership interest of the External Investment Pool Short Term Investment Fund (STIF), which is determined on a fair market valuation basis as of fiscal year-end in accordance with the STIF operating procedures. Valuation of the underlying assets is performed by the custodian.

Component Units

University of North Carolina System

The General Statutes place no specific investment restrictions on the University of North Carolina System (the UNC System). However, in the absence of specific legislation, the form of governance over these investments would be the prudent-person or prudent-expert rule. These rules are broad statements of intent, generally requiring investment selection and management to be made with prudent, discreet, and intelligent judgment and care. The University of North Carolina at Chapel Hill (the University) operates the UNC Investment Fund, LLC (Investment Fund), which is a governmental external investment pool. The University operates the Investment Fund for charitable, nonprofit foundations, associations, trusts, endowments and funds that are organized and operated primarily to support the University and other institutions within the UNC System. Separate financial statements for the Investment Fund may be obtained from the UNC Management Company, Inc., 1400 Environ Way, Chapel Hill, NC 27517.

At year-end, the UNC System had the following investments and maturities that were maintained outside the State Treasurer (dollars in thousands):

		Investment Maturities (in Years)			
Investment Type	Carrying Amount	Less Than 1	1 to 5	6 to 10	More Than 10
Debt investments:					
U.S. Treasuries	$ 71,743	$ 4,119	$ 58,987	$ 6,547	$ 2,090
U.S. agencies	146,246	3,174	5,890	16,285	120,897
Mortgage pass-throughs	7,010	—	35	—	6,975
Collateralized mortgage obligations	89,225	—	529	16,592	72,104
State and local government	2,910	—	—	—	2,910
Asset-backed securities	74,038	—	4,258	8,627	61,153
Collective investment funds	72,250	72,250	—	—	—
Commercial paper	127	127	—	—	—
Annuity contracts	60	60	—	—	—
Debt mutual funds	458,261	74,393	260,016	115,870	7,982
Money market mutual funds	331,383	331,383	—	—	—
Domestic corporate bonds	23,329	5,342	12,421	4,699	867
Foreign corporate bonds	16,664	129	7,366	7,584	1,585
Foreign government bonds	7,825	—	2,694	3,465	1,666
Other	1,258	1,258	—	—	—
	1,302,329	$ 492,235	$ 352,196	$ 179,669	$ 278,229
Other investments:					
Balanced mutual funds	2,959				
International mutual funds	24,105				
Equity mutual funds	112,945				
Investments in real estate	20,961				
Real estate investment trust	37,723				
Hedge funds	2,934,360				
Private equity limited partnerships	1,643,676				
Real assets limited partnerships	346,670				
Other limited partnerships	276,626				
Domestic stocks	307,625				
Foreign stocks	33,367				
Other	2,018				
Total investments	$ 7,045,364				

Interest Rate Risk and Credit Risk. The constituent institutions of the UNC System generally do not have formal investment policies that address interest rate risk or credit risk. At year-end, the UNC System's investments maintained outside the State Treasurer had the following credit quality distribution for securities with credit exposure (dollars in thousands):

	Carrying Amount by Credit Rating - Moody's/S&P/Fitch					
Investment Type	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
U.S. agencies	$ 4,240	$ 120,545	$ 735	$ 2,387	$ 11,336	$ 7,003
Mortgage pass-throughs	472	275	2,024	677	3,562	—
Collateralized mortgage obligations	7,501	2,008	2,867	11,208	62,299	3,342
State and local government	—	—	—	—	2,910	—
Asset-backed securities	12,517	1,461	4,841	7,109	24,413	23,697
Collective investment funds	7,573	10,951	—	—	1,284	—
Commercial paper	—	—	—	—	—	127
Annuity contracts	—	—	—	—	—	60
Debt mutual funds	54,209	10,469	76,723	156,925	102,857	57,078
Money market mutual funds	249,542	630	—	—	—	81,211
Domestic corporate bonds	1,680	5,037	6,606	5,703	4,303	—
Foreign corporate bonds	247	1,361	3,065	6,433	3,589	1,969
Foreign government bonds	—	1,424	690	3,462	2,043	206
Other	—	—	—	—	—	1,258
Total	$ 337,981	$ 154,161	$ 97,551	$ 193,904	$ 218,596	$ 175,951

Custodial Credit Risk. The constituent institutions of the UNC System generally do not have formal investment policies that address custodial credit risk. At year-end, the UNC System's investments maintained outside the State Treasurer were exposed to custodial credit risk as follows (dollars in thousands):

	Carrying Amount	
Investment Type	Held by Counterparty	Held by Counterparty's Trust Dept. or Agent but not in the entity's name
U.S. agencies	$ —	$ 2,524
Domestic stocks	13,821	11,023
Foreign stocks	—	5,895
Total	$ 13,821	$ 19,442

Foreign Currency Risk. The constituent institutions of the UNC System do not have formal investment policies that address foreign currency risk. At year-end, the UNC System's investments maintained outside the State Treasurer were exposed to foreign currency risk as follows (dollars in thousands):

	Carrying Amount			
Currency	Hedge funds	Private equity limited partnerships	Real assets limited partnerships	Foreign stocks
Euro	$ 32,438	$ 108,348	$ 8,943	$ —
British Pound Sterling	—	35,030	4,591	—
Canadian Dollar	—	7,996	—	1,601
Australian Dollar	—	507	—	—
Total	$ 32,438	$ 151,881	$ 13,534	$ 1,601

The fair value measurements of the UNC System's investments maintained outside the State Treasurer are categorized within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

At year-end, the UNC System's investments maintained outside the State Treasurer had the following recurring fair value measurements (dollars in thousands):

		Fair Value Measurements Using		
	6/30/2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level:				
U.S. Treasuries	$ 71,743	$ 70,894	$ 849	$ —
U.S. agencies	146,246	2,524	143,722	—
Mortgage pass-throughs	7,010	—	7,010	—
Collateralized mortgage obligations	89,225	—	89,225	—
State and local government	2,910	—	2,910	—
Asset-backed securities	74,038	—	74,038	—
Collective investment funds	72,250	72,250	—	—
Annuity Contracts	60	—	60	—
Debt mutual funds	458,261	458,261	—	—
Money market mutual funds	322,700	322,700	—	—
Balanced mutual funds	2,959	2,959	—	—
International mutual funds	24,105	24,105	—	—
Equity mutual funds	112,945	112,945	—	—
Domestic corporate bonds	23,329	909	22,420	—
Foreign corporate bonds	16,664	—	16,664	—
Foreign government bonds	7,825	—	7,825	—
Domestic stocks	307,625	297,699	—	9,926
Foreign stocks	33,367	33,367	—	—
Investments in real estate	20,961	9,360	11,027	574
Real estate investment trust	35,978	35,978	—	—
Other	2,677	2,677	—	—
Total investments by fair value level	1,832,878	$ 1,446,628	$ 375,750	$ 10,500
Investments measured at the net asset value (NAV)				
Real estate investment trust	1,745			
Hedge funds	2,934,360			
Private equity limited partnerships	1,643,676			
Real assets limited partnerships	346,670			
Other limited partnerships	276,626			
Other	599			
Total investments measured at the NAV	5,203,676			
Total investments measured at fair value	$7,036,554			

The majority of debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing relies on the securities' relationship to other benchmark quoted securities. In general, domestic stocks classified in Level 3 of the fair value hierarchy are valued based on recent company stock valuations. The majority of investments in real estate classified in Level 2 of the fair value hierarchy are valued using a market multiples technique. The market multiples technique uses multiples or ratios derived from identical or similar assets, liabilities, or groups of assets and liabilities to determine the fair value of an asset or liability.

The University of North Carolina at Chapel Hill holds the majority of the investments measured at net asset value in the previous table. Below are additional disclosures for these investments.

Investments Measured at the NAV	Fair Value 6/30/2017	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
UNC at Chapel Hill:				
Hedge funds..	$ 2,924,370	$ 25,112	From 30 days to 3+ years	1 to 365 days
Private equity limited partnerships...........	1,528,710	863,736	Not currently eligible	10-15 years
Real assets limited partnerships..............	346,275	246,979	Not currently eligible	10-15 years
Total investments measured at the NAV......	$ 4,799,355			

Hedge Funds. UNC at Chapel Hill reports a combination of the following asset strategies for its hedge funds: long biased equity, long/short equity, diversifying, fixed income, and hedge funds in liquidation. The long biased equity strategy is characterized by primarily holding long positions in publicly listed securities to gain equity market exposure globally. The long/short equity strategy is characterized by buying and/or selling short individual securities that fund managers believe the market has mispriced. The long and short positions are generally independent of one another and typically result in an overall net long exposure to equities. Both long biased equity and long/short equity hedge fund managers occasionally invest in equity index futures, options on equity index futures, and specific risk options. The diversifying strategy is characterized by its lack of correlation with major equity indices. These managers may use derivatives such as fixed income and equity futures both as hedging tools and to gain exposure to specific markets. They may also enter into various swap agreements to manage exposure to specific securities and markets. The fixed income strategy includes credit-based commingled hedge funds and is characterized by a focus on income generation and portfolio diversification. These managers may use futures and options on global fixed income and currency markets and enter into swap agreements to hedge or gain exposure to certain markets. The hedge funds in liquidation strategy is characterized by investment in hedge funds that are either in the process of being terminated or have received notice of termination.

Private Equity Limited Partnerships. Private equity managers typically invest in equity investments and transactions in private companies. These investments are typically illiquid and are expected to control volatility and provide higher returns over the long term than public equity investments. The energy subsection of the private equity strategy, including direct energy investments, energy security investments, and limited partnerships, is primarily used to hedge against unanticipated inflation. The principal attraction of these investments is the lack of correlation with the balance of the portfolio.

Real Assets Limited Partnerships. Real estate managers invest in private portfolio investments focusing on specific niche markets within the real estate sector. Such sectors may include investments in public real estate investment trusts that provide a more liquid means of gaining exposure to this asset class. These investments primarily serve as a hedge against unanticipated general price inflation but are also a source of current income.

NOTE 12: RETIREMENT PLANS

The State reports nine retirement plans as pension trust funds, seven defined benefit public employee retirement plans administered by the State, as well as two defined contribution plans, one of which is administered by the State and the other is overseen and administered by a third party under the auspices of the State. Although the assets of the plans directly administered by the State are commingled for investment purposes, each plan's assets may be used only for payment of benefits to the members of that plan and for the administrative costs in accordance with the terms of each plan. Nine of the plans in this note do not issue separate financial statements, nor are they reported as part of other entities. The financial statements and other required disclosures are presented in Note 16 and in the *Required Supplementary Information (RSI)* section of this CAFR. The Supplemental Retirement Income Plan of North Carolina (401(k) Plan) issues separately audited financial statements. Information on how to obtain the 401(k) Plan financial statements is found in Section B.9. The State also provides a defined benefit special separation allowance for eligible sworn law enforcement officers and a defined contribution optional retirement plan for university employees.

A. Summary of Significant Accounting Policies and Plan Asset Matters

The financial statements of these plans are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has a legal requirement to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

Pursuant to North Carolina General Statutes, the State Treasurer is the custodian and administrator of the retirement systems. The State Treasurer maintains various investment portfolios in its External Investment Pool. The Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund are the sole participants in the Long-term Investment, the Fixed Income Investment, Equity Investment, Real Estate Investment, Alternative Investment, Opportunistic Fixed Income Investment, and Inflation Sensitive Investment portfolios. The Fixed Income Asset Class includes the Long-term Investment and Fixed Income Investment portfolios. The Global Equity Asset Class includes the Equity Investment portfolio. The Registers of Deeds' Supplemental Pension Fund is invested in the Bond Index External Investment Pool.

The investment balance of each pension trust fund represents its share of the fair market value of the net position of the various portfolios within the External Investment Pool. Additionally, the securities lending balance represents assets occurring from securities lending transactions that result from the systems' participation in the External Investment Pool. The investments of the State Treasurer are discussed in Note 3.

B. Plan Descriptions

Cost-Sharing, Multiple-Employer, Defined Benefit Plans

1. TEACHERS' AND STATE EMPLOYEES' RETIREMENT SYSTEM

Plan administration. The State of North Carolina administers the Teachers' and State Employees' Retirement System (TSERS) plan. This plan is a cost-sharing, multiple-employer, defined benefit pension plan established by the State to provide pension benefits for general employees and law enforcement officers (LEOs) of the State, general employees and LEOs of its component units, and employees of Local Education Agencies (LEAs) and charter schools not in the reporting entity. Membership is comprised of employees of the State (state agencies and institutions), universities, community colleges, and certain proprietary component units along with the LEAs and charter schools that elect to join the Retirement System. Benefit provisions are established by General Statute 135-5 and may be amended only by the North Carolina General Assembly. At June 30, 2017, the number of participating employers was as follows:

State of North Carolina	1
LEAs	116
Charter Schools	61
Community Colleges	58
University of North Carolina System	19
Other Component Units	5
	260

Management of the plan is vested in the TSERS Board of Trustees, which consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State Superintendent and the Director of the Office of State Human Resources who serve as ex officio members.

Benefits provided. TSERS provides retirement and survivor benefits. Retirement benefits are determined as 1.82% of the member's average final compensation times the member's years of creditable service. A member's average final compensation is calculated as the average of a member's four highest consecutive years of compensation. General employee plan members are eligible to retire with full retirement benefits at age 65 with five years of membership service, at age 60 with 25 years of creditable service, or at any age with 30 years of creditable service. General employee plan members are eligible to retire with partial retirement benefits at age 50 with 20 years of creditable service or at age 60 with five years of membership service. Survivor benefits are available to eligible beneficiaries of general members who die while in active service or within 180 days of their last day of service and who also have either completed 20 years of creditable service regardless of age, or have completed five years of service and have reached age 60. Eligible beneficiaries may elect to receive a monthly Survivor's Alternate Benefit for life or a return of the member's contributions. The plan does not provide for automatic post-retirement benefit increases.

TSERS plan members who are LEOs are eligible to retire with full retirement benefits at age 55 with five years of creditable service as an officer, or at any age with 30 years of creditable service. LEO plan members are eligible to retire with partial retirement benefits at age 50 with 15 years of creditable service as an officer. Survivor benefits are available to eligible beneficiaries of LEO members who die while in active service or within 180 days of their last day of service and who also have either completed 20 years of creditable service (not including sick leave) regardless of age, or have completed 15 years of creditable service as an LEO and have reached age 50, or have completed five years of creditable service as an LEO and have reached age 55, or have completed 15 years of creditable service as an LEO if killed in the line of duty. Eligible beneficiaries may elect to receive a monthly Survivor's Alternate Benefit for life or a return of the member's contributions.

Contributions. Contribution provisions are established by General Statute 135-8 and may be amended only by the North Carolina General Assembly. Plan members are required to contribute 6% of their annual pay. The contribution rate for employers is set each year by the North Carolina General Assembly in the Appropriations Act based on the actuarially determined rate recommended by the actuary. The State and other participating employers' contractually required contribution rate for the year ended June 30, 2017 was 9.98% of covered payroll. This was greater than the actuarially determined contribution of 9.96%. This amount, combined with plan member contributions and investment income fund the benefits earned by plan members during the year and administrative expenses. Actual contributions are reported in Section F of this note.

Refunds of contributions. Members who have terminated service as a contributing member, may file an application for a refund of their contributions. By state law, refunds to members include interest (currently 4%) regardless of the number of years of retirement service credit or of the reason for separation from service. State law requires a 60 day waiting period after service termination before the refund may be paid. The acceptance of a refund payment cancels the individual's right to any other retirement or survivor benefit provided by TSERS.

2. LOCAL GOVERNMENTAL EMPLOYEES' RETIREMENT SYSTEM

Plan administration. The State of North Carolina administers the Local Governmental Employees' Retirement System (LGERS) plan. This plan is a cost-sharing, multiple-employer, defined benefit pension plan established by the State to provide benefits for employees of local governments. Membership is comprised of general employees and local law enforcement officers of participating local governmental entities. Benefit provisions are established by General Statute 128-27 and may be amended only by the North Carolina General Assembly. At June 30, 2017, the number of participating local governments was as follows:

Cities	427
Counties	100
Special Districts	368
	895

Management of the plan is vested in the LGERS Board of Trustees, which consists of 13 members – nine appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer and State Superintendent, who serve as ex officio members.

Benefits provided. LGERS provides retirement and survivor benefits. Retirement benefits are determined as 1.85% of the member's average final compensation times the member's years of creditable service. A member's average final compensation is calculated as the average of a member's four highest consecutive years of compensation. Plan members are eligible to retire with full retirement benefits at age 65 with five years of creditable service, at age 60 with 25 years of creditable service, or at any age with 30 years of creditable service. Plan members are eligible to retire with partial retirement benefits at age 50 with 20 years of creditable service or at age 60 with five years of creditable service (age 55 for firefighters and rescue squad workers). Survivor benefits are available to eligible beneficiaries of members who die while in active service or within 180 days of their last day of service and who have either completed 20 years of creditable service regardless of age (15 years of creditable service for firefighters and rescue squad workers who are killed in the line of duty) or have completed five years of service and have reached age 60. Eligible beneficiaries may elect to receive a monthly Survivor's Alternate Benefit for life or a return of the member's contributions. The plan does not provide for automatic post-retirement benefit increases. Cost of living benefit increases are contingent upon investment gains of the plan at the discretion of the LGERS Board of Trustees, except as authorized by the General Assembly.

LGERS plan members who are LEOs are eligible to retire with full retirement benefits at age 55 with five years of creditable service as an officer, or at any age with 30 years of creditable service. LEO plan members are eligible to retire with partial retirement benefits at age 50 with 15 years of creditable service as an officer. Survivor benefits are available to eligible beneficiaries of LEO members who die while in active service or within 180 days of their last day of service and who also have either completed 20 years of creditable service regardless of age, or have completed 15 years of creditable service as an LEO and have reached age 50, or have completed five years of creditable service as an LEO and have reached age 55, or have completed 15 years of creditable service as an LEO if killed in the line of duty. Eligible beneficiaries may elect to receive a monthly Survivor's Alternate Benefit for life or a return of the member's contributions.

Contributions. Contribution provisions are established by General Statute 128-30 and may be amended only by the North Carolina General Assembly. Plan members are required to contribute 6% of their annual pay. The actuarially determined contribution rate for employers is set annually by the LGERS Board of Trustees. For the fiscal year ended June 30, 2017, all employers made contributions of 8% of covered payroll for law enforcement officers and 7.25% for general employees and firefighters. These were greater than the actuarially determined contributions of 7.12% for law enforcement officers and 5.5% for general employees and firefighters. These amounts, combined with member contributions and investment income fund the benefits earned by plan members during the year and administrative expenses. In addition, employers with an unfunded liability, established when the government initially enters the system, must make additional contributions towards that liability. The State's responsibility is administrative only.

Refunds of contributions. Members who have terminated service as a contributing member, may file an application for a refund of their contributions. By state law, refunds to members include interest (currently 4%) regardless of the number of years of retirement service credit or of the reason for separation from service. State law requires a 60 day waiting period after service termination before the refund may be paid. The acceptance of a refund payment cancels the individual's right to any other retirement or survivor benefit provided by LGERS.

3. FIREFIGHTERS' AND RESCUE SQUAD WORKERS' PENSION FUND

Plan administration. The Firefighters' and Rescue Squad Workers' Pension Fund (FRSWPF) is a cost sharing, defined benefit pension plan with a special funding situation in that the State of North Carolina is not the employer but is legally obligated to contribute to the plan. The State established the plan to provide pension benefits for all eligible firefighters and rescue squad workers. Membership is comprised of both volunteer and locally employed firefighters and emergency medical personnel who elect membership. Benefit provisions are established by General Statute 58-86 and may be amended only by the North Carolina General Assembly. At June 30, 2017, there were 1,681 participating fire and rescue units.

Management of the plan is vested in the LGERS Board of Trustees, which consists of 13 members – nine appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer and State Superintendent, who serve as ex officio members.

Benefits provided. FRSWPF provides retirement and survivor benefits. The present retirement benefit is $170 per month. Plan members are eligible to receive the monthly benefit at age 55 with 20 years of fully credited service as a firefighter or rescue squad worker regardless of whether the member has terminated paid employment. Eligible beneficiaries of members who die before beginning to receive the benefit will receive the amount paid by the member and contributions paid on the member's behalf into the plan. Eligible beneficiaries of members who die after beginning to receive benefits will be paid the amount the member contributed minus the benefits collected. A survivorship benefit for members was added effective June 1, 2016 and provides that beneficiaries will receive the same benefit the deceased member would have received beginning when the deceased would have reached age 55.

Contributions. Contribution provisions are established by General Statute 58-86 and may be amended only by the North Carolina General Assembly. Plan member benefits and administrative expenses are funded by a $10 monthly contribution by the member, investment income and an actuarially based state appropriation. Actual contributions are reported in Section F of this note.

Refunds of contributions. Members who are no longer eligible or choose not to participate in the fund may file an application for a refund of their contributions. Refunds include the member's contributions and contributions paid by others on the member's behalf. No interest will be paid on the amount of the refund. The acceptance of a refund payment cancels the individual's right to any other retirement or survivor benefit provided by FRSWPF.

4. REGISTERS OF DEEDS' SUPPLEMENTAL PENSION FUND

Plan administration. The State of North Carolina administers the Registers of Deeds' Supplemental Pension Fund (RODSPF) which is a cost-sharing, multiple-employer, defined benefit pension plan established by the State of North Carolina to provide supplemental pension benefits for all eligible, retired county registers of deeds. Membership is comprised of registers of deeds who are retired from the Local Governmental Employees' Retirement System or an equivalent locally sponsored plan and have met the statutory eligibility requirements. At June 30, 2017, there were 101 individuals receiving benefits in the plan with 100 counties participating. Benefit provisions are established by General Statute 161-50 and may be amended only by the North Carolina General Assembly. The State's only cost in the plan is administration.

Management of the plan is vested in the LGERS Board of Trustees, which consists of 13 members – nine appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer and State Superintendent, who serve as ex officio members.

Benefits provided. An individual's eligibility to receive benefits under the RODSPF is based on at least 10 years of service as a register of deeds. An individual's benefit amount in a given year is limited to the lesser of the following:

1. the member's years of service multiplied by the value of one share of accumulated contributions available for benefits for that year, as specified in G.S. 161-50.3; and
2. when the benefit amount is combined with the individual's maximum retirement allowance upon retirement under the Local Governmental Employees' Retirement System or equivalent locally sponsored retirement plan, the benefit amount is limited to the lesser of the following:
   a. seventy-five percent (75%) of a member's annual compensation, computed on the latest monthly rate (including any and all supplements); or
   b. one thousand five hundred dollars ($1,500).

Because of the statutory limits noted above, not all contributions available for benefits are distributed.

Contributions. Contribution provisions are established by General Statute 161-50 and may be amended only by the North Carolina General Assembly. Benefits and administrative expenses are funded by investment income and 1.5% of the receipts collected by each County Commission under Article 1 of Chapter 161 of the North Carolina General Statutes. The statutory contribution currently has no relationship to the actuary's required contribution. The actuarially determined contribution this year and in the foreseeable future is zero. Registers of Deeds do not contribute.

Single-Employer Defined Benefit Plans

5. CONSOLIDATED JUDICIAL RETIREMENT SYSTEM

Plan administration. The State of North Carolina administers the Consolidated Judicial Retirement System (CJRS). This plan is a single-employer, defined benefit pension plan established by the State of North Carolina to provide pension benefits for employees of the State Judicial System. Membership is comprised of judges, district attorneys, public defenders and clerks of court. Benefit provisions are established by General Statute 135-58 and may be amended only by the North Carolina General Assembly.

Management of the plan is vested in the TSERS Board of Trustees, which consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State Superintendent and the Director of the Office of State Human Resources who serve as ex officio members.

Benefits provided. The plan provides retirement, disability and death benefits. Retirement benefits are determined as a percentage of the member's final compensation times the member's years of creditable service. The percentage used is determined by the position held by the member. A member's final compensation is the annual equivalent of the rate of compensation most recently applicable to the retiree as a member of the Retirement System. Plan members are eligible to retire with full retirement benefits at age 65 with five years of membership service, or at age 50 with 24 years of creditable service. Plan members are eligible to retire with partial retirement benefits at age 50 with five years of membership service. The reduced benefit is calculated using the same formula as a service retirement benefit, multiplied by a reduction percentage based on the member's age and/or service at early retirement. Survivor benefits are available to spouses of members who die while in active service after reaching age 50 with five years of service. The plan does not provide for automatic post-retirement benefit increases.

Contributions. Contribution provisions are established by General Statutes 135-68 and 135-69 and may be amended only by the North Carolina General Assembly. Plan members are required to contribute 6% of their annual pay. The contribution rate for the State is set each year by the North Carolina General Assembly in the Appropriations Act based on the actuarially determined rate recommended by the actuary. The State's contractually required contribution for the year ended June 30, 2017 was 29.46% of covered payroll. This was equal to the actuarially determined contribution. This amount, combined with member contributions and investment income fund the benefits earned by plan members during the year and administrative expenses. Actual contributions are reported in Section F of this note.

Refund of contributions. Members who have terminated service as a contributing member may file an application for a refund of their contributions. By state law, refunds to members include interest (currently 4%) regardless of the number of years of retirement service credit or of the reason for separation from service. State law requires a 60 day waiting period after service termination before the refund may be paid. The acceptance of a refund payment cancels the individual's right to any other retirement or survivor benefit provided by CJRS.

6. LEGISLATIVE RETIREMENT SYSTEM

Plan administration. The State of North Carolina administers the Legislative Retirement System (LRS). This plan is a single-employer, defined benefit pension plan established by the State of North Carolina to provide retirement and disability benefits for members of the General Assembly. The benefit will not be payable while the retiree is employed in a position making him eligible to participate in either the Teachers' and State Employees' Retirement System or Consolidated Judicial Retirement System. Benefit provisions are established by General Statute 120-4.21 and may be amended only by the North Carolina General Assembly.

Management of the plan is vested in the TSERS Board of Trustees, which consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State Superintendent and the Director of the Office of State Human Resources who serve as ex officio members.

Benefits provided. LRS provides retirement, disability and survivor benefits. Retirement benefits are determined as 4.02% of the highest annual compensation as a member of the General Assembly times years of creditable service. A member's highest annual compensation is the 12 consecutive months of salary authorized during the member's final legislative term for the highest position ever held as a member of the General Assembly. Plan members are eligible to retire with full retirement benefits at age 65 after five years of service. Plan members are eligible to retire with partial retirement benefits at age 60 after five years of service or at age 50 with 20 years of service. Survivor benefits are available to eligible beneficiaries of contributing members of the General Assembly who die while in active service. The beneficiary will receive a return of the member's contributions with interest. If the member dies while in active service after 12 years of creditable service or after reaching age 60 with five years of service, the surviving beneficiary may choose to receive a lifetime monthly benefit instead of a return of contributions with interest.

Contributions. Contribution provisions are established by General Statutes 120-4.19 and 120-4.20 and may be amended only by the North Carolina General Assembly. Plan members are required to contribute 7% of their annual pay. The contribution rate for the State is set each year by the North Carolina General Assembly in the Appropriations Act based on the actuarially determined rate recommended by the actuary. For the fiscal year ended June 30, 2017, the State's contractually required contribution was 18.22% of covered payroll. This was equal to the actuarially determined contribution. This amount, combined with member contributions and investment income fund the benefits earned by plan members during the year and administrative expenses. Actual contributions are reported in Section F of this note.

Refunds of contributions. Members who have terminated service as a contributing member may file an application for a refund of their contributions. By state law, refunds to members include interest (currently 4%) regardless of the number of years of retirement service credit or of the reason for separation from service. State law requires a 60 day waiting period after service termination before the refund may be paid. The acceptance of a refund payment cancels the individual's right to any other retirement or survivor benefit provided by LRS.

7. NORTH CAROLINA NATIONAL GUARD PENSION FUND

Plan administration. The North Carolina National Guard Pension Fund (NGPF) is a single-employer, defined benefit pension plan established by the State of North Carolina to provide pension benefits for members of the North Carolina National Guard (NCNG). Membership is comprised of members and former members of the NCNG who have served and qualified for at least 20 years of creditable military service, have at least 15 years of aforementioned service as a member of the NCNG, and have received an honorable discharge from the NCNG. This is a special funding situation because the State is not the employer, but is legally obligated to contribute to the plan. Benefit provisions are established by General Statute 127A-40 and may be amended only by the North Carolina General Assembly.

Management of the plan is vested in the TSERS Board of Trustees, which consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State Superintendent and the Director of the Office of State Human Resources who serve as ex officio members.

Benefits provided. NGPF provides a pension of $105 per month for 20 years of creditable military service with an additional $10.50 per month for each additional year of such service; provided, however that the total pension shall not exceed $210 per month.

Contributions. Contribution provisions are established by General Statute 127A-40 and may be amended only by the North Carolina General Assembly. Plan member benefits and administrative expenses are funded by investment income and an actuarially determined state appropriation. NGPF members do not contribute. Actual contributions are reported in Section F of this note.

Defined Contribution Plans

8. SHERIFFS' SUPPLEMENTAL PENSION FUND

This plan is a defined contribution pension plan established by the State of North Carolina to provide supplemental pension benefits for all eligible, retired county sheriffs. Membership is comprised of sheriffs who are retired from the Local Governmental Employees' Retirement System and beneficiaries that meet the statutory eligibility requirements. At June 30, 2017, there were 96 sheriffs and three beneficiaries enrolled in the plan with 81 of the State's 100 counties participating.

An individual's benefits for the year are calculated as a share of accumulated contributions available for benefits for that year, subject to certain statutory limits. An individual's eligibility is based on minimum years of service as a sheriff with the individual's share increasing with years of service. Because of the statutory limits noted above, not all contributions available for benefits are distributed. The North Carolina Department of Justice administers the plan. If the plan purchases any investments, they are held as part of the State Treasurer's External Investment Pool. The State's only cost in the plan is administration.

Receipts collected by each county's Clerk of Superior Court under General Statutes 7A-304(a)(3a), along with investment income, support the plan's benefits and administrative expenses. Sheriffs do not contribute to the plan. For the fiscal year ended June 30, 2017, the Clerks remitted $834 thousand. All benefit and contribution provisions are established by Chapter 143, Article 12H of the General Statutes and may be amended only by the North Carolina General Assembly.

9. IRC SECTION 401 (K) PLAN

Effective January 1, 1985, Chapter 135, Article 5 of the General Statutes authorized the creation of the Supplemental Retirement Income Plan of North Carolina (the 401(k) Plan) in accordance with Internal Revenue Code (IRC) Section 401(k). Effective July 1, 2008, the Board of Trustees of the North Carolina Public Employee Deferred Compensation Plan was consolidated with the Supplemental Retirement Income Plan's Board to form the North Carolina Supplemental Retirement Board of Trustees (the Board). At that time, the Board began administering these independent plans. All members of the Teachers' and State Employees' Retirement System, Consolidated Judicial Retirement System, Legislative Retirement System, Local Governmental Employees' Retirement System and University Optional Retirement Program and retirement and pension plans sponsored by political subdivisions of the State that qualify under Section 401(a) of the IRC, as well as law enforcement officers as defined under North Carolina General Statues 143-166.30 and 143-166.50, are eligible to enroll in the 401(k) Plan and may contribute up to 80% (limited to an Internal Revenue maximum dollar amount) of their compensation during the plan fiscal year. The assets of the 401(k) Plan are held in trust for the exclusive benefit of participants and their beneficiaries and for paying the reasonable costs of the plan. All contributions and costs of administering the 401(k) Plan are the responsibility of the participants. All contributions are immediately vested in the name of each participant. At December 31, 2016, there were approximately 245,500 employees enrolled with 1,036 participating employers. Benefit and contribution provisions are established by State and Federal law and the plan document.

The 401(k) Plan is a defined contribution pension plan and benefits of the Plan depend solely on amounts contributed to the plan plus investment earnings. Members of the 401(k) Plan may receive their benefits upon retirement, disability, termination, hardship, or death. Participants may choose from several options, including systematic withdrawals, full or partial lump-sum withdrawals, or transfer of their balance to an eligible employer-sponsored retirement plan or IRA.

The Board has delegated the general administration of the Plan to a third party but has retained all statutory authority and fiduciary responsibility for oversight and major decisions of the 401(k) Plan. Financial statements are based on the Plan's fiscal year. The audited statements for the year ended December 31, 2016, are presented in this financial report as a pension and other employee benefit trust fund. The 401(k) Plan's financial statements are prepared using the accrual basis of accounting. Notes receivable represent loans to participants and are reported at outstanding principal balances. Prudential Retirement Insurance and Annuity Company (Prudential) provides third party administration of the 401(k) Plan. The 401(k) Plan's financial statements are available by contacting the N.C. Department of State Treasurer, 3200 Atlantic Avenue, Raleigh, NC 27604-1668.

In addition to the voluntary contribution criteria above, General Statute 143-166.30 and 143-166.50 requires employer contributions to the 401(k) Plan to provide benefits for all law enforcement officers employed by the State and local governments. Participation begins at the date of employment. Employers are required to contribute monthly to the individual accounts of participants an amount equal to 5% of each officer's monthly salary. In addition, State law enforcement officers receive \$.50 for each court cost assessed and collected under General Statute 7A-304, while \$1.25 of this assessment goes to local law enforcement officers. All contributions are immediately vested in the name of each participant. At December 31, 2016, 52 state agencies and component units along with 453 local governmental units outside our reporting entity contributed the required 5%. In addition, 10 state agencies and 472 local government employers contributed to the 401(k) Plan on a voluntary basis. There were approximately 13,900 LEOs actively contributing to the 401(k) Plan and approximately 24,900 LEOs receiving employer contributions as of December 31, 2016.

The 401(k) Plan reported total member contributions of \$325.848 million. The payrolls for law enforcement officers, on which the required contributions were based for the year ended December 31, 2016, amounted to \$166.3 million for the State, \$27.23 million for universities, and \$7.06 million for community colleges, public schools and other miscellaneous component units. The required 5% employer's contribution was made by the State for \$8.31 million, by universities for \$1.36 million, and by the remaining component units, public schools and community colleges for \$353 thousand. In addition, the State contributed \$342 thousand for required court cost assessments. The amount of pension expense recognized in the current fiscal year is equal to the employer contributions.

The 401(k) Plan (Supplemental Retirement Plan) discloses a related party transaction in Note 20 of this CAFR. The Supplemental Retirement Plan's investment risks are described in Note 3.

10. OPTIONAL RETIREMENT PROGRAM

The Optional Retirement Program (ORP) is a defined contribution pension plan that provides retirement benefits with options for payments to beneficiaries in the event of the participant's death. Faculty and staff of the University of North Carolina (UNC) System may join the ORP instead of the Teachers' and State Employees' Retirement System. The ORP is administered by the UNC System. At June 30, 2017, the plan had 20,163 participants with 19 constituent institutions of the UNC System participating.

Benefits are provided by means of contracts issued and administered by the privately-operated Teachers' Insurance and Annuity Association (TIAA) and Fidelity Investments. Participants' eligibility and contributory requirements are established in General Statutes 135-5.1 and may be amended only by the North Carolina General Assembly. Participants are always fully vested in their own contributions to the plan and their investment earnings. Participants are fully vested in the university's contributions and earnings after five years of participating in the ORP.

Participants contribute 6% of compensation and the university contributes 6.84%. The universities contributed \$121.62 million for the fiscal year ended June 30, 2017. Annual covered payroll was \$1.78 billion and employer contributions expressed as a percentage of annual payroll were 6.84% for the period. Employee contributions expressed as a percentage of annual covered payroll were the required 6% with actual employee contributions of \$106.69 million for the fiscal year ended June 30, 2017. The amount of pension expense recognized in the current fiscal year related to ORP was \$117.09 million. Forfeitures reduced the universities' pension expense by \$4.53 million for the fiscal year ended June 30, 2017. Any liabilities reported by the universities are immaterial to this CAFR.

C. Plan Membership

The following table summarizes membership information by plan at the actuarial valuation date:

	Cost-Sharing, Multiple-Employer				Single-Employer		
	Teachers' and State Employees'	Local Govern-mental	Firefighters' and Rescue Squad	Registers of Deeds'	Consolidated Judicial	Legislative	North Carolina National Guard
Inactive plan members or beneficiaries currently receiving benefits	208,443	65,930	13,940	103	654	293	4,541
Inactive plan members entitled to but not yet receiving benefits	151,581	63,682	139	-	42	91	5,538
Active plan members	312,490	126,647	42,445	100	560	170	5,953
	672,514	256,259	56,524	203	1,256	554	16,032
Valuation date	12-31-16	12-31-16	12-31-16	12-31-16	12-31-16	12-31-16	12-31-16

D. Investments

Investment policy. The pension plans' policy in regard to the allocation of invested assets is established and may be amended by the State Treasurer. Plan assets are managed by the Investment Management Division of the North Carolina Department of the State Treasurer (IMD) under the direction of the State Treasurer. It is the policy of the State Treasurer to invest plan assets with a focus on protection through diversification, achievement of stable and consistent returns that meet or exceed benchmarks and actuarial assumptions over a long-term projection, with a primary objective of ensuring that all liability payments and obligations are met. The target asset allocation is developed based upon analysis of optimized portfolios, utilizing risk and return characteristics of eligible asset classes, and selecting the most efficient portfolio for a given level of risk.

For all plans participating in the External Investment Pool, the following table displays the adopted asset allocation policy as of June 30, 2017.

Asset Class	Target Allocation
Fixed Income	29%
Global Equity	42%
Real Estate	8%
Alternatives	8%
Opportunistic Fixed Income	7%
Inflation Sensitive	6%
Total	100%

The Registers of Deeds' Supplemental Pension fund is 100% invested in the Bond Index External Investment Pool.

Rate of return. For the year ended June 30, 2017, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense was:

	Cost-Sharing, Multiple-Employer				Single-Employer		
	Teachers' and State Employees'	Local Govern-mental	Firefighters' and Rescue Squad	Registers of Deeds'	Consolidated Judicial	Legislative	North Carolina National Guard
Money-weighted Rate of Return	10.75%	10.74%	10.76%	(0.03%)	10.75%	10.72%	10.63%

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

E. Net Pension Liability of Participating Employers

The components of the net pension liability of the participating employers at June 30, 2017, were as follows (dollars in thousands):

	Cost-Sharing, Multiple-Employer				Single-Employer		
	Teachers' and State Employees'	Local Govern-mental	Firefighters' and Rescue Squad	Registers of Deeds'	Consolidated Judicial	Legislative	North Carolina National Guard
Total pension liability	$ 75,639,901	$ 26,230,733	$ 455,675	$ 31,743	$ 651,830	$ 29,410	$ 174,972
Plan fiduciary net position	67,705,460	24,703,010	407,163	48,812	569,103	27,689	121,127
Net pension liability (asset)	$ 7,934,441	$ 1,527,723	$ 48,512	$ (17,069)	$ 82,727	$ 1,721	$ 53,845
Plan fiduciary net position as a percentage of the total pension liability	89.51%	94.18%	89.35%	153.77%	87.31%	94.15%	69.23%

Actuarial assumptions. The total pension liability was determined by actuarial valuations as of December 31, 2016, using the following actuarial assumptions, applied to all prior periods included in the measurement. The total pension liability was then rolled forward to June 30, 2017 utilizing update procedures incorporating the actuarial assumptions.

	Cost-Sharing, Multiple-Employer				Single-Employer		
	Teachers' and State Employees' (1)	Local Govern-mental (1)	Firefighters' and Rescue Squad	Registers of Deeds' (1)	Consolidated Judicial (1)	Legislative (1)	North Carolina National Guard
Valuation date	12/31/16	12/31/16	12/31/16	12/31/16	12/31/16	12/31/16	12/31/16
Inflation	3%	3%	3.5%	3%	3%	3%	3%
Salary Increases	3.50% - 8.10%	3.50% - 7.75%	N/A	3.50% - 7.75%	3.50% - 5.50%	5.50%	N/A
Investment Rate of Return (2)	7.20%	7.20%	7.20%	3.75%	7.20%	7.20%	7.20%

(1) - Salary increases include 3.5% inflation and productivity factor
(2) - Investment rate of return includes inflation assumption and is net of pension plan investment expense.
N/A - Not Applicable

During the fiscal year ended June 30, 2017, retirees in the TSERS, CJRS, and LRS whose retirement began on or before September 1, 2016 received a one-time pension supplement payment equal to 1.6% of the retiree's annual retirement allowance as of September 1, 2016. Retirees in the LGERS received a 0.105% cost-of-living (COLA) adjustment for the fiscal year ended June 30, 2017. Effective July 1, 2017, retirees and beneficiaries of deceased retirees receiving benefits from the TSERS, CJRS and LRS as of July 1, 2016 received a 1.0% cost-of-living adjustment. Retirees and beneficiaries of retirees with retirement effective dates between August 1, 2016 and June 1, 2017 received a prorated amount. These benefit enhancements reflect legislation enacted by the North Carolina General Assembly. These enhancements were reflected as liabilities in the valuations described above.

The retirement plans currently use mortality tables that vary by age, gender, employee group (i.e. teacher, general, law enforcement officer) and health status (i.e. disabled and healthy). The current mortality rates are based on published tables and based on studies that cover significant portions of the U.S. population. The mortality rates also contain a provision to reflect future mortality improvements. The actuarial assumptions used in the December 31, 2016 valuations were based on the results of an actuarial experience review for the period January 1, 2010 through December 31, 2014.

Future ad hoc COLA amounts are not considered to be substantively automatic and are therefore not included in the measurement.

The projected long-term investment returns and inflation assumptions are developed through review of current and historical capital markets data, sell-side investment research, consultant whitepapers, and historical performance of investment strategies. Fixed income return projections reflect current yields across the U.S. Treasury yield curve and market expectations of forward yields projected and interpolated for multiple tenors and over multiple year horizons. Global public equity return projections are established through analysis of the equity risk premium and the fixed income return projections. Other asset categories and strategies' return projections reflect the foregoing and historical data analysis. These projections are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2017 (see the discussion of the pension plan's investment policy in Section D) are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return
Fixed Income	1.4%
Global Equity	5.3%
Real Estate	4.3%
Alternatives	8.9%
Oportunistic Fixed Income	6.0%
Inflation Sensitive	4.0%

The information in the preceding table is based on 30 year expectations developed with the consulting actuary and is part of the asset liability and investment policy of the North Carolina Retirement Systems. The long-term nominal rates of return underlying the real rates of return are arithmetic annualized figures. The real rates of return are calculated from nominal rates by multiplicatively subtracting a long-term inflation assumption of 3.05%. Return projections do not include any excess return expectations over benchmark averages. All rates of return and inflation are annualized. The long-term expected real rate of return for the Bond Index Investment Pool as of June 30, 2017 is 1.3%.

Discount rate. The discount rate used to measure the total pension liability was 7.20% except for Registers of Deeds' Supplemental Pension Fund which was 3.75%. The discount rate for the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund was lowered from 7.25% to 7.20% for the December 31, 2016 valuation. This discount rate is in line with the long-term nominal expected return on pension plan investments. The calculation of the net pension liability is a present value calculation of the future net pension payments. These net pension payments assume that contributions from plan members will be made at the current statutory contribution rate and that contributions from employers will be made at the contractually required rates, actuarially determined. Based on those assumptions, the pension plans' fiduciary net position was projected to be available to make all projected future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Plans' net pension liability to changes in the discount rate. The following presents the net pension liability of the plans at June 30, 2017 calculated using the discount rate of 7.20% (3.75% for RODSPF), as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.20%; RODSPF 2.75%) or 1-percentage-point higher (8.20%; RODSPF 4.75%) than the current rate (dollars in thousands):

	1% Decrease (6.20%)	Current Discount Rate (7.20%)	1% Increase (8.20%)
Cost-Sharing, Multiple-Employer			
TSERS' net pension liability	$ 16,332,364	$ 7,934,441	$ 898,052
LGERS' net pension liability (asset)	4,586,259	1,527,723	(1,025,189)
FRSWPF' net pension liability	105,209	48,512	1,908
Single-Employer			
CJRS' net pension liability	$ 149,016	$ 82,727	$ 25,987
LRS' net pension liability (asset)	4,372	1,721	(559)
NCNGs' net pension liability	75,110	53,845	36,354

	1% Decrease (2.75%)	Current Discount Rate (3.75%)	1% Increase (4.75%)
Cost-Sharing, Multiple-Employer			
RODs' net pension asset	$ (13,416)	$ (17,069)	$ (20,141)

F. GASB Statement 68 Employer Reporting

1. EMPLOYER CONTRIBUTIONS

The following table presents the primary government's and component units' contributions recognized by the pension plans at June 30, 2017 (dollars in thousands):

	Teachers' and State Employees'	Firefighters' and Rescue Squad	Consolidated Judicial	Legislative	North Carolina National Guard	Total
Primary Government	$ 325,836	$ 17,602	$ 19,592	$ 675	$ 8,517	$372,222
Component Units						
University of North Carolina System	$ 219,780	$ —	$ —	$ —	$ —	$219,780
Community Colleges	89,417	—	—	—	—	89,417
Other Component Units	2,710	—	—	—	—	2,710
Total Contributions	$ 637,743	$ 17,602	$ 19,592	$ 675	$ 8,517	$684,129

2. PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

As of June 30, 2017, the primary government and component units reported net pension liabilities for defined benefit pension plans administered by the State as follows (dollars in thousands):

		Component Units		
	Primary Government	University of North Carolina System [1]	Community Colleges	Other Component Units [2]
Proportionate Share of the Net Pension Liability				
Teachers' and State Employees' Retirement System	$ 2,015,414	$ 1,325,896	$ 543,846	$ 14,653
Net Pension Liability				
Firefighters' and Rescue Squad	66,819	—	—	—
Consolidated Judicial	95,402	—	—	—
Legislative Retirement	2,233	—	—	—
North Carolina National Guard	59,381	—	—	—
Total Net Pension Liability	$ 2,239,249	$ 1,325,896	$ 543,846	$ 14,653

(1) Rex Healthcare is part of the University of North Carolina Health Care System and administers its own Rex Employees' Retirement Plan. It does not participate in TSERS. The net pension liability of Rex's retirement plan is excluded from the above amounts. At June 30, 2017, Rex Healthcare had a net pension liability of $115.925 million.

(2) Centennial Authority is a component unit of the State of North Carolina and participates in the Local Governmental Employees' Retirement System (LGERS). It does not participate in TSERS. The net pension liability of Centennial Authority's retirement plan is excluded from the above amounts. At June 30, 2017, Centennial Authority had a net pension liability of $85 thousand.

Each net pension liability was measured as of June 30, 2016, and the total pension liability used to calculate each net pension liability was determined by an actuarial valuation as of December 31, 2015. Update procedures were used to roll forward the total pension liability to June 30, 2016. For TSERS, the primary government's and each component unit's proportion of the collective net pension liability was based on a projection of the present value of future salaries relative to the projected present value of future salaries of all participating employers, actuarially determined. The primary government's proportion of the collective net pension liability was further allocated to individual proprietary funds based on each fund's proportionate share of the total prior year pension contributions.

The primary government's and component units' proportions of the collective net pension liability for the Teachers' and State Employees' Retirement System as of June 30, 2016 and 2015 were as follows:

		Component Units		
	Primary Government	University of North Carolina System	Community Colleges	Other Component Units
Teachers' and State Employees' Retirement System				
Proportion – June 30, 2016	21.93%	14.43%	5.92%	0.16%
Proportion – June 30, 2015	22.47%	14.45%	5.89%	0.17%
Change – Increase (Decrease)	(0.54)	(0.02)	0.03	(0.01)

For the year ended June 30, 2017, the primary government and component units recognized pension expense for defined benefit pension plans administered by the State as follows (dollars in thousands):

		Component Units		
	Primary Government	University of North Carolina System	Community Colleges	Other Component Units
Pension Expense				
Teachers' and State Employees' Retirement System	$ 387,346	$ 258,486	$ 107,872	$ 2,826
Consolidated Judicial	20,828	–	–	–
Legislative	2,554	–	–	–
Total Pension Expense	$ 410,728	$ 258,486	$ 107,872	$ 2,826

As a result of its requirement to contribute, the primary government recognized expense of $10.67 million for FRSWPF and $11.1 million for NGPF for the year ended June 30, 2017. The primary government's proportion of the collective net pension liability for Firefighters' and Rescue Squad Workers' and for North Carolina National Guard was 100% and 100%, respectively, as of June 30, 2016 and 2015.

At June 30, 2017, the primary government and component units reported deferred outflows of resources related to defined benefit pension plans administered by the State from the following sources (dollars in thousands):

	Deferred Outflows of Resources					
	Teachers' and State Employees'	Firefighters' and Rescue Squad	Consolidated Judicial	Legislative	North Carolina National Guard	Total
Primary Government:						
Difference between actual and expected experience	$ —	$ 1,946	$ —	$ —	$ 17	$ 1,963
Changes of assumptions	297,220	11,971	21,302	2,799	8,356	341,648
Net difference between projected and actual earnings on pension plan investments	718,750	19,557	27,440	1,381	5,727	772,855
Change in proportion and differences between agency's contributions and proportionate share of contributions	27,629	—	—	—	—	27,629
Contributions subsequent to the measurement date	325,836	17,602	19,592	675	8,517	372,222
Total	$ 1,369,435	$ 51,076	$ 68,334	$ 4,855	$ 22,617	$ 1,516,317
Component Units:						
University of North Carolina System						
Changes of assumptions	$ 195,537					
Net difference between projected and actual earnings on pension plan investments	472,857					
Change in proportion and differences between agency's contributions and proportionate share of contributions	20,498					
Contributions subsequent to the measurement date	219,780					
Total [1]	$ 908,672					
Community Colleges						
Changes of assumptions	$ 80,204					
Net difference between projected and actual earnings on pension plan investments	193,953					
Change in proportion and differences between agency's contributions and proportionate share of contributions	13,999					
Contributions subsequent to the measurement date	89,417					
Total	$ 377,573					
Other Component Units						
Changes of assumptions	$ 2,161					
Net difference between projected and actual earnings on pension plan investments	5,225					
Change in proportion and differences between agency's contributions and proportionate share of contributions	130					
Contributions subsequent to the measurement date	2,710					
Total [2]	$ 10,226					

(1) Rex Healthcare is part of the University of North Carolina Health Care System and administers its own Rex Employees' Retirement Plan. It does not participate in TSERS. Deferred outflows of resources of Rex's retirement plan are excluded from the above amounts. At June 30, 2017, Rex Healthcare had deferred outflows of resources of $33.630 million.

(2) Centennial Authority is a component unit of the State of North Carolina and participates in the Local Governmental Employees' Retirement System (LGERS). It does not participate in TSERS. Deferred outflows of resources of Centennial Authority's retirement plan are excluded from the above amounts. At June 30, 2017, Centennial Authority had deferred outflows of resources of $74 thousand.

At June 30, 2017, the primary government and component units reported deferred inflows of resources related to defined benefit pension plans administered by the State from the following sources (dollars in thousands):

	Deferred Inflows of Resources					
	Teachers' and State Employees'	Firefighters' and Rescue Squad	Consolidated Judicial	Legislative	North Carolina National Guard	Total
Primary Government:						
Difference between actual and expected experience	$ 95,251	$ 3,876	$ 5,756	$ 372	$ 44	$ 105,299
Changes of assumptions	—	11,969	—	—	—	11,969
Net difference between projected and actual earnings on pension plan investments	3	—	—	—	—	3
Change in proportion and differences between agency's contributions and proportionate share of contributions	25,905	—	—	—	—	25,905
Total	$ 121,159	$ 15,845	$ 5,756	$ 372	$ 44	$ 143,176
Component Units:						
University of North Carolina System						
Difference between actual and expected experience	$ 62,664					
Change in proportion and differences between agency's contributions and proportionate share of contributions	11,345					
Total(1)	$ 74,009					
Community Colleges						
Difference between actual and expected experience	$ 25,703					
Change in proportion and differences between agency's contributions and proportionate share of contributions	4,954					
Total	$ 30,657					
Other Component Units						
Difference between actual and expected experience	$ 692					
Change in proportion and differences between agency's contributions and proportionate share of contributions	141					
Total(2)	$ 833					

(1) Rex Healthcare is part of the University of North Carolina Health Care System and administers its own Rex Employees' Retirement Plan. It does not participate in TSERS. Deferred inflows of resources of Rex's retirement plan are excluded from the above amounts. At June 30, 2017, Rex Healthcare had deferred inflows of resources of $7.255 million.

(2) Centennial Authority is a component unit of the State of North Carolina and participates in the Local Governmental Employees' Retirement System (LGERS). It does not participate in TSERS. Deferred inflows of resources of Centennial Authority's retirement plan are excluded from the above amounts. At June 30, 2017, Centennial Authority had deferred inflows of resources of $4 thousand.

Amounts reported as deferred outflows of resources related to contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2018. These amounts are found in the preceding Deferred Outflows of Resources table. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense as follows (dollars in thousands):

Teachers' and State Employees'

		Component Units		
Year Ending June 30	Primary Government	University of North Carolina System	Community Colleges	Other Component Units
2018	$ 154,410	$ 105,245	$ 45,017	$ 1,132
2019	157,417	106,336	45,544	1,148
2020	391,035	257,771	107,159	2,820
2021	219,579	145,531	59,779	1,583

Other Plans

	Primary Government			
Year Ending June 30	Firefighters' and Rescue Squad	Consolidated Judicial	Legislative	North Carolina National Guard
2018	$ 4,414	$ 7,614	$ 2,212	$ 7,664
2019	4,416	7,641	587	2,469
2020	10,249	16,254	648	2,503
2021	4,316	11,343	361	1,420
2022	(1,615)	133		
Thereafter	(4,151)			

Actuarial assumptions. The total pension liability in the December 31, 2015 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

	Teachers' and State Employees'	Firefighters' and Rescue Squad	Consolidated Judicial	Legislative	North Carolina National Guard
	(1)		(1)	(1)	
Valuation date	12/31/15	12/31/15	12/31/15	12/31/15	12/31/15
Inflation	3%	3.5%	3%	3%	3%
Salary Increases	3.50% - 8.10%	N/A	3.50% - 5.50%	5.50%	N/A
Investment Rate of Return (2)	7.25%	7.25%	7.25%	7.25%	7.25%

(1) - Salary increases include 3.5% inflation and productivity factor
(2) - Investment rate of return includes inflation assumption and is net of pension plan investment expense.
N/A - Not Applicable

The following table presents the adopted asset allocation policy and best estimates of arithmetic real rates of return for each major asset class as of June 30, 2016:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	29%	1.4%
Global Equity	42%	5.3%
Real Estate	8%	4.3%
Alternatives	8%	8.9%
Opportunistic Fixed Income	7%	6.0%
Inflation Sensitive	6%	4.0%
Total	100%	

Sensitivity of the net pension liability to changes in the discount rate. The following presents the primary government's and component units' net pension liability calculated using the discount rate of 7.25%, as well as what the proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate (dollars in thousands):

	Net Pension Liability		
	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Teachers' and State Employees' Proportionate Share			
Primary Government	$ 3,790,603	$ 2,015,413	$ 522,722
University of North Carolina System	2,493,754	1,325,896	343,887
Community Colleges	1,022,870	543,846	141,053
Other Component Units	27,560	14,653	3,801
Firefighters' and Rescue Squad	$ 122,146	$ 66,819	$ 21,335
Consolidated Judicial	$ 158,863	$ 95,402	$ 41,098
Legislative	$ 4,827	$ 2,233	$ 5,000
North Carolina National Guard	$ 80,176	$ 59,381	$ 42,267

3. CHANGES IN NET PENSION LIABILITY (ASSET) FOR SINGLE-EMPLOYER, DEFINED-BENEFIT PLANS

The following schedule presents the changes in the net pension liability for the single-employer, defined-benefit plans as of June 30, 2017 (dollars in thousands):

	Consolidated Judicial	Legislative
Total pension liability		
Service Cost	$ 16,904	$ 822
Interest	42,009	1,708
Changes of benefit terms	332	22
Differences between expected and actual experience	(4,295)	(520)
Changes of assumptions	26,588	5,151
Benefit payments, including refunds of member contributions	(40,462)	(2,430)
Net change in total pension liability	41,076	4,753
Total pension liability - beginning (a)	582,766	23,952
Total pension liability - ending (c)	$ 623,842	$ 28,705
Plan fiduciary net position		
Contributions-employer	$ 18,908	$ 65
Contributions-member	7,561	253
Net investment income	3,972	181
Benefit payments, including refunds of member contributions	(40,462)	(2,430)
Administrative expense	(73)	(53)
Net change in plan fiduciary net position	(10,094)	(1,984)
Plan fiduciary net position - beginning (b)	538,534	28,456
Plan fiduciary net position - ending (d)	$ 528,440	$ 26,472
Net pension liability (asset) - beginning (a) - (b)	44,232	(4,504)
Net pension liability - ending (c) - (d)	$ 95,402	$ 2,233

G. GASB Statement 73 Reporting

1. SPECIAL SEPARATION AND ALLOWANCE

Plan administration. The State provides a special separation allowance (SSA), a single-employer, defined benefit pension plan, for sworn law enforcement officers as defined by General Statutes 135-1(11c) or General Statutes 143-166.30(a)(4) that were employed by State agencies and retired on a basic service retirement under the provisions of General Statutes 135-5(a). To qualify for the allowance, each retired officer must: (1) have completed 30 or more years of creditable service or have attained 55 years of age and completed five or more years of creditable service; and (2) not have attained 62 years of age; and (3) have completed at least five years of continuous service as a law enforcement officer immediately preceding a service retirement.

Benefits provided. Each eligible officer is paid an annual separation allowance equal to 0.85% of the officer's most recent base rate of compensation for each year of creditable service. These benefits are funded on a pay-as-you-go basis with each state agency responsible for the benefits to their former employees. The benefits are established in General Statute 143-166.41 and may be amended only by the General Assembly.

There is no statewide administration of the SSA. The SSA is not administered through a trust and therefore no assets are accumulated. Funds for this allowance are appropriated annually in the budget of each affected state agency.

Plan membership. The following table summarizes membership information at the actuarial valuation date of December 31, 2015:

	Special Separation Allowance
Inactive plan members or beneficiaries currently receiving benefits	874
Active plan members	2,782
	3,656

Total pension liability. As of June 30, 2017, the primary government reported a pension liability of $198.653 million. The primary government's pension liability was measured as of June 30, 2016. The total pension liability was determined by an actuarial valuation as of December 31, 2015. Update procedures were used to roll forward the total pension liability to June 30, 2016.

Actuarial Assumptions. The actuarial assumptions used to measure the total pension liability of the SSA are the same as the actuarial valuation assumptions used for the TSERS and are described in Section E above. Mortality rates are based on the same mortality tables used for the TSERS as described in Section E above. The inflation rate for both general and wage inflation was 3% at June 30, 2016.

The withdrawal rates, retirement rates, mortality assumption, annual rate of salary increase, and leave conversion assumption were changed to align with the latest assumptions that were adopted for use with the December 31, 2015 actuarial valuation of TSERS, based on the experience study prepared as of December 31, 2014 and adopted by the TSERS Board of Trustees on January 21, 2016.

Discount Rate. The discount rate used to measure the total pension liability was 2.71% at June 30, 2016. The economic assumptions used for the discount rate are based on the yield of the S&P Municipal Bond 20 Year High Grade Rate Index as of the measurement date. The discount rate was updated from 3.73% at June 30, 2015 to 2.71% at June 30, 2016.

Pension expense and deferred outflows of resources and deferred inflows of resources related to pensions. As of June 30, 2017, the primary government recognized pension expense for SSA of $13.893 million.

At June 30, 2017, the primary government reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources (dollars in thousands):

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between actual and expected experience	$ 3,250	$ —
Changes of assumptions	—	1,006
Transactions subsequent to the measurement date	15,626	—
Total	$ 18,876	$ 1,006

The $15.626 million reported as deferred outflows of resources related to transactions subsequent to the measurement date will be recognized as a reduction of the pension liability in the year ended June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (dollars in thousands):

Year Ending June 30	Special Separation Allowance
2018	$ 467
2019	467
2020	467
2021	467
2022	376

Sensitivity of the total pension liability to changes in the discount rate. The following presents the total pension liability calculated using the discount rate of 2.71%, as well as what the total pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (1.71%) or 1-percentage-point higher (3.71%) than the current rate (dollars in thousands):

	Total Pension Liability		
	1% Decrease (1.71%)	Current Discount Rate (2.71%)	1% Increase (3.71%)
Special Separation Allowance	$ 212,781	$ 198,653	$ 185,634

Changes in the total pension liability. The following schedule presents the changes in the total pension liability for the Special Separation Allowance plan as of June 30, 2017 (dollars in thousands):

	Special Separation Allowance
Total pension liability	
Service Cost	$ 6,112
Interest	7,314
Differences between expected and actual experience	3,927
Change of assumptions	(1,216)
Benefit payments, including refunds of member contributions	(14,895)
Net change in total pension liability	1,242
Total pension liability - beginning	197,411
Total pension liability - ending	$ 198,653

NOTE 14: OTHER POSTEMPLOYMENT BENEFITS

The State administers three postemployment benefit plans, the Retiree Health Benefit Fund, the Disability Income Plan of North Carolina and the Retirees' Contributory Death Benefit Plan as pension and other employee benefit trust funds. Although the assets of the administered plans are commingled for investment purposes, each plan's assets may be used only for payment of benefits to members of that plan and for administrative costs in accordance with the terms of the plan. The plans in this note do not issue separate financial statements. The financial statements and other required disclosures are presented in Note 16 and in the *Required Supplementary Information* section of this Comprehensive Annual Financial Report (CAFR). The Retirees' Contributory Death Benefit Plan is included in Note 16 in the Death Benefit Plan of N.C. column.

A. Summary of Significant Accounting Policies and Plan Asset Matters

The financial statements of these plans are prepared using the accrual basis of accounting. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits are recognized when due and payable in accordance with the terms of each plan.

Pursuant to North Carolina General Statutes, the State Treasurer is the custodian and administrator of the other postemployment benefits funds. The State Treasurer maintains various investment portfolios in its External Investment Pool. The Retiree Health Benefit Fund participates in the External Investment Pool. The Disability Income Plan and the assets of the Retirees' Contributory Death Benefit Plan are invested in the Short-term Investment Portfolio of the External Investment Pool and the Bond Index External Investment Pool.

Additionally, the securities lending balance represents assets occurring from securities lending transactions that result from the funds' participation in the External Investment Pool. The investments of the State Treasurer are discussed in Note 3.

B. Plan Descriptions

Cost-Sharing, Multiple-Employer, Defined Benefit Plans

1. HEALTH BENEFITS

Plan administration. The State of North Carolina administers the North Carolina State Health Plan for Teachers and State Employees, referred to as the State Health Plan (the Plan), a healthcare plan exclusively for the benefit of employees of the State, the University of North Carolina System, community colleges, and certain other component units. In addition, Local Education Agencies (LEAs), charter schools, and some select local governments that are not part of the financial reporting entity also participate. The Plan is reported as a major component unit. Management of the Plan is vested in the State Health Plan Board of Trustees, which consists of 10 members – two appointed by the Governor, two appointed by the State Treasurer, two appointed by the Senate, two appointed by the state House of Representatives, and the State Treasurer and the Director of State Budget and Management who serve as ex officio members. Health benefit programs and premium rates are determined by the State Treasurer upon approval of the Board of Trustees.

The Retiree Health Benefit Fund (RHBF) has been established as a fund to provide health benefits to retired and disabled employees and their applicable beneficiaries. RHBF is established by General Statute 135-7, Article 1. RHBF is a cost-sharing, multiple-employer, defined benefit healthcare plan, exclusively for the benefit of former employees of the State, the University of North Carolina System, and community colleges. In addition, Local Education Agencies (LEAs), charter schools and some select local governments that are not part of the financial reporting entity also participate. At June 30, 2017, the number of participating employers was as follows:

State of North Carolina	1
LEAs	116
Charter Schools	61
Community Colleges	58
University of North Carolina System	19
Other Component Units	5
Local governments	11
Total	271

By statute, RHBF is administered by the Board of Trustees of the Teachers' and State Employees' Retirement System, which consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State superintendent and the Director of the Office of State Human Resources who serve as ex officio members. RHBF is supported by a percent of payroll contribution from participating employing units. Each year the percentage is set in legislation, as are the maximum per retiree contributions from RHBF to the State Health Plan. The State Treasurer, with the approval of the State Health Plan Board of Trustees, then sets the employer contributions (subject to the legislative cap) and the premiums to be paid by retirees, as well as the health benefits to be provided through the State Health Plan.

Benefits provided. Plan benefits received by retired employees and disabled employees from RHBF are other postemployment benefits (OPEB). The healthcare benefits for retired and disabled employees who are not eligible for Medicare are the same as for active employees as described in Note 15. The plan options change when former employees become eligible for Medicare. Medicare retirees have the option of selecting one of four fully-insured Medicare Advantage/Prescription Drug Plan (MA-PDP) options or the self-funded Traditional 70/30 Preferred Provider Organization (PPO) plan option that is also offered to non-Medicare members. If the Traditional 70/30 Plan is selected by a Medicare retiree, the self-funded State Health Plan coverage is secondary to Medicare.

Those former employees who are eligible to receive medical benefits from RHBF are long-term disability beneficiaries of the Disability Income Plan of North Carolina (DIPNC) and retirees of the Teachers' and State Employees' Retirement System (TSERS), the Consolidated Judicial Retirement System (CJRS), the Legislative Retirement System (LRS), the University Employees' Optional Retirement Program (ORP), and a small number of local governments, with five or more years of contributory membership service in their retirement system prior to disability or retirement, with the following exceptions: for employees first hired on or after October 1, 2006, and members of the General Assembly first taking office on or after February 1, 2007, future coverage as retired employees and retired members of the General Assembly is subject to the requirement that the future retiree have 20 or more years of retirement service credit in order to receive coverage on a noncontributory basis. Employees first hired on or after October 1, 2006 and members of the General Assembly first taking office on or after February 1, 2007 with 10 but less than 20 years of retirement service credit are eligible for coverage on a partially contributory basis. For such future retirees, the State will pay 50% of the State Health Plan's total noncontributory premium.

Section 35.21 (c) & (d) of Session Law 2017-57 repeals retiree medical benefits for employees first hired after January 1, 2021. The new legislation amends Article 3B of Chapter 135 of the General Statutes to require that retirees must earn contributory retirement service in the Teachers' and State Employees' Retirement System (or in an allowed local system unit), the Consolidated Judicial Retirement System, or the Legislative Retirement System prior to January 1, 2021, and not withdraw that service, in order to be eligible for retiree medical benefits under the amended law. Consequently, members first hired on and after January 1, 2021 will not be eligible to receive retiree medical benefits.

The Plan's and RHBF's benefit and contribution provisions are established by Chapter 135-7, Article 1, and Chapter 135, Article 3B of the General Statutes and may be amended only by the North Carolina General Assembly. RHBF does not provide for automatic post-retirement benefit increases.

Contributions. By General Statute, accumulated contributions from employers to RHBF and any earnings on those contributions shall be used to provide health benefits to retired and disabled employees and their applicable beneficiaries. By statute, contributions to the RHBF are irrevocable. Also by law, RHBF assets are dedicated to providing benefits to retired and disabled employees and their applicable beneficiaries and are not subject to the claims of creditors of the employers making contributions to RHBF. However, RHBF assets may be used for reasonable expenses to administer RHBF, including costs to conduct required actuarial valuations of state-supported retired employees' health benefits. Contribution rates to RHBF, which are intended to finance benefits and administrative expenses on a pay-as-you-go basis, are determined by the General Assembly in the Appropriations Bill.

For the current fiscal year, the State and the other employers contributed the legislatively mandated 5.60% of covered payroll from July 1, 2016 through December 31, 2016 and 6.02% of covered payroll from January 1, 2017 through June 30, 2017. RHBF is reported as an employee benefit trust fund. Actual contributions are reported in Section F of this note.

2. DISABILITY INCOME

Plan administration. As discussed in Note 15, short-term and long-term disability benefits are provided through the Disability Income Plan of North Carolina (DIPNC), a cost-sharing, multiple-employer defined benefit plan, to the eligible members of the Teachers' and State Employees' Retirement System which includes employees of the State, the University of North Carolina system, community colleges, certain participating component units and Local Education Agencies (LEAs) which are not part of the reporting entity, and the University Employees' Optional Retirement Program. At June 30, 2017, the number of participating employers was as follows:

State of North Carolina	1
LEAs	116
Charter Schools	61
Community Colleges	58
University of North Carolina System	19
Other Component Units	5
	260

By statute, the DIPNC is administered by the Department of State Treasurer and the Board of Trustees of the Teachers' and State Employees' Retirement System, which consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State Superintendent and the Director of the Office of State Human Resources who serve as ex officio members.

Benefits provided. Long-term disability benefits are payable as an other postemployment benefit from DIPNC after the conclusion of the short-term disability period or after salary continuation payments cease, whichever is later, for as long as an employee is disabled. An employee is eligible to receive long-term disability benefits provided the following requirements are met: (1) the employee has five or more years of contributing membership service in the Teachers' and State Employees' Retirement System (TSERS) or the University Employees' Optional Retirement Program, earned within 96 months prior to the end of the short-term disability period or cessation of salary continuation payments, whichever is later; (2) the employee must make application to receive long-term benefits within 180 days after the conclusion of the short-term disability period or after salary continuation payments cease or after monthly payments for Workers' Compensation cease (excluding monthly payments for permanent partial benefits), whichever is later; (3) the employee must be certified by the Medical Board to be mentally or physically disabled for the further performance of his/her usual occupation; (4) the disability must have been continuous, likely to be permanent, and incurred at the time of active employment; (5) the employee must not be eligible to receive an unreduced retirement benefit from the TSERS; and (6) the employee must terminate employment as a permanent, full-time employee. An employee is eligible to receive an unreduced retirement benefit from the TSERS after (1) reaching the age of 65 and completing five years of membership service, or (2) reaching the age of 60 and completing 25 years of creditable service, or (3) completing 30 years of creditable service, at any age.

For employees who had five or more years of membership service as of July 31, 2007, during the first 36 months of the long-term disability period, the monthly long-term disability benefit is equal to 65% of one-twelfth of an employee's annual base rate of compensation last payable to the participant or beneficiary prior to the beginning of the short-term disability period, plus the like percentage of one-twelfth of the annual longevity payment and local supplements to which the participant or beneficiary would be eligible. The monthly benefits are subject to a maximum of $3,900 per month reduced by any primary Social Security disability benefits and by monthly payments for Workers' Compensation to which the participant or beneficiary may be entitled, but the benefits payable shall be no less than $10 a month. After the first 36 months of the long-term disability, the long-term benefit is calculated in the same manner as described above except the monthly benefit is reduced by an amount equal to a monthly primary Social Security disability benefit to which the participant or beneficiary might be entitled had Social Security disability benefits been awarded. When an employee qualifies for an unreduced service retirement allowance from the TSERS, the benefits payable from DIPNC will cease, and the employee will commence retirement under the Teachers' and State Employees' Retirement System or the University Employees' Optional Retirement Program.

For employees who had less than five years of membership service as of July 31, 2007, and meet the requirements for long-term disability on or after August 1, 2007, during the first 36 months of the long-term disability period, the monthly long-term benefit shall be reduced by an amount equal to the monthly primary Social Security retirement benefit to which the employee might be entitled should the employee become age 62 during the first 36 months. This reduction becomes effective as of the first day of the month following the month of initial entitlement to Social Security benefits. After the first 36 months of the long-term disability, no further benefits are payable under the terms of this section unless the employee has been approved and is in receipt of primary Social Security disability benefits.

Contributions. Although the DIPNC operates on a calendar year, disability income benefits are funded by actuarially determined employer contributions that are established in the Appropriations Bill by the General Assembly and coincide with the state fiscal year. For the fiscal year ended June 30, 2017, the State and the other employers made a statutory contribution of 0.38% of covered payroll. This was equal to the actuarially required contribution. Actual contributions are reported in Section F of this note.

The contributions cannot be separated between the amounts that relate to other postemployment benefits and employment benefits for active employees. Those individuals who are receiving extended short-term disability benefit payments cannot be separated from the number of members currently eligible to receive disability benefits as an other postemployment benefit.

Benefit and contribution provisions are established by Chapter 135, Article 6, of the General Statutes and may be amended only by the North Carolina General Assembly. The plan does not provide for automatic post-retirement benefit increases.

Single-Employer Defined Benefit Plans

3. RETIREES' CONTRIBUTORY DEATH BENEFIT PLAN

Plan administration. The State of North Carolina administers the Retirees' Contributory Death Benefit Plan (CDBP), which is a single-employer defined benefit plan that provides a group life insurance option to all retired members of the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System (LGERS), the Consolidated Judicial Retirement System, and the Legislative Retirement System. This plan is optional and members must enroll in this option at the time of their retirement to be eligible for the benefits.

Management of the Plan is vested in the TSERS Board of Trustees and in the LGERS Board of Trustees. The TSERS Board of Trustees consists of 13 members – eight appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer, the State Superintendent and the Director of the Office of State Human Resources who serve as ex officio members. The LGERS Board of Trustees consists of 13 members – nine appointed by the Governor, one appointed by the state Senate, one appointed by the state House of Representatives, and the State Treasurer and State Superintendent, who serve as ex officio members.

Benefits provided. Benefits payable under this plan are supported entirely by the contributions of participants and the investment earnings on these contributions. Upon receipt of proof of death of the participant, a lump-sum death benefit will be paid to the surviving spouse or estate. The death benefit shall be equal to (1) $10,000 if death occurs on or after 24 months of coverage or (2) the total of the monthly contributions plus interest at an annual rate determined by the Board of Trustees if death occurs before 24 months of coverage.

Contributions. The retired member has to elect, when first eligible, to make continuous required contributions as determined by the Board of Trustees on a full contributory basis, through retirement allowance deductions or other methods adopted by the Board of Trustees, to a group death benefit trust fund administered by the Board of Trustees. Monthly member contributions vary between $12.54 and $66.14 per month, depending on the age of the member at the time of retirement. There is no contractually required contribution by the State.

Benefit and contribution provisions are established by Chapter 135-5 (l), Article 1 of the General Statutes and may be amended only by the North Carolina General Assembly.

C. Plan Membership

The following tables summarize membership information by plan at the actuarial valuation date:

	Retiree Health Benefit Fund	Disability Income Plan of N.C.
Retired members and beneficiaries currently receiving benefits	213,425	N/A
Retired members and survivors of deceased members currently receiving benefits	N/A	6,617
Terminated members entitled to but not yet receiving benefits	39,230	-
Active members	338,158	323,469
Total	590,813	330,086
Date of valuation	*12/31/16*	*12/31/16*

N/A - Not Applicable

	Retirees' Contributory Death Benefit Plan
Retired members currently covered under death benefit plan	119,708
Terminated members eligible to elect coverage under death benefit plan at retirement	71,484
Active members eligible to elect coverage under death benefit plan at retirement	439,867
Total	631,059
Date of valuation	*12/31/16*

D. Investments

Investment policy. The OPEB plans' policy in regard to the allocation of invested assets is established and may be amended by the State Treasurer. Plan assets are managed by the Investment Management Division of the North Carolina Department of the State Treasurer (IMD) under the direction of the State Treasurer. It is the policy of the State Treasurer to invest plan assets with a focus on protection through diversification, achievement of stable and consistent returns that meet or exceed benchmarks and actuarial assumptions over a long-term projection, with a primary objective of ensuring that all liability payments and obligations are met. The target asset allocation is developed based upon analysis of optimized portfolios, utilizing risk and return characteristics of eligible asset classes, and selecting the most efficient portfolio for a given level of risk.

The adopted asset allocation policies for the Disability Income Plan of North Carolina and for the Retirees' Contributory Death Benefit Plan are primarily in the Bond Index Investment Pool as of June 30, 2017 as described in Note 3. The following table displays the adopted asset allocation policy for the Retiree Health Benefit Fund as of June 30, 2017:

Asset Class	Target Allocation
Fixed Income	29%
Global Equity	42%
Real Estate	8%
Alternatives	8%
Opportunistic Fixed Income	7%
Inflation Sensitive	6%
Total	100%

Rate of return. For the year ended June 30, 2017, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense was:

	Cost-Sharing, Multiple-Employer		Single-Employer
	Retiree Health Benefit Fund	Disability Income Plan of N.C.	Retirees' Contributory Death Benefit Plan
Money-weighted Rate of Return	9.31%	(0.06%)	(0.02%)

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

E. Net OPEB Liability of Participating Employers

The components of the net OPEB liability of the participating employers at June 30, 2017, were as follows (dollars in thousands):

	Retiree Health Benefit Fund	Disability Income Plan of N.C.	Retirees' Contributory Death Benefit Plan
Total OPEB liability	$ 33,983,195	$ 376,486	$ 331,144
Plan fiduciary net position	1,196,570	437,606	246,995
Net OPEB liability (asset)	$ 32,786,625	$ (61,120)	$ 84,149
Plan fiduciary net position as a percentage of the total OPEB liability	3.52%	116.23%	74.59%

Actuarial Assumptions. The total OPEB liabilities for RHBF, DIPNC and CDBP were determined by actuarial valuations as of December 31, 2016, using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified. The total OPEB liabilities were then rolled forward to June 30, 2017 utilizing update procedures incorporating the actuarial assumptions.

	Retiree Health Benefit Fund	Disability Income Plan of N.C.	Retirees' Contributory Death Benefit Plan
	(1)	(1)	
Valuation Date	12/31/2016	12/31/2016	12/31/2016
Inflation	2.75%	3.00%	3.00%
Salary Increases	3.50% - 8.10%	3.50% - 8.10%	N/A
Investment Rate of Return (2)	7.20%	3.75%	3.75%
Healthcare Cost Trend Rate - Medical	5.00% - 6.50%	N/A	N/A
Healthcare Cost Trend Rate - Prescription Drug	5.00% - 7.25%	N/A	N/A
Healthcare Cost Trend Rate - Medicare Advantage	4.00% - 5.00%	N/A	N/A
Healthcare Cost Trend Rate - Administrative	3.00%	N/A	N/A

(1) - Salary increases include 3.5% inflation and productivity factor
(2) - Investment rate of return is net of pension plan investment expense, including inflation.
N/A - Not Applicable

The OPEB plans currently use mortality tables that vary by age, gender, employee group (i.e. teacher, general, law enforcement officer) and health status (i.e. disabled and healthy). The current mortality rates are based on published tables and based on studies that cover significant portions of the U.S. population. The healthy mortality rates also contain a provision to reflect future mortality improvements.

The projected long-term investment returns and inflation assumptions are developed through review of current and historical capital markets data, sell-side investment research, consultant whitepapers, and historical performance of investment strategies. Fixed income return projections reflect current yields across the U.S. Treasury yield curve and market expectations of forward yields projected and interpolated for multiple tenors and over multiple year horizons. Global public equity return projections are established through analysis of the equity risk premium and the fixed income return projections. Other asset categories and strategies' return projections reflect the foregoing and historical data analysis. These projections are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. DIPNC and CDBP are primarily invested in the Bond Index Investment Pool as of June 30, 2017.

Best estimates of real rates of return for each major asset class included in the RHBF's target asset allocation as of June 30, 2017 (see the discussion of the OPEB plans' investment policy in Section D) are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return
Fixed Income	1.4%
Global Equity	5.3%
Real Estate	4.3%
Alternatives	8.9%
Opportunistic Fixed Income	6.0%
Inflation Sensitive	4.0%

The information in the preceding table is based on 30 year expectations developed with the consulting actuary and is part of the asset liability and investment policy of the North Carolina Retirement Systems. The long-term nominal rates of return underlying the real rates of return are arithmetic annualized figures. The real rates of return are calculated from nominal rates by multiplicatively subtracting a long-term inflation assumption of 3.05%. Return projections do not include any excess return expectations over benchmark averages. All rates of return and inflation are annualized. The long-term expected real rate of return for the Bond Index Investment Pool as of June 30, 2017 is 1.3%.

Actuarial valuations of the plans involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The actuarial assumptions used for RHBF are consistent with those used to value the pension benefits of the TSERS where appropriate. These assumptions are based on the most recent pension valuations available. The discount rate used for RHBF reflects a pay-as-you-go approach.

Projections of benefits for financial reporting purposes of the plans are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. Historically, the benefits funded solely by employer contributions applied equally to all retirees. Currently, as described earlier in the note, benefits are dependent on membership requirements.

The actuarial methods and assumptions used for DIPNC include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

The actuarial assumptions used in the December 31, 2016 valuations were based on the results of an actuarial experience study prepared as of December 31, 2014.

Discount rate. The discount rate used to measure the total OPEB liability for RHBF was 3.58%. The projection of cash flow used to determine the discount rate assumed that contributions from employers would be made at the current statutorily determined contribution rate. Based on the above assumptions, the plan's fiduciary net position was not projected to be available to make projected future benefit payments of current plan members. As a result, a municipal bond rate of 3.58% was used as the discount rate used to measure the total OPEB liability. The 3.58% rate is based on the Bond Buyer 20-year General Obligation Index as of June 30, 2017.

The discount rate used to measure the total OPEB liability for DIPNC was 3.75%. The projection of cash flow used to determine the discount rate assumed that contributions from plan members would be made at the current contribution rate and that contributions from employers would be made at statutorily required rates, actuarially determined. Based on those assumptions, the pension plans' fiduciary net position was projected to be available to make all projected future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The discount rate used to measure the total OPEB liability for CDBP was 3.65%. The projection of cash flow used to determine the discount rate assumed that no contributions would be made other than those made by retirees who elect coverage at retirement. Based on the above assumptions and the assumed investment return of 3.75% used in the actuarial valuation as of June 30, 2017, the plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current plan members. In order to develop the blended discount rate of 3.65%, 3.75% was used during the period that the plan was projected to have a fiduciary net position, and a municipal bond rate of 3.13% was used during the period that the plan was projected to have no fiduciary net position. The 3.13% rate is based on the S&P Municipal Bond 20 Year High Grade Rate Index as of June 30, 2017.

Sensitivity of the net OPEB liability to changes in the discount rate. The following presents the net OPEB liability of the plans at June 30, 2017, as well as what the plans' net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current discount rate (dollars in thousands):

Cost-Sharing, Multiple-Employer

	1% Decrease (2.58%)	Current Discount Rate (3.58%)	1% Increase (4.58%)
RHBF net OPEB liability	$ 39,112,560	$ 32,786,625	$ 27,769,260

	1% Decrease (2.75%)	Current Discount Rate (3.75%)	1% Increase (4.75%)
DIPNC net OPEB asset	$ (51,961)	$ (61,120)	$ (70,300)

Single-Employer

	1% Decrease (2.65%)	Current Discount Rate (3.65%)	1% Increase (4.65%)
CDBP net OPEB liability (asset)	$ 204,919	$ 84,149	$ (3,243)

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates. The following presents the net OPEB liability of the plans, as well as what the plans' net OPEB liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

	1% Decrease (Medical - 4.00 - 5.50%, Pharmacy - 4.00 - 6.25% Med. Advantage - 3.00 - 4.00% Administrative - 2.00%)	Current Healthcare Trend Rates (Medical - 5.00 - 6.50%, Pharmacy - 5.00 - 7.25% Med. Advantage - 4.00 - 5.00% Administrative - 3.00%)	1% Increase (Medical - 6.00 - 7.50%, Pharmacy - 6.00 - 8.25% Med. Advantage - 5.00 - 6.00% Administrative - 4.00%)
RHBF net OPEB liability	$ 26,783,653	$ 32,786,625	$ 40,765,341
DIPNC net OPEB asset	N/A	N/A	N/A
CDBP net OPEB liability (asset)	N/A	N/A	N/A

F. GASB Statement 45 Employer Reporting

The following table presents the three-year trend of the contractually required contributions for the Retiree Health Benefit Fund and the annual required contributions (ARC) for the Disability Income Plan of North Carolina for the State and its component units made to the plans. For the Retiree Health Benefit Fund, the contractually required contribution is determined by the General Assembly and does not reflect the actuary-based ARC. For the Disability Income Plan of North Carolina, the ARC equals the State's OPEB cost as an employer.

Required Contributions as an Employer
For the Years Ended June 30, 2015 through June 30, 2017
(dollars in thousands)

	Retiree Health Benefit Fund	Disability Income Plan of N.C.
Primary Government:		
2017	$ 201,087	$ 13,152
2016	185,760	13,600
2015	182,167	13,604
Component units:		
Universities:		
2017	$ 239,140	$ 15,641
2016	219,435	16,066
2015	206,262	15,404
Community Colleges:		
2017	$ 52,305	$ 3,421
2016	48,905	3,581
2015	47,511	3,548
Other Component Units:		
2017	$ 502	$ 33
2016	441	32
2015	426	32
Percentage Contributed:		
2017	100%	100%
2016	100%	100%
2015	100%	100%

For 2017 and the two preceding years, the primary government and component units together contributed 100% of the required contributions for RHBF and DIPNC.

The Retirees' Contributory Death Benefit Plan does not have an ARC since there is no contractually required contribution by the State. Contributions to the CDBP come from retired members who elect to participate in the Plan.

NOTE 15: RISK MANAGEMENT AND INSURANCE

A. Public Entity Risk Pool

Public School Insurance Fund

The Public School Insurance Fund (the Fund) is a public entity risk pool reported within the enterprise funds. In accordance with Chapter 115C, Article 38, of the General Statutes, the purpose of the Fund is to insure the Local Education Agencies (LEAs), in order to safeguard the property investments made in the public schools of North Carolina. The community colleges, which are component units, can also acquire insurance through the Fund as stated in General Statute 115D-58.11(c). The board of each LEA and the board of trustees of each community college are required to insure their buildings and contents on a replacement cost basis, as suggested by the Fund. The Fund is financed by premiums collected from the LEAs and the community colleges and interest is earned on the Fund's cash balance. Each board has to give notice of its election to insure in the Fund at least 30 days prior to such insurance becoming effective and shall furnish to the Fund a detailed list of all school buildings, contents and other insurable school property. While policies remain in effect, the Fund shall act as insurer of the properties covered by such insurance. The Fund currently insures 87 out of 116 LEAs and 31 out of 58 community colleges.

Claim liabilities are based on estimates of the ultimate cost of losses that have been reported but not settled. There are no salvage claims since any salvage is adjusted in the claim settlement. There are no subrogation claims pending. Since claims are reviewed by adjusters and the actual loss projection is computed in a short time after the claim is reported, the claim adjustment expense associated with the unpaid claim liability will be reflected in the current period. The Fund does not hold any annuity contracts. The Fund does not agree to structured settlements to pay specific amounts on fixed or determinable dates.

The only acquisition costs are related to proposal costs and inspection costs for insured members. Since the Fund can only insure the LEAs and the community colleges, new contracts are immaterial. Since existing contracts are renewed once a year, the Fund's costs are for policy maintenance. Therefore, acquisition costs do not need to be amortized.

The following schedule shows the changes in the reported liability for the past two years (dollars in thousands):

	Fiscal Year	
	2017	2016
Unpaid claims at beginning of year	$ 5,794	$ 10,176
Incurred claims:		
Provision for insured events of the current year	16,149	943
Increases (decreases) in provision for insured events of prior years	(2,354)	(337)
Total incurred claims	13,795	606
Payments:		
Claims attributable to insured events of the current year	4,188	872
Claims attributable to insured events of the prior years	3,439	4,116
Total payments	7,627	4,988
Total unpaid claims at end of the year	$ 11,962	$ 5,794

With the collection of premiums from the insured educational units, payment of valid claims becomes the responsibility of the Fund. All claims greater than $10 million per occurrence are covered by reinsurance contracts. Maximum recoverable from reinsurance for any one catastrophic event is $45.5 million per occurrence. Losses in excess of the reinsurance limit would be paid by the Fund from long-term investments, subject to the maximum amount of available funds. Annual aggregate limits of $15 million apply separately with respect to flood and earthquake. Coverage applies to "all risk" perils. Boiler and machinery coverage is provided under separate contract underwritten by the Fund. Incurred losses are reduced by estimated amounts recoverable under the Fund's reinsurance policies. Currently, there are no claims for reinsurance. There were no premium deficiencies in fiscal year 2017. Investment income was not considered in the determination of premium deficiencies.

B. Employee Benefit Plans

1. State Health Plan

In accordance with Chapter 135, Article 3B, Part 1, of the General Statutes, the State established the North Carolina State Health Plan for Teachers and State Employees, referred to as the State Health Plan (the Plan). The Plan provides comprehensive healthcare benefits for employees and retirees of the State and its participating component units, as well as their qualified dependents on a contributory basis. These benefits are extended to employees and retirees of the Local Education Agencies (LEAs), and other employing units allowed by statute, which are not part of the State's reporting entity.

The Plan is reported as a major component unit. Coverage for active employees, non-Medicare retirees, and some Medicare retirees is self funded. Medicare retirees also had the option of selecting one of four fully-insured Medicare Advantage/Prescription Drug Plan (MA-PDP) options in Calendar Year 2016 and two fully-insured MA-PDP options in Calendar Year 2017. Contributions for employee and retiree coverage are made by the State, its participating component units, LEAs, and other qualified employing units. Some of the plans also require an employee or retiree contribution, depending on the plan selected or the employee's or retiree's willingness to participate in wellness activities that reduce or eliminate employee contributions. Contributions for dependent coverage are made by employees and retirees. As described in Note 14, coverage is also extended to certain individuals as an other postemployment benefit. The Plan has contracted with third parties to process claims.

The Plan pays most expenses that are medically necessary and eligible for coverage based on allowed amounts for Preferred Provider Organization (PPO) plan members. Claims are subject to specified annual deductible and co-payment requirements. The Plan provides an unlimited lifetime benefit for the PPO plans. The authority for the PPO plans is provided in General Statute 135-48.2.

Claim liabilities are based on estimates of the ultimate cost of claims that have been incurred (both reported and unreported). Claim liabilities do not include nonincremental claims adjustment expenses. Changes in the Plan's aggregate liabilities for claims for the past two fiscal years are as follows (dollars in thousands):

	Beginning of Fiscal Year Liability	Current-Year Claims and Changes in Estimates	Claim Payments	Balance at Fiscal Year-End
2015-16	$ 285,033	$ 2,777,913	$ (2,798,310)	$ 264,636
2016-17	264,636	2,987,829	(2,964,762)	287,703

2. Death Benefit Plan of North Carolina

Term life insurance (death benefits) is provided through the Death Benefit Plan, a pension and other employee benefit trust fund, to all members of the Teachers' and State Employees' Retirement System who have completed at least 12 consecutive months of membership in the System. Membership includes employees of the State, the University of North Carolina System, community colleges, and certain participating proprietary component units. Employees of Local Education Agencies (LEAs) and miscellaneous educational units which are not part of the reporting entity are also included. The benefit payment is equal to the greater of (1) the compensation on which contributions were made by the member during the calendar year preceding the year in which his/her death occurs or (2) the member's highest 12 month's salary in a row during the 24 months prior to his/her death. The benefit is subject to a minimum of $25,000 and to a maximum of $50,000.

For the period July 1, 2016 to June 30, 2017, death benefits were funded by actuarially based employer contributions that are established in the biennial appropriation bill by the General Assembly. The State, the University of North Carolina System, community colleges, participating proprietary component units, LEAs and other miscellaneous educational units contributed 0.16 % of covered payroll (as defined in Note 14) to fund the Death Benefit Plan for the period July 2016 to June 2017.

These benefits are established by General Statute 135-5(1) and may be amended only by the North Carolina General Assembly. Claims liabilities are based on estimates of the ultimate cost of claims that have been incurred (both reported and unreported).

Changes in the aggregate liabilities for claims for the past two fiscal years are as follows (dollars in thousands):

	Beginning of Fiscal Year Liability	Current-Year Claims and Changes in Estimates	Claim Payments	Balance at Fiscal Year-End
2015-16	$ 2,560	$ 50,486	$ (50,187)	$ 2,859
2016-17	2,859	53,831	(52,754)	3,936

3. Disability Income Plan of North Carolina

Short-term and long-term disability benefits are provided through the Disability Income Plan of North Carolina (DIPNC), a pension and other employee benefit trust fund. to the eligible members of the Teachers' and State Employees' Retirement System which includes employees of the State, the University of North Carolina System, community colleges, certain participating proprietary component units and the University Employees' Optional Retirement Program. Employees of Local Education Agencies (LEAs) and miscellaneous educational units which are not part of the reporting entity are also included. Short-term benefits are payable after a waiting period of 60 continuous calendar days from the onset of disability. The 60 day waiting period is determined from the last actual day of service, the day of the disabling event if the disabling event occurred on a day other than a normal workday, or the day following at least 365 calendar days of employment as a State teacher or State employee, whichever is later. Short-term benefits are provided to currently active employees and the related liability is not measurable. Short-term benefits during the initial short-term disability period are payable for a period of up to 365 days following the waiting period. The first six months of benefits are payable by the employer outside of DIPNC. The remaining six months are paid by the employer outside of DIPNC, but the employer is reimbursed by DIPNC quarterly. The Board of Trustees may extend the short-term disability benefits of a beneficiary beyond the benefit period of 365 days for an additional period of not more than 365 days; provided the Medical Board determines that the beneficiary's disability is temporary and likely to end within the extended period of short-term disability benefits. During the extended period of short-term disability benefits, payment of benefits shall be made by DIPNIC directly to the beneficiary. As discussed in Note 14. long-term disability benefits are payable as an other postemployment benefit from DIPNC after the conclusion of the short-term disability period or after salary continuation payments cease, whichever is later, for as long as an employee is disabled. These benefits are established by Chapter 135, Article 6, of the General Statutes and may be amended only by the North Carolina General Assembly.

C. Other Risk Management and Insurance Activities

1. Automobile, Fire and Other Property Losses

The State is required by Chapter 58, Article 31, Part 50. of the General Statutes to provide liability insurance on every state-owned motor vehicle, which includes vehicles held by the State's participating component units. The State is self-insured for the first $1 million of any loss through a retrospective rated plan. The plan purchases excess insurance through a private insurer to cover losses greater than $1 million up to $10 million per occurrence. Covered losses include those that occur with vehicles that are not on a stationary track or rail, and federal vehicles when the Governor calls out the National Guard.

Agencies of the State and participating component units using state cars are charged premiums to cover the cost of the excess insurance and to pay for those losses falling under the self-insured retention. Premiums charged are also based on the projected losses to be incurred. The private insurer processes all claims and sets up a reserve for amounts expected to be paid for claims. Claims are paid by the private insurer after they are approved by the Attorney General's Office. Settled claims have not exceeded coverage in any of the past three fiscal years.

The State Property Fire Insurance Fund (the Fund), an internal service fund of the State. was created by Chapter 58, Article 31, of the General Statutes. The Fund insures State owned buildings and contents for fire, extended coverage, and other property losses. The Fund does not charge premiums for fire insurance for operations that are supported by the State's General Fund. Those operations that are not supported by the State's General Fund are charged for fire coverage. Agencies of the State can purchase extended coverage and other property coverage such as sprinkler leakage, business interruption, vandalism, theft, and "all risk" for buildings and contents through the Fund. For those that elect to receive any of this other coverage, the Fund charges premiums. The Fund insures losses up to $2.5 million per occurrence. All losses covered by the Fund are subject to a $5,000 per occurrence deductible. However, some agencies have chosen a higher deductible for a reduction in premium.

The Fund purchases excess insurance from private insurers to cover losses over the amounts insured by the Fund. If aggregate uninsured losses sustained by the Fund, in excess of $50,000 per loss, other than flood and earthquake losses and wind losses by named storms, reach

$5 million in any one annual period, the Fund's retention for the remainder of the annual period is $100,000 per occurrence. Settled claims have not exceeded coverage in any of the past three fiscal years.

Claims of $10,000 or higher are paid when the Council of State approves the request for payment. Claims less than $10,000 are paid without Council of State approval. Claims costs are recognized when they are approved by the Council of State and are outstanding for payment; when known estimates of losses are waiting to be submitted to the Council of State for approval; or when a loss occurs and can be reasonably estimated. Changes in the balances of claims liabilities for the past two fiscal years are as follows (dollars in thousands):

	Beginning of Fiscal Year Liability	Current-Year Claims and Changes in Estimates	Claim Payments	Balance at Fiscal Year-End
2015-16	$ 1,612	$ 264	$ (1,083)	$ 793
2016-17	793	4,482	(3,418)	1,857

2. Medical Malpractice Protection

a. Professional Liability Insurance for State Medical Personnel

Agencies of the State and participating component units are insured under the State Tort Claims Act, Chapter 143, Article 31, of the General Statutes. This act allows partial waiver of sovereign immunity up to $1 million that the State may pay cumulatively to all claimants on account of injury and damage to any one person arising out of a single occurrence. The State has purchased commercial liability insurance for state employees which is in excess over recovery from the Tort Claims Act and Defense of State Employees Act; however, claims involving medical malpractice are generally excluded from this coverage.

The University of North Carolina at Chapel Hill Medical School and UNC Hospitals participate in the Liability Insurance Trust Fund, which is described in detail below. East Carolina University (ECU) provides medical malpractice insurance for the Brody School of Medicine faculty physicians and independently licensed allied health providers. There is a shared blanket policy for all other employees of the ECU Physicians. The medical malpractice insurance is with a private insurance company with coverage of $3 million per occurrence, $5 million annual aggregate, and a $200,000 deductible; as well as an excess policy in the amount of $10 million. All other universities purchase medical professional liability insurance.

Chapter 237, Section 11.33, of the 1999 Session Laws of North Carolina authorized the Department of Health and Human Services, the Department of Environmental Quality, and the Department of Public Safety to provide medical liability coverage on behalf of employees licensed to practice medicine or dentistry; all licensed physicians who are faculty members of the University of North Carolina who work on contract for the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services for incidents that occur in Division programs; and on behalf of medical residents from the University of North Carolina who are in training at institutions operated by the Department of Health and Human Services. The extent of coverage is a maximum of $1 million for each individual incident and does not affect current coverage under the State Tort Claims Act. The Department of Health and Human Services, the Department of Environmental Quality, and the Department of Public Safety purchase commercial professional liability insurance for their medical staff. Settled claims have not exceeded coverage in any of the past three fiscal years.

Insurance coverage varies depending upon the amount of coverage and the type of policy. Typically the amount of primary coverage for medical liability is $1 million per individual, claim, or incidence, and $3 million total or aggregate. Some departments and institutions have purchased higher limits to provide additional coverage above that provided by the primary policy for medical liability. The policies are written on a claims made or occurrence basis, with the majority of the policies being claims made. The claims liabilities are not measurable.

b. Self-Insurance through the Liability Insurance Trust Fund

The Liability Insurance Trust Fund (Trust Fund) is an unincorporated entity created by Chapter 116, Article 26, of the General Statutes and the University of North Carolina Board of Governors Resolution of June 9, 1978. The Trust Fund is a self-insurance program established to provide professional medical malpractice liability covering the University of North Carolina Hospitals at Chapel Hill (the Hospitals) and the University of North Carolina at Chapel Hill Faculty Physicians (UNCFP). The Trust Fund provides coverage for program participants and individual health care practitioners working as employees, agents, or officers of program participants. The Trust Fund is exempt from federal and state income taxes, and is not subject to regulation by the North Carolina Department of Insurance. Coverage is self-funded by contributions from participants and investment income. Contributions are based on the actuarially determined funding level for a given plan year.

For the periods ending June 30, 2016 and June 30, 2017, the Trust Fund provided coverage on an occurrence basis of $3 million per individual and $7 million in the aggregate per claim. Excess reinsurance coverage was not purchased for the policy years ending June 30, 2016 and June 30, 2017, as the Trust Fund chose to retain 100% of the liability. In lieu of reinsurance, the participants contributed $10 million in the aggregate into the Reimbursement Fund during previous fiscal years for future losses.

For the fiscal year ending June 30, 2017, the Trust Fund purchased a direct insurance policy to cover the first $1 million per occurrence and $3 million in the aggregate for dental residents. In the event the Trust Fund has insufficient funds to pay existing and future claims, it has the authority to borrow necessary amounts up to $30 million. Any such borrowing would be repaid from the assets and revenues of program participants. No borrowings have been made under this authority to date. The Trust Fund council believes adequate funds are on deposit in the Trust Fund to meet estimated losses based upon the results of the independent actuary's report.

The Trust Fund establishes claim liabilities based on estimates of the ultimate cost of all losses and loss adjustment expenses, including losses and loss adjustment expenses incurred but not yet reported, which are unpaid at the balance sheet date. The claims liabilities of $39.536 million and $33.418 million are the present values of the aggregate actuarially determined claims liabilities of $31.835 million and $23.023 million, discounted at 1.5% at June 30, 2016 and 2.5% at June 30, 2017.

These estimates are reviewed annually, and as adjustments become necessary, such adjustments are reflected in current operations. Claims against participants are paid from the corpus of the Trust Fund. Changes in the Trust Fund's aggregate liabilities for claims for the past two fiscal years are as follows (dollars in thousands):

	Beginning of Fiscal Year Liability	Current-Year Claims and Changes in Estimates	Claim Payments	Balance at Fiscal Year-End
2015-16	$ 36,846	$ 9,667	$ (6,977)	$ 39,536
2016-17	39,536	2,693	(8,811)	33,418

3. Public Officers' and Employees' Liability Insurance

In accordance with Chapter 58, Article 32, Part 15, of the General Statutes, public officers' and employees' liability insurance is provided by private insurers for all employees of the State and participating component units except for doctors and dentists. The policy provides $10 million excess insurance over the $1 million statutory limit payable for any one claim under the State Tort Claims Act. The first $150,000 of an award against a state agency is the responsibility of the state agency's General Fund budget code or up to $1 million if a Non-General Fund budget code. For General Fund budget codes, any award greater than $150,000 but less than $1 million is funded by proportionate shares of estimated lapse salaries from all agencies' General Fund budget codes. Since state agencies and component units are responsible for funding any tort claims of $1 million or less from their budget and/or lapse salaries, total claims liabilities are not measurable. Employers are charged a premium for the excess insurance based on a composite rate. The employers pay the premiums directly to the private insurer. Settled claims have not exceeded coverage in any of the past three fiscal years.

4. Employee Dishonesty and Computer Fraud

Blanket public employee dishonesty and computer fraud insurance is provided for agencies of the State and its component units with a limit of $5 million per occurrence, subject to a 10% participation in each loss and a $100,000 deductible. This coverage is placed with a private insurance company and is handled by the North Carolina Department of Insurance. Agencies of the State and its component units are charged premiums by the private insurance company. A small number of state agencies and component units of the State require faithful performance coverage in addition to employee dishonesty coverage. In these instances, separate policies have been purchased. The amounts of coverage and the deductibles vary among these separate policies. Settled claims have not exceeded coverage in any of the past three fiscal years.

5. Statewide Workers' Compensation Program

The State has two separate workers' compensation programs that cover employees statewide. The workers' compensation program authorized by Chapter 143, Article 63 administered by the Office of State Human Resources (OSHR) covers workplace injuries of State employees, universities, and community college employees paid with State funds. The workers' compensation program authorized by Chapter 115C, Article 23, and Chapter 115, Article 2 administered by the Department of Public Instruction (DPI) covers workplace injuries of employees of Local Education Agencies (LEAs).

The State and its component units are self-insured for workers' compensation liabilities. The OSHR and DPI programs separately contract with third party administrators and other vendors to handle their program's respective claims. Workers' compensation budgets for most state agencies and participating component units are based on the prior year's loss experience. Workers' compensation liabilities are recognized when probable and reasonably estimated. This liability is presented as a component of the Governmental Activities Long-Term Liabilities.

The third party administrators receive claim administration fees and draw down funds daily to make medical and indemnity payments on behalf of the State in accordance with the North Carolina Workers' Compensation Act, Chapter 97 of the General Statutes. Each state agency and participating component unit is billed for claims costs and administrative fees by their respective third party administrator. State agencies and participating component units contribute to a fund administered by the Office of the State Controller (OSC) to cover their workers' compensation claims. This fund is reported in the general fund.

An injury is covered under the State's Workers' Compensation Act, Chapter 97, if it is caused by an accident or specific traumatic incident that arose out of and in the course and scope of employment. Also, certain occupational diseases specifically designated in state law are compensable. The employee has the responsibility to claim compensation. If the injured employee or his representative does not notify the employer within thirty (30) days from the date of injury, the employer may refuse compensation. A claim must be filed with the North Carolina Industrial Commission (NCIC), the governing body that administers the Workers' Compensation Act, within two years from the date of knowledge thereof; otherwise, the claim is barred by law and no further compensation is allowable. When an employee is injured, the employer's primary responsibility is to direct medical treatment and pay all benefits due. The employer tries to provide the best possible medical care for injured employees to help them reach maximum medical improvement and return to work as soon as possible.

Losses payable by these programs include loss of wages, medical expenses, permanent bodily injury, and death benefits. Loss of wages and disability benefits are payable based on 66 2/3% of an employee's average weekly wages subject to a statutory minimum and annually adjusted maximum compensation rate established per statute by the NCIC. The NCIC is also statutorily required to establish a medical fee schedule that sets maximum reimbursement rates for included medical treatment. Death benefits are payable for 500 weeks at 66 2/3% of an employee's average weekly wages. In certain circumstances, death benefits may be extended beyond 500 weeks.

The following schedule shows the changes in the reported liability for the past two fiscal years for the OSHR and DPI programs (dollars in thousands):

	Beginning of Fiscal Year Liability	Current-Year Claims and Changes in Estimates	Claim Payments	Balance at Fiscal Year-End
2015-16	$ 202,163	$ 59,180	$ (59,437)	$ 201,906
2016-17	201,906	85,465	(68,033)	219,338

6. Workers' Compensation Fund

The Workers' Compensation Fund (the Fund) is an insurance enterprise reported within the enterprise funds. The Fund is created in the Department of Insurance (the Department) and is administered by the State Fire and Rescue Commission (the Commission) through a service contract with a third-party administrator. In accordance with Chapter 58, Article 87, of the General Statutes, the purpose of the Workers' Compensation Fund is to provide workers' compensation benefits to members of "eligible units," which consist of volunteer fire departments or volunteer rescue/EMS units that are not part of a unit of local government and are exempt from state income tax under General Statute 105-130.11. These eligible units are not part of the reporting entity. Benefits are payable for compensable injuries or deaths which occurred on or after July 1, 1996. The Fund is financed by transfers from General Fund and by per capita fixed dollar amounts for each member of a participating eligible unit's roster. The per capita fixed dollar amount is set annually by the Commission and is paid by the eligible units to the Commission on or before July 1 of each year for credit to the Fund. If payment is not received by July 1, the eligible unit shall not receive workers' compensation coverage for that fiscal year. As of June 30, 2017, the Fund consisted of 1,121 eligible units representing approximately 40,693 members.

The liability for unpaid claims is based on an actuarial determination and represents a reasonable estimate of the ultimate cost of open claims and claim settlement expenses that are unpaid as of the fiscal year end, including incurred but not reported losses. The liability for unpaid claims is continually reviewed, and as adjustments become necessary such adjustments are included in current operations. Claim liabilities do not include nonincremental claims adjustment expenses. The Fund considers anticipated investment income in determining if a premium deficiency exists. The Fund recognizes subrogation from third parties as a reduction to claim and claim settlement expenses incurred. As of June 30, 2017, there was no reduction for subrogation.

Acquisition costs consist of commission payments to independent insurance agents for marketing, promotional and administrative assistance with policy maintenance to eligible units. As coverage is renewed annually, acquisition costs are not amortized.

The Fund maintains both specific excess of loss and aggregate reinsurance coverage. The specific excess of loss coverage provides for statutory limits above the Fund's retention of $500,000 per occurrence and a $1.5 million limit for employer's liability above the Fund's retention of $500,000 per occurrence. Incurred losses are reduced by estimated amounts recoverable under the Fund's excess of loss and aggregate reinsurance policies. As of June 30, 2017, there are claims recoverable from reinsurers in the amount of $13 thousand.

The following schedule shows the changes in the reported liability for the past two fiscal years (dollars in thousands):

	Beginning of Fiscal Year Liability	Current-Year Claims and Changes in Estimates	Claim Payments	Balance at Fiscal Year-End
2015-16	$ 26,026	$ 6,762	$ (7,537)	$ 25,251
2016-17	25,251	5,142	(7,845)	22,548

NOTE 16: INDIVIDUAL PLAN FINANCIAL STATEMENTS – PENSION AND OTHER EMPLOYEE BENEFIT TRUST FUNDS

Financial statements for Pension and Other Employee Benefit Trust Funds as of and for the fiscal year ended June 30, 2017 are presented below.

COMBINING STATEMENT OF FIDUCIARY NET POSITION

June 30, 2017

(Dollars in Thousands)

	Teachers' and State Employees' Retirement System	Consolidated Judicial Retirement System	Legislative Retirement System	Firefighters' and Rescue Squad Workers' Pension Fund	North Carolina National Guard Pension Fund	Local Governmental Employees' Retirement System
Assets						
Cash and cash equivalents	$ 196,986	$ 439	$ 77	$ 669	$ 1,957	$ 51,570
Investments:						
Collective investment funds	—	—	—	—	—	—
Unallocated insurance contracts	—	—	—	—	—	—
Synthetic guaranteed investment contracts	—	—	—	—	—	—
State Treasurer investment pool	67,391,677	566,559	27,491	406,460	119,157	24,592,313
Non-State Treasurer pooled investments	—	—	—	—	—	—
Securities lending collateral	505,374	4,247	206	3,047	895	184,402
Receivables:						
Accounts receivable	3,328	3	56	34	11	4,156
Interest receivable	374	2	—	1	2	103
Contributions receivable	59,920	—	76	—	—	55,283
Due from other funds	49,219	2,158	—	—	—	—
Due from component units	11,042	—	—	—	—	—
Notes receivable	—	—	—	—	—	—
Total Assets	68,217,920	573,408	27,906	410,211	122,022	24,887,827
Liabilities						
Accounts payable and accrued liabilities:						
Accounts payable	—	—	—	—	—	—
Benefits payable	480	2	4	1	—	391
Obligations under securities lending	505,374	4,247	206	3,047	895	184,402
Funds held for others	6,606	56	7	—	—	24
Total Liabilities	512,460	4,305	217	3,048	895	184,817
Net Position						
Restricted for:						
Pension benefits	67,705,460	569,103	27,689	407,163	121,127	24,703,010
Other Postemployment benefits	—	—	—	—	—	—
Other employment benefits	—	—	—	—	—	—
Total Net Position	$ 67,705,460	$ 569,103	$ 27,689	$ 407,163	$ 121,127	$ 24,703,010

401(k) Supplemental Retirement Income Plan	457 Deferred Compensation Plan	Death Benefit Plan of N.C.	Retiree Health Benefit Fund	Disability Income Plan of N.C.	Sheriffs' Pension Fund	Register of Deeds' Supplemental Pension Fund	Totals
$ —	$ —	$ 4,973	$ 193,103	$ 12,156	$ 859	$ 131	$ 462,920
162,584	31,895	—	—	—	—	—	194,479
680,297	133,455	—	—	—	—	—	813,752
1,225,449	240,400	—	—	—	—	—	1,465,849
—	—	425,556	952,972	396,306	—	48,597	94,927,088
6,477,345	822,608	—	—	—	—	—	7,299,953
—	—	6	7,374	15	1	—	705,567
1,442	282	—	—	26,455	—	—	35,767
—	—	5	164	13	1	—	665
6,537	657	898	24,958	1,565	—	84	149,978
—	—	497	18,932	1,172	—	—	71,978
—	—	111	6,441	407	—	—	18,001
286,942	19,134	—	—	—	—	—	306,076
8,840,596	1,248,431	432,046	1,203,944	438,089	861	48,812	106,452,073
1,065	209	94	—	—	—	—	1,368
—	—	3,936	—	307	—	—	5,121
—	—	6	7,374	15	1	—	705,567
—	—	—	—	161	—	—	6,854
1,065	209	4,036	7,374	483	1	—	718,910
8,839,531	—	—	—	—	860	48,812	102,422,755
—	—	—	1,196,570	437,606	—	—	1,634,176
—	1,248,222	428,010	—	—	—	—	1,676,232
$ 8,839,531	$ 1,248,222	$ 428,010	$ 1,196,570	$ 437,606	$ 860	$ 48,812	$ 105,733,163

COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

For the Fiscal Year Ended June 30, 2017

(Dollars in Thousands)

	Teachers' and State Employees' Retirement System	Consolidated Judicial Retirement System	Legislative Retirement System	Firefighters' and Rescue Squad Workers' Pension Fund	North Carolina National Guard Pension Fund	Local Governmental Employees' Retirement System
Additions						
Contributions:						
Employer	$ 1,441,194	$ 19,592	$ 675	$ —	$ —	$ 461,329
Members	894,538	7,399	253	2,594	—	391,459
Other contributions	—	—	—	17,602	8,517	—
Total contributions	2,335,732	26,991	928	20,196	8,517	852,788
Investment income:						
Investment earnings (loss)	7,034,851	58,935	2,900	42,201	12,290	2,551,244
Less investment expenses	(378,200)	(3,173)	(155)	(2,273)	(664)	(137,486)
Net investment income (loss)	6,656,651	55,762	2,745	39,928	11,626	2,413,758
Other additions:						
Fees, licenses and fines	—	—	—	—	—	2,780
Interest earnings on loans	—	—	—	—	—	—
Miscellaneous	809	—	—	15	—	551
Total other additions	809	—	—	15	—	3,331
Total additions	8,993,192	82,753	3,673	60,139	20,143	3,269,877
Deductions						
Claims and benefits	4,435,295	41,933	2,368	27,834	8,677	1,263,799
Medical insurance premiums	—	—	—	—	—	—
Refund of contributions	110,001	120	70	1,236	—	58,478
Administrative expenses	11,265	37	18	919	168	4,264
Other deductions	—	—	—	—	—	1
Total deductions	4,556,561	42,090	2,456	29,989	8,845	1,326,542
Change in net position	4,436,631	40,663	1,217	30,150	11,298	1,943,335
Net position — July 1	63,268,829	528,440	26,472	377,013	109,829	22,759,675
Net position — June 30	$ 67,705,460	$ 569,103	$ 27,689	$ 407,163	$ 121,127	$ 24,703,010

401(k) Supplemental Retirement Income Plan	457 Deferred Compensation Plan	Death Benefit Plan of N.C	Retiree Health Benefit Fund	Disability Income Plan of N.C	Sheriffs' Pension Fund	Registers of Deeds' Supplemental Pension Fund	Totals
$ 190,606	$ 1,586	$ 27,862	$ 950,813	$ 61,654	$ —	$ 869	$ 3,156,180
325,848	77,130	—	—	—	—	—	1,699,221
—	—	25,379	—	—	—	—	51,498
516,454	78,716	53,241	950,813	61,654	—	869	4,906,899
572,013	75,733	67	99,450	(36)	9	(2)	10,449,655
—	—	(90)	(5,318)	(86)	—	(10)	(527,455)
572,013	75,733	(23)	94,132	(122)	9	(12)	9,922,200
—	—	—	—	—	834	—	3,614
12,138	797	—	—	—	—	—	12,935
2,019	392	—	—	33	—	—	3,819
14,157	1,189	—	—	33	834	—	20,368
1,102,624	155,638	53,218	1,044,945	61,565	843	857	14,849,467
448,350	79,623	53,831	—	71,729	803	1,794	6,436,036
—	—	195	915,894	—	—	—	916,089
—	—	—	—	—	—	—	169,905
8,850	1,680	495	490	1,050	86	19	29,341
—	—	—	6,127	—	—	—	6,128
457,200	81,303	54,521	922,511	72,779	889	1,813	7,557,499
645,424	74,335	(1,303)	122,434	(11,214)	(46)	(956)	7,291,968
8,194,107	1,173,887	429,313	1,074,136	448,820	906	49,768	98,441,195
$ 8,839,531	$ 1,248,222	$ 428,010	$ 1,196,570	$ 437,606	$ 860	$ 48,812	$ 105,733,163

Required Supplementary Information
Pension Plans

Required supplementary information for pension plans provides information on the sources of changes in net pension liabilities, information about the components of net pension liabilities, employer contributions, and investment returns.

The Required Supplementary Information for Pension Plans includes the following schedules:

Schedule of Changes in the Net Pension Liability and Related Ratios: Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Schedule of Changes in the Net Pension Liability and Related Ratios: Single-Employer, Defined Benefit Pension Plans

Schedule of Employer and Nonemployer Contributions: Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Schedule of Employer and Nonemployer Contributions: Single-Employer, Defined Benefit Pension Plans

Schedule of Investment Returns: All Defined Benefit Pension Plans

Notes to Required Supplementary Information: Schedule of Employer Contributions

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS
COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Four Fiscal Years

(Dollars in Thousands)

	2017	2016	2015	2014
Teachers' and State Employees'				
Total pension liability				
Service Cost	$ 1,469,395	$ 1,580,544	$ 1,562,846	$ 1,556,027
Interest	5,195,104	4,937,464	4,803,766	4,648,995
Changes of benefit terms	449,563	35,605	-	355,224
Differences between expected and actual experience	229,339	(190,178)	(278,170)	(345,392)
Changes of assumptions	381,934	1,743,836	-	-
Benefit payments, including refunds of member contributions	(4,545,296)	(4,339,637)	(4,184,410)	(3,989,397)
Net change in total pension liability	3,180,039	3,767,634	1,904,032	2,225,457
Total pension liability - beginning	72,459,862	68,692,228	66,788,196	64,562,739
Total pension liability - ending (a)	$ 75,639,901	$ 72,459,862	$ 68,692,228	$ 66,788,196
Plan fiduciary net position				
Contributions-employer	$ 1,441,194	$ 1,275,003	$ 1,262,988	$ 1,177,341
Contributions-member	894,538	864,151	854,306	825,548
Net investment income	6,656,652	472,174	1,468,624	9,121,005
Benefit payments, including refunds of member contributions	(4,545,296)	(4,339,637)	(4,184,410)	(3,989,397)
Administrative expense	(11,265)	(10,217)	(10,646)	(10,762)
Other	808	325	393	320
Net change in plan fiduciary net position	4,436,631	(1,738,201)	(608,745)	7,124,055
Plan fiduciary net position - beginning	63,268,829	65,007,030	65,615,775	58,491,720
Plan fiduciary net position - ending (b)	$ 67,705,460	$ 63,268,829	$ 65,007,030	$ 65,615,775
TSERS's net pension liability - ending (a) - (b)	$ 7,934,441	$ 9,191,033	$ 3,685,198	$ 1,172,421
Plan fiduciary net position as a percentage of the total pension liability	89.51%	87.32%	94.64%	98.24%
Covered payroll	$ 14,440,822	$ 13,934,459	$ 13,803,148	$ 13,548,227
Net pension liability as a percentage of covered payroll	54.94%	65.96%	26.70%	8.65%

	2017	2016	2015	2014
Local Governmental Employees'				
Total pension liability				
Service Cost	$ 656,231	$ 684,288	$ 670,936	$ 654,735
Interest	1,803,590	1,707,699	1,628,373	1,555,958
Changes of benefit terms	-	12,581	65,914	(7,790)
Differences between expected and actual experience	73,083	50,205	(72,177)	(80,590)
Changes of assumptions	138,096	183,019	-	-
Benefit payments, including refunds of member contributions	(1,322,277)	(1,251,918)	(1,172,578)	(1,106,799)
Net change in total pension liability	1,348,723	1,385,874	1,120,468	1,015,514
Total pension liability - beginning	24,882,010	23,496,136	22,375,668	21,360,154
Total pension liability - ending (a)	$ 26,230,733	$ 24,882,010	$ 23,496,136	$ 22,375,668
Plan fiduciary net position				
Contributions-employer	$ 461,329	$ 414,168	$ 408,694	$ 413,175
Contributions-member	391,459	375,572	363,863	346,961
Net investment income	2,413,758	175,189	520,578	3,161,964
Benefit payments, including refunds of member contributions	(1,322,277)	(1,251,918)	(1,172,578)	(1,106,799)
Administrative expense	(4,264)	(3,926)	(4,086)	(3,974)
Other	3,330	3,248	3,285	3,297
Net change in plan fiduciary net position	1,943,335	(287,667)	119,756	2,814,624
Plan fiduciary net position - beginning	22,759,675	23,047,342	22,927,586	20,112,962
Plan fiduciary net position - ending (b)	$ 24,703,010	$ 22,759,675	$ 23,047,342	$ 22,927,586
LGERS's net pension liability (asset) - ending (a) - (b)	$ 1,527,723	$ 2,122,335	$ 448,794	$ (551,918)
Plan fiduciary net position as a percentage of the total pension liability	94.18%	91.47%	98.09%	102.47%
Covered payroll	$ 6,192,808	$ 5,860,574	$ 5,650,694	$ 5,553,383
Net pension liability (asset) as a percentage of covered payroll	24.67%	36.21%	7.94%	(9.94%)

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS
COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Four Fiscal Years

(Dollars in Thousands)

	2017	2016	2015	2014
Firefighters' and Rescue Squad Workers'				
Total pension liability				
Service Cost	$ 4,841	$ 5,610	$ 5,884	$ 5,710
Interest	31,475	30,035	29,671	29,394
Changes of benefit terms	-	118	-	8,770
Differences between expected and actual experience	2,048	(2,177)	(2,799)	2,714
Changes of assumptions	2,549	15,577	-	(16,688)
Benefit payments, including refunds of member contributions	(29,070)	(27,998)	(26,912)	(25,614)
Net change in total pension liability	11,843	21,165	5,844	4,286
Total pension liability - beginning	443,832	422,667	416,823	412,537
Total pension liability - ending (a)	$ 455,675	$ 443,832	$ 422,667	$ 416,823
Plan fiduciary net position				
Contributions-member	$ 2,594	$ 2,778	$ 2,822	$ 2,781
Contributions-nonemployer	17,602	13,900	13,900	14,627
Net investment income	39,928	2,867	8,711	53,842
Benefit payments, including refunds of member contributions	(29,070)	(27,998)	(26,912)	(25,614)
Administrative expense	(919)	(860)	(1,622)	(1,045)
Other	15	18	4	2
Net change in plan fiduciary net position	30,150	(9,295)	(3,097)	44,593
Plan fiduciary net position - beginning	377,013	386,308	389,405	344,812
Plan fiduciary net position - ending (b)	$ 407,163	$ 377,013	$ 386,308	$ 389,405
FRSWPF's's net pension liability - ending (a) - (b)	$ 48,512	$ 66,819	$ 36,359	$ 27,418
Plan fiduciary net position as a percentage of the total pension liability	89.35%	84.94%	91.40%	93.42%
Covered payroll	N/A	N/A	N/A	N/A
Net pension liability as a percentage of covered payroll	N/A	N/A	N/A	N/A

	2017	2016	2015	2014
Registers of Deeds'				
Total pension liability				
Service Cost	$ 860	$ 579	$ 578	$ 563
Interest	1,164	1,354	1,372	1,342
Differences between expected and acutual experience	440	(45)	(558)	302
Changes of assumptions	-	7,082	-	-
Benefit payments, including refunds of member contributions	(1,793)	(1,718)	(1,715)	(1,666)
Net change in total pension liability	671	7,252	(323)	541
Total pension liability - beginning	31,072	23,820	24,143	23,602
Total pension liability - ending (a)	$ 31,743	$ 31,072	$ 23,820	$ 24,143
Plan fiduciary net position				
Contributions-employer	$ 869	$ 817	$ 802	$ 817
Net investment income	(13)	3,722	1,114	2,714
Benefit payments, including refunds of member contributions	(1,793)	(1,718)	(1,715)	(1,666)
Administrative expense	(19)	(47)	(16)	(18)
Net change in plan fiduciary net position	(956)	2,774	185	1,847
Plan fiduciary net position - beginning	49,768	46,994	46,809	44,962
Plan fiduciary net position - ending (b)	$ 48,812	$ 49,768	$ 46,994	$ 46,809
RODSPF's net pension asset - ending (a) - (b)	$ (17,069)	$ (18,696)	$ (23,174)	$ (22,666)
Plan fiduciary net position as a percentage of the total pension liability	153.77%	160.17%	197.29%	193.88%
Covered payroll	N/A	N/A	N/A	N/A
Net pension asset as a percentage of covered payroll	N/A	N/A	N/A	N/A

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS
SINGLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Four Fiscal Years

(Dollars in Thousands)

	2017	2016	2015	2014
Consolidated				
Judical				
Total pension liability				
Service Cost	$ 15,630	$ 16,904	$ 16,812	$ 16,637
Interest	44,837	42,009	40,846	39,405
Changes of benefit terms	4,349	332	-	3,031
Differences between expected and actual experience	2,193	(4,295)	(2,289)	(2,484)
Changes of assumptions	3,032	26,588	-	-
Benefit payments, including refunds of member contributions	(42,053)	(40,462)	(38,364)	(35,428)
Net change in total pension liability	27,988	41,076	17,005	21,161
Total pension liability - beginning	623,842	582,766	565,761	544,600
Total pension liability - ending (a)	$ 651,830	$ 623,842	$ 582,766	$ 565,761
Plan fiduciary net position				
Contributions-employer	$ 19,592	$ 18,908	$ 18,949	$ 21,390
Contributions-member	7,399	7,561	6,238	5,598
Net investment income	55,762	3,972	12,176	74,294
Benefit payments, including refunds of member contributions	(42,053)	(40,462)	(38,364)	(35,428)
Administrative expense	(37)	(73)	(30)	(48)
Other	-	-	1	3
Net change in plan fiduciary net position	40,663	(10,094)	(1,030)	65,809
Plan fiduciary net position - beginning	528,440	538,534	539,564	473,755
Plan fiduciary net position - ending (b)	$ 569,103	$ 528,440	$ 538,534	$ 539,564
CJRS's net pension liability - ending (a) - (b)	$ 82,727	$ 95,402	$ 44,232	$ 26,197
Plan fiduciary net position as a percentage of the total pension liability	87.31%	84.71%	92.41%	95.37%
Covered payroll	$ 66,504	$ 69,489	$ 69,638	$ 76,367
Net pension liability as a percentage of covered payroll	124.39%	137.29%	63.52%	34.30%
Legislative				
Total pension liability				
Service Cost	$ 872	$ 822	$ 844	$ 747
Interest	2,056	1,708	1,742	1,678
Changes of benefit terms	215	22	-	146
Differences between expected and acutual experience	(122)	(520)	(579)	762
Changes of assumptions	121	5,151	-	-
Benefit payments, including refunds of member contributions	(2,437)	(2,430)	(2,473)	(2,614)
Net change in total pension liability	705	4,753	(466)	719
Total pension liability - beginning	28,705	23,952	24,418	23,699
Total pension liability - ending (a)	$ 29,410	$ 28,705	$ 23,952	$ 24,418
Plan fiduciary net position				
Contributions-employer	$ 675	$ 65	$ -	$ -
Contributions-member	253	253	253	253
Net investment income	2,744	181	642	4,293
Benefit payments, including refunds of member contributions	(2,437)	(2,430)	(2,473)	(2,614)
Administrative expense	(18)	(53)	(17)	(37)
Net change in plan fiduciary net position	1,217	(1,984)	(1,595)	1,895
Plan fiduciary net position - beginning	26,472	28,456	30,051	28,156
Plan fiduciary net position - ending (b)	$ 27,689	$ 26,472	$ 28,456	$ 30,051
LRS's net pension liability (asset) - ending (a) - (b)	$ 1,721	$ 2,233	$ (4,504)	$ (5,633)
Plan fiduciary net position as a percentage of the total pension liability	94.15%	92.22%	118.80%	123.07%
Covered payroll	$ 3,705	$ 3,616	$ 3,611	$ 3,608
Net pension liability (asset) as a percentage of covered payroll	46.45%	61.75%	(124.73%)	(156.13%)

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS
SINGLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Four Fiscal Years

(Dollars in Thousands)

	2017	2016	2015	2014
North Carolina National Guard				
Total pension liability				
Service Cost	$ 305	$ 593	$ 550	$ 512
Interest	11,975	10,700	9,916	9,330
Changes of benefit terms	-	-	8,734	5,752
Differences between expected and actual experience	1,204	30	(198)	192
Changes of assumptions	955	15,149	-	-
Benefit payments, including refunds of member contributions	(8,677)	(8,512)	(7,958)	(7,502)
Net change in total pension liability	5,762	17,960	11,044	8,284
Total pension liability - beginning	169,210	151,250	140,206	131,922
Total pension liability - ending (a)	$ 174,972	$ 169,210	$ 151,250	$ 140,206
Plan fiduciary net position				
Contributions-nonemployer	$ 8,517	$ 7,066	$ 6,039	$ 7,007
Net investment income	11,626	842	2,493	14,942
Benefit payments, including refunds of member contributions	(8,677)	(8,512)	(7,958)	(7,502)
Administrative expense	(168)	(97)	(75)	(73)
Other	-	1	-	1
Net change in plan fiduciary net position	11,298	(700)	499	14,375
Plan fiduciary net position - beginning	109,829	110,529	110,030	95,655
Plan fiduciary net position - ending (b)	$ 121,127	$ 109,829	$ 110,529	$ 110,030
NGPF's net pension liability - ending (a) - (b)	$ 53,845	$ 59,381	$ 40,721	$ 30,176
Plan fiduciary net position as a percentage of the total pension liability	69.23%	64.91%	73.08%	78.48%
Covered payroll	N/A	N/A	N/A	N/A
Net pension liability as a percentage of covered payroll	N/A	N/A	N/A	N/A

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER AND NONEMPLOYER CONTRIBUTIONS
COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Ten Fiscal Years

(Dollars in Thousands)

Teachers' and State Employees'	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 1,438,306	$ 1,210,904	$ 1,262,988	$ 1,177,341	$ 1,078,783
Contractually required contribution	1,441,194	1,275,003	1,262,988	1,177,341	1,120,482
Contributions in relation to the actuarially determined contribution	1,441,194	1,275,003	1,262,988	1,177,341	1,120,482
Contribution deficiency (excess)	$ (2,888)	$ (64,099)	$ -	$ -	$ (41,699)
Covered payroll	$ 14,440,822	$ 13,934,459	$ 13,803,148	$ 13,548,227	$ 13,451,164
Contributions as a percentage of covered payroll	9.98%	9.15%	9.15%	8.69%	8.33%

Local Governmental Employees'	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 453,193	$ 393,920	$ 402,429	$ 397,462	$ 370,152
Contractually required contribution	461,329	414,168	408,694	413,175	383,889
Contributions in relation to the actuarially determined contribution	461,329	414,168	408,694	413,175	383,889
Contribution excess	$ (8,136)	$ (20,248)	$ (6,265)	$ (15,713)	$ (13,737)
Covered payroll	$ 6,192,808	$ 5,860,574	$ 5,650,694	$ 5,553,383	$ 5,421,364
Contributions as a percentage of covered payroll	7.45%	7.07%	7.23%	7.44%	7.08%

Firefighters' and Rescue Squad Workers' *	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 17,705	$ 13,241	$ 13,900	$ 14,620	$ 14,074
Contractually required contribution	17,602	13,900	13,900	14,627	15,447
Contributions in relation to the actuarially determined contribution	17,602	13,900	13,900	14,627	15,447
Contribution deficiency (excess)	$ 103	$ (659)	$ -	$ (7)	$ (1,373)
Covered payroll	N/A	N/A	N/A	N/A	N/A
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

Registers of Deeds'	2017	2016	2015	2014	2013
Actuarially determined contribution	$ -	$ -	$ -	$ -	$ -
Contractually required contribution	869	817	802	817	937
Contributions in relation to the actuarially determined contribution	869	817	802	817	937
Contribution excess	$ (869)	$ (817)	$ (802)	$ (817)	$ (937)
Covered payroll	N/A	N/A	N/A	N/A	N/A
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

* Nonemployer contributing entity

Note: Changes in benefit terms, methods and assumptions are presented in Notes to the Required Supplementary Information (RSI) schedules following the pension RSI tables.

2012	2011	2010	2009	2008
$ 1,015,762	$ 926,429	$ 492,779	$ 492,689	$ 429,064
1,015,762	680,670	492,779	492,689	468,669
1,015,762	680,670	492,779	492,689	468,669
$ -	$ 245,759	$ -	$ -	$ (39,605)
$ 13,652,715	$ 13,806,691	$ 13,803,324	$ 14,663,363	$ 13,976,026
7.44%	4.93%	3.57%	3.36%	3.35%
$ 376,340	$ 342,910	$ 230,121	$ 257,982	$ 241,533
389,399	361,998	273,337	271,363	256,612
389,399	361,998	273,337	271,363	256,612
$ (13,059)	$ (19,088)	$ (43,216)	$ (13,381)	$ (15,079)
$ 5,402,147	$ 5,329,651	$ 5,320,927	$ 5,284,862	$ 4,948,042
7.21%	6.79%	5.14%	5.13%	5.19%
$ 14,389	$ 12,243	$ 10,074	$ 9,757	$ 8,734
14,398	10,110	10,080	9,762	8,734
14,398	10,110	10,080	9,762	8,734
$ (9)	$ 2,133	$ (6)	$ (5)	$ -
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
$ -	$ -	$ -	$ -	$ -
843	772	736	754	926
843	772	736	754	926
$ (843)	$ (772)	$ (736)	$ (754)	$ (926)
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER AND NONEMPLOYER CONTRIBUTIONS
SINGLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS

Last Ten Fiscal Years

(Dollars in Thousands)

Consolidated Judicial	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 19,592	$ 18,324	$ 18,949	$ 21,390	$ 18,992
Contractually required contribution	19,592	18,908	18,949	21,390	18,992
Contributions in relation to the actuarially determined contribution	19,592	18,908	18,949	21,390	18,992
Contribution deficiency (excess)	$ -	$ (584)	$ -	$ -	$ -
Covered payroll	$ 66,504	$ 69,489	$ 69,638	$ 76,367	$ 71,533
Contributions as a percentage of covered payroll	29.46%	27.21%	27.21%	28.01%	26.55%
Legislative					
Actuarially determined contribution	$ 675	$ 65	$ -	$ -	$ -
Contractually required contribution	675	65	-	-	-
Contributions in relation to the actuarially determined contribution	675	65	-	-	-
Contribution excess	$ -	$ -	$ -	$ -	$ -
Covered payroll	$ 3,705	$ 3,616	$ 3,611	$ 3,608	$ 3,600
Contributions as a percentage of covered payroll	18.22%	1.80%	0.00%	0.00%	0.00%
North Carolina National Guard *					
Actuarially determined contribution	$ 8,517	$ 7,066	$ 6,039	$ 5,349	$ 5,667
Contractually required contribution	8,517	7,066	6,039	7,007	7,007
Contributions in relation to the actuarially determined contribution	8,517	7,066	6,039	7,007	7,007
Contribution deficiency (excess)	$ -	$ -	$ -	$ (1,658)	$ (1,340)
Covered payroll	N/A	N/A	N/A	N/A	N/A
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

* Nonemployer contributing entity

Note: Changes in benefit terms, methods and assumptions are presented in Notes to the Required Supplementary Information (RSI) schedules following the pension RSI tables.

2012	2011	2010	2009	2008
$ 18,956	$ 13,322	$ 10,740	$ 10,017	$ 8,214
18,956	10,457	10,740	10,603	40,844
18,956	10,457	10,740	10,603	10,844
$ -	$ 2,865	$ -	$ (586)	$ (2,630)
$ 75,673	$ 69,206	$ 71,079	$ 80,265	$ 64,678
25.05%	15.11%	15.11%	13.21%	16.77%
$ -	$ -	$ -	$ -	$ -
-	-	-	-	209
-	-	-	-	209
$ -	$ -	$ -	$ -	$ (209)
$ 3,314	$ 4,029	$ 3,657	$ 3,686	$ 3,614
0.00%	0.00%	0.00%	0.00%	5.78%
$ 6,075	$ 5,719	$ 5,682	$ 6,248	$ 6,232
7,007	7,007	7,008	5,892	7,007
7,007	7,007	7,008	5,892	7,007
$ (932)	$ (1,288)	$ (1,326)	$ 356	$ (775)
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT RETURNS
ALL DEFINED BENEFIT PENSION PLANS

Last Four Fiscal Years

Annual money-weighted rate of return, net of investment expense	2017	2016	2015	2014
Cost-Sharing, Multiple Employer				
Teachers' and State Employees'	10.75%	0.74%	2.27%	15.88%
Local Governmental Employees'	10.74%	0.77%	2.27%	15.86%
Firefighters' and Rescue Squad Workers'	10.76%	0.75%	2.26%	15.62%
Registers of Deeds'	(0.03%)	8.04%	2.26%	6.04%
Single-Employer				
Consolidated Judicial	10.75%	0.75%	2.27%	15.87%
Legislative	10.72%	0.66%	2.25%	15.91%
North Carolina National Guard	10.63%	0.77%	2.25%	15.63%

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS

For the Fiscal Year Ended June 30, 2017

Changes of benefit terms.

	Cost of Living Increase									
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Cost-Sharing, Multiple-Employer										
Teachers' and State Employees'	N/A	N/A	N/A	1.00%	N/A	N/A	N/A	2.20%	2.20%	3.00%
Local Governmental Employees'	0.11%	0.63%	N/A	N/A	N/A	N/A	0.10%	2.15%	2.20%	2.80%
Firefighters' and Rescue Squad Workers' (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Registers of Deeds'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Single-Employer										
Consolidated Judicial	N/A	N/A	N/A	1.00%	N/A	N/A	N/A	2.20%	2.20%	3.00%
Legislative	N/A	N/A	N/A	1.00%	N/A	N/A	N/A	2.20%	2.20%	3.00%
North Carolina National Guard (2)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Beginning in FY2015, with the implementation of GASB 68, the above table reflects COLA's in the period of the legislative session or Board of Trustees meeting when it was passed. The COLA is effective as of July 1 of that period and the fiscal year end plan liability is affected at June 30 of that year because the COLA is included in the actuarial assumptions used to calculate the plan NPL.

(1) In 2007, the Firefighters' and Rescue Squad Workers' Pension Fund increased retirement benefits from $163 to $165. In 2008, retirement benefits increased from $165 to $167. In 2009, retirement benefits were increased from $167 to $170.

(2) In 2007, the National Guard Pension Fund increased basic benefits from $75 to $80 and total potential benefits from $150 to $160. In 2008, basic benefits were increased from $80 to $95 and total potential benefits were increased from $160 to $190. In 2015, basic benefits were increased from $95 to $99 and total potential benefits were increased from $190 to $198. In 2016, basic benefits were increased from $99 to $105 and total benefits were increased from $198 to $210.

N/A - not applicable

Effective July 1, 2017, the definition of law enforcement officer related to TSERS members was changed by the General Assembly to include Probation/Parole officers for retirement benefit purposes. The change includes officers with respect to service rendered on or after July 1, 2017 and provides for unreduced retirement at age 55 with five years of service as a law enforcement officer or reduced retirement at age 50 with 15 years of service as a law enforcement officer.

During the fiscal year ended June 30, 2017, retirees in the TSERS, CJRS and LRS whose retirement began on or before September 1, 2016 received a one-time pension supplement payment equal to 1.6% of the retiree's annual retirement allowance as of September 1, 2016. Retirees in the LGERS received a 0.105% cost-of-living adjustment for the fiscal year ended June 30, 2017. Effective July 1, 2017, retirees and beneficiaries of deceased retirees receiving benefits from the TSERS, CJRS and LRS as of July 1, 2016 received a 1.0% cost-of-living adjustment. Retirees and beneficiaries of retirees with retirement effective dates between August 1, 2016 and June 1, 2017 received a prorated amount. These benefit enhancements reflect legislation enacted by the North Carolina General Assembly.

Method and assumptions used in calculations of actuarially determined contributions.
An actuarial valuation is performed for each plan each year. The actuarially determined contribution rates in the Schedule of Employer Contributions are calculated by the actuary as a projection of the required employer contribution for the fiscal year beginning 18 months following the date of the valuation results. See Note 12 for more information on the specific assumptions for each plan. The actuarially determined contributions for those items with covered payroll were determined using the actuarially

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS

For the Fiscal Year Ended June 30, 2017

determined contribution rate from the actuary and covered payroll as adjusted for timing differences and other factors such as differences in employee class. Other actuarially determined contributions are disclosed in the schedule as expressed by the actuary in reports to the plans.

Changes of assumptions. In 2015, the actuarial assumptions were updated to more closely reflect actual experience. These assumptions pertain to the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Registers of Deeds' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund.

In 2015, the North Carolina Retirement Systems' consulting actuaries performed the quinquennial investigation of each retirement system's actual demographic and economic experience (known as the "Experience Review"). The Experience Review provides the basis for selecting the actuarial assumptions and methods used to determine plan liabilities and funding requirements. The most recent experience review examined each plan's experience during the period between January 1, 2010, and December 31, 2014. Based on the findings, the Boards of Trustees of the Teachers' and State Employees' Retirement System and the Local Governmental Employees' Retirement System adopted a number of new actuarial assumptions and methods. The most notable changes to the assumptions include updates to the mortality tables and the mortality improvement projection scales to reflect reduced rates of mortality and significant increases in mortality improvements. These assumptions were adjusted to reflect the mortality projection scale MP-2015, released by the Society of Actuaries in 2015. In addition, the assumed rates of retirement, salary increases, and rates of termination from active employment were reduced to more closely reflect actual experience. Also, as a result of market conditions and the allocation of assets in the Register of Deeds' Supplemental Pension Fund, the discount rate used in calculating the plan's liabilities was lowered from 5.75% to 3.75%. The discount rate for Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund was lowered from 7.25% to 7.20% for the December 31, 2016 valuation.

The Boards of Trustees also adopted new actuarial cost methods for the Local Governmental Employees' Retirement System, the Consolidated Judicial Retirement System, the Legislative Retirement System, and the Registers of Deeds' Supplemental Pension Fund. These plans now use the Entry Age Normal cost method to determine plan liabilities and funding requirements. Finally, the Boards of Trustees adopted a new asset valuation method for the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Registers of Deeds' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund. For determining plan funding requirements, these plans now use a five-year smoothing method with a reset of the actuarial value of assets to market value as of December 31, 2014.

REQUIRED SUPPLEMENTARY INFORMATION
PENSIONS — EMPLOYERS (PRIMARY GOVERNMENT AND COMPONENT UNITS)

Required supplementary information for employers provides information on the allocations of net pension liabilities and employer contributions.

The Required Supplementary Information for Employers includes the following schedules:

Schedule of the Primary Government's and Component Units' Proportionate Share of the Net Pension Liability

Schedule of the Primary Government's (Nonemployer) Proportionate Share of the Net Pension Liability

Schedule of the Primary Government's and Component Units' Contributions: Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Note: For information about the net pension liability of Consolidated Judicial and Legislative (single employer plans) and the primary government's contributions to Consolidated Judicial, Legislative, Firefighters' and Rescue Squad Workers', and North Carolina National Guard, refer to the preceding section on required supplementary information for pension plans. Firefighters' and Rescue Squad Workers' and the North Carolina National Guard are special funding situations in which the State is not the employer but is the only contributing entity. The net pension liabilities of pension plans were measured as of June 30, 2017. The net pension liabilities of employers were measured as of June 30, 2016.

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE PRIMARY GOVERNMENT'S AND COMPONENT UNITS' PROPORTIONATE SHARE OF THE NET PENSION LIABILITY

Last Four Fiscal Years*

(Dollars in Thousands)

Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Teachers' and State Employees'	**2017**	**2016**	**2015**	**2014**
Primary Government				
Proportion of the net pension liability	21.93%	22.47%	22.78%	22.95%
Proportionate share of the net pension liability	$ 2,015,413	$ 828,018	$ 267,119	$ 1,393,385
Covered payroll	$ 3,311,814	$ 3,498,284	$ 3,255,443	$ 3,203,001
Proportionate share of the net pension liability as a percentage of covered payroll	60.86%	23.67%	8.21%	43.50%
Component Units				
University of North Carolina System				
Proportion of the net pension liability	14.43%	14.45%	14.79%	14.48%
Proportionate share of the net pension liability	$ 1,325,896	$ 532,624	$ 173,441	$ 878,936
Covered payroll	$ 2,117,672	$ 2,053,148	$ 2,089,885	$ 1,987,497
Proportionate share of the net pension liability as a percentage of covered payroll	62.61%	25.94%	8.30%	44.22%
Community Colleges				
Proportion of the net pension liability	5.92%	5.89%	5.87%	5.80%
Proportionate share of the net pension liability	$ 543,846	$ 216,890	$ 68,803	$ 352,004
Covered payroll	$ 871,399	$ 861,639	$ 853,383	$ 1,165,333
Proportionate share of the net pension liability as a percentage of covered payroll	62.41%	25.17%	8.06%	30.21%
Other Component Units				
Proportion of the net pension liability	0.16%	0.17%	0.17%	0.17%
Proportionate share of the net pension liability	$ 14,653	$ 6,224	$ 2,049	$ 10,605
Covered payroll	$ 25,454	$ 25,574	$ 25,673	$ 39,228
Proportionate share of the net pension liability as a percentage of covered payroll	57.57%	24.34%	7.98%	27.03%
Plan fiduciary net position as a percentage of the total pension liability	87.32%	94.64%	98.24%	90.60%

* The amounts presented for each fiscal year were determined as of the prior fiscal year ending June 30.

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF THE PRIMARY GOVERNMENT'S (NONEMPLOYER) PROPORTIONATE SHARE OF THE NET PENSION LIABILITY

Last Four Fiscal Years*

(Dollars in Thousands)

Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Firefighters' and Rescue Squad Workers'	**2017**	**2016**	**2015**	**2014**
Primary Government				
Proportion of the net pension liability	100.00%	100.00%	100.00%	100.00%
Proportionate share of the net pension liability	$ 66,819	$ 36,359	$ 27,418	$ 67,725
Plan fiduciary net position as a percentage of the total pension liability	84.94%	91.40%	93.42%	83.58%

Single-Employer, Defined Benefit Pension Plans

North Carolina National Guard	**2017**	**2016**	**2015**	**2014**
Primary Government				
Proportion of the net pension liability	100.00%	100.00%	100.00%	100.00%
Proportionate share of the net pension liability	$ 59,381	$ 40,721	$ 30,176	$ 36,267
Plan fiduciary net position as a percentage of the total pension liability	64.91%	73.08%	78.48%	72.51%

* The amounts presented for each fiscal year were determined as of the prior fiscal year ending June 30.

Required Supplementary Information
Other Postemployment Benefit Plans

Required supplementary information for other postemployment benefit plans provides information on the sources of changes in net OPEB liabilities, information about the components of net OPEB liabilities, employer contributions, and investment returns.

The Required Supplementary Information for Other Postemployment Benefit plans includes the following schedules:

Schedule of Changes in the Net OPEB Liability and Related Ratios: Cost-Sharing, Multiple-Employer, Defined Benefit OPEB Plans

Schedule of Changes in the Net OPEB Liability and Related Ratios: Single-Employer, Defined Benefit OPEB Plans

Schedule of Employer Contributions: Cost-Sharing, Multiple-Employer, Defined Benefit OPEB Plans

Schedule of Investment Returns: All Defined Benefit OPEB Plans

Notes to Required Supplementary Information: Schedule of Employer Contributions

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY AND RELATED RATIOS
COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT OPEB PLANS

(Dollars in Thousands)

	2017
Retiree Health Benefit	
Total OPEB liability	
Service Cost	$ 2,650,984
Interest	1,332,874
Differences between expected and actual experience	(2,821,033)
Changes of assumptions	(10,835,144)
Benefit payments, including refunds of member contributions	(922,021)
Net change in total OPEB liability	(10,594,340)
Total OPEB liability - beginning	44,577,535
Total OPEB liability - ending (a)	$ 33,983,195
Plan fiduciary net position	
Contributions-employer	$ 950,813
Net investment income	94,132
Benefit payments, including refunds of member contributions	(922,021)
Administrative expense	(490)
Net change in plan fiduciary net position	122,434
Plan fiduciary net position - beginning	1,074,136
Plan fiduciary net position - ending (b)	$ 1,196,570
Retiree Health Benefit net OPEB liability - ending (a) - (b)	$ 32,786,625
Plan fiduciary net position as a percentage of the total OPEB liability	3.52%
Covered payroll	$ 16,365,112
Net OPEB liability as a percentage of covered payroll	200.34%
Disability Income	
Total OPEB liability	
Service Cost	$ 25,441
Interest	14,111
Changes of benefit terms	(403)
Differences between expected and actual experience	22,345
Benefit payments, including refunds of member contributions	(71,728)
Net change in total OPEB liability	(10,234)
Total OPEB liability - beginning	386,720
Total OPEB liability - ending (a)	$ 376,486
Plan fiduciary net position	
Contributions-employer	$ 61,654
Net investment income	(122)
Benefit payments, including refunds of member contributions	(71,728)
Administrative expense	(1,050)
Other	32
Net change in plan fiduciary net position	(11,214)
Plan fiduciary net position - beginning	448,820
Plan fiduciary net position - ending (b)	$ 437,606
Disability Income's net OPEB asset - ending (a) - (b)	$ (61,120)
Plan fiduciary net position as a percentage of the total OPEB liability	116.23%
Covered payroll	$ 16,224,737
Net OPEB asset as a percentage of covered payroll	(0.38%)

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY AND RELATED RATIOS
SINGLE-EMPLOYER, DEFINED BENEFIT OPEB PLANS

(Dollars in Thousands)

		2017
Retirees' Contributory Death Benefit		
Total OPEB liability		
Service Cost	$	(1,901)
Interest		11,574
Differences between expected and actual experience		4,241
Changes of assumptions		(8,291)
Benefit payments and member contributions		(1,161)
Net change in total OPEB liability		4,462
Total OPEB liability - beginning		326,682
Total OPEB liability - ending (a)	$	331,144
Plan fiduciary net position		
Contributions-member	$	25,380
Net investment income		643
Benefit payments		(26,541)
Administrative expense		(236)
Net change in plan fiduciary net position		(754)
Plan fiduciary net position - beginning		247,749
Plan fiduciary net position - ending (b)	$	246,995
Retirees' Contributory Death Benefit net OPEB liability - ending (a) - (b)	$	84,149
Plan fiduciary net position as a percentage of the total OPEB liability		74.59 %
Covered payroll		N/A
Net OPEB liability as a percentage of covered payroll		N/A

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS
COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT OPEB PLANS

Last Ten Fiscal Years

(Dollars in Thousands)

Retiree Health Benefit	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 2,728,064	$ 2,516,706	$ 2,211,436	$ 2,226,586	$ 2,072,951
Contractually required contribution	950,813	880,847	854,383	815,157	813,223
Contributions in relation to the actuarially determined contribution	950,813	880,847	854,383	815,157	813,223
Contribution deficiency	$ 1,777,251	$ 1,635,859	$ 1,357,053	$ 1,411,429	$ 1,259,728
Covered payroll	$ 16,365,112	$ 15,729,411	$ 15,562,532	$ 15,095,500	$ 15,343,830
Contributions as a percentage of covered payroll	5.81%	5.60%	5.49%	5.40%	5.30%

Disability Income	2017	2016	2015	2014	2013
Actuarially determined contribution	$ 24,337	$ 63,963	$ 63,267	$ 65,878	$ 64,969
Contractually required contribution	61,654	63,963	63,267	65,878	64,969
Contributions in relation to the actuarially determined contribution	61,654	63,963	63,267	65,878	64,969
Contribution excess	$ (37,317)	$ -	$ -	$ -	$ -
Covered payroll	$ 16,224,737	$ 15,600,732	$ 15,430,976	$ 14,972,273	$ 14,765,682
Contributions as a percentage of covered payroll	0.38%	0.41%	0.41%	0.44%	0.44%

Note: Changes in benefit terms, methods and assumptions are presented in Notes to the Required Supplementary Information (RSI) schedules following the OPEB RSI tables.

2012	2011	2010	2009	2008
$ 2,371,490	$ 2,926,070	$ 3,001,667	$ 2,713,290	$ 2,638,677
710,027	743,659	678,769	635,685	601,032
710,027	743,659	678,769	635,685	601,032
$ 1,661,463	$ 2,182,411	$ 2,322,898	$ 2,077,605	$ 2,037,645
$ 14,200,540	$ 15,176,714	$ 15,083,756	$ 15,504,512	$ 14,659,317
5.00%	4.90%	4.50%	4.10%	4.10%
$ 71,244	$ 69,229	$ 73,303	$ 78,443	$ 71,468
80,537	78,259	77,791	79,981	75,844
80,537	78,259	77,791	79,981	75,844
$ (9,293)	$ (9,030)	$ (4,488)	$ (1,538)	$ (4,376)
$ 15,487,885	$ 15,049,808	$ 14,959,808	$ 15,380,962	$ 14,585,385
0.52%	0.52%	0.52%	0.52%	0.52%

REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT RETURNS
ALL DEFINED BENEFIT OPEB PLANS

Annual money-weighted rate of return, net of investment expense	2017
Retiree Health Benefit	9.31%
Disability Income	(0.06%)
Retirees' Contributory Death Benefit Plan	(0.02%)

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER CONTRIBUTIONS

For the Fiscal Year Ended June 30, 2017

Changes of benefit terms. Effective January 1, 2016, benefit terms related to copays, out-of-pocket maximums and deductibles were changed for three of four options of the Retiree Health Benefit Fund. Most of the changes were an increase in the amount from the previous year.

Effective January 1, 2017, benefit terms related to copays, coinsurance maximums, out-of-pocket maximums, and deductibles were changed for two of four options of the Retiree Health Benefit Fund. Most of the changes were an increase in the amount from the previous year.

Method and assumptions used in calculations of actuarially determined contributions. An actuarial valuation is performed for each plan each year. The actuarially determined contribution rates in the Schedule of Employer Contributions are calculated by the actuary as a projection of the required employer contribution for the fiscal year beginning six months following the date of the valuation results for the Retiree Health Benefit Fund. The actuarially determined contribution rates in the Schedule of Employer Contributions are calculated by the actuary as a projection of the required employer contribution for the fiscal year beginning 18 months following the date of the valuation results for the Disability Income Plan of North Carolina. See Note 14 for more information on the specific assumptions for each plan. The actuarially determined contributions for those items with covered payroll were determined using the actuarially determined contribution rate from the actuary and covered payroll as adjusted for timing differences and other factors such as differences in employee class. Other actuarially determined contributions are disclosed in the schedule as expressed by the actuary in reports to the plans.

Changes of assumptions. In 2015, the North Carolina Retirement Systems' consulting actuaries performed the quinquennial investigation of each retirement system's actual demographic and economic experience (known as the "Experience Review"). The Experience Review provides the basis for selecting the actuarial assumptions and methods used to determine plan liabilities and funding requirements. The most recent experience review examined each plan's experience during the period between January 1, 2010, and December 31, 2014. Based on the findings, the Boards of Trustees of the Teachers' and State Employees' Retirement System and the State Health Plan adopted a number of new actuarial assumptions and methods for the Retiree Health Benefit Fund and the Disability Income Plan of North Carolina. The most notable changes to the assumptions include updates to the mortality tables and the mortality improvement projection scales to reflect reduced rates of mortality and significant increases in mortality improvements. These assumptions were adjusted to reflect the mortality projection scale MP-2015, released by the Society of Actuaries in 2015. In addition, the assumed rates of retirement and rates of termination from active employment were reduced to more closely reflect actual experience.

In 2017, the medical and prescription health trend rates used in the December 31, 2016 actuarial valuation of the Retiree Health Benefit Fund were reduced based upon the plan's most recent experience.

In 2017, the Retirees' Contributory Death Benefit Plan OPEB Liability was determined using an assumption that 50% of members who are not currently retired will elect coverage under the plan upon retirement (65% for members who are disabled at retirement). Previous valuations did not include this assumption.