

**SHELBY COUNTY RETIREMENT SYSTEM**

**FINANCIAL STATEMENTS**

June 30, 2017 and 2016

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**SHELBY COUNTY, TENNESSEE  
SHELBY COUNTY RETIREMENT SYSTEM**

June 30, 2017

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**ROSTER OF MANAGEMENT OFFICIALS**

|                |   |
|----------------|---|
| Wanda Richards | Director of Administration & Finance    |
| David Pontius  | Manager of Pension Investments          |
| Brenda Greene  | Deputy Administrator of Human Resources |
| Patty Coker    | Manager of Pension Administration       |

**ROSTER OF BOARD MEMBERS**

|                                  |                    |
|----------------------------------|--------------------|
| Mark H. Luttrell, Jr., Mayor     | Richard Swiggart   |
| Brittney Rowe                    | Debra Gates        |
| Reginald Manning                 | Judge Larry Potter |
| Wanda Richards                   | Tracie Montgomery  |
| Melvin Burgess, Commission Chair | Harvey Kennedy     |
| Daniel Dent                      | Commissioner Basar |
| Frank Allen                      | James Martin       |



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## INDEPENDENT AUDITOR'S REPORT

To the Chairman and Members of the Shelby County  
Retirement System Board of Administration  
Shelby County Retirement System  
Memphis, Tennessee

### Report on the Financial Statements

We have audited the accompanying statements of fiduciary net position of the Shelby County Retirement System as of June 30, 2017 and 2016, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements, which collectively comprise the Shelby County Retirement System's basic financial statements.

### Management's Responsibility for the Financial Statements

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

### Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

### Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Shelby County Retirement System as of June 30, 2017 and 2016, and the changes in

fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

### **Emphasis of Matter**

As discussed in Note 1, the financial statements present only the Shelby County Retirement System and do not purport to, and do not, present fairly the financial position of Shelby County, Tennessee, as of June 30, 2017 and 2016, the changes in its financial position, or its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinions are not modified with respect to this matter.

### **Other Matters**

#### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis and schedules of changes in net pension liability and related ratios, employer contributions, and investment returns be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### *Other Information*

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise Shelby County Retirement System's basic financial statements. The introductory section is presented for purposes of additional analysis and is not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

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

In accordance with *Government Auditing Standards*, we have also issued our report dated December 14, 2017, on our consideration of the Shelby County Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Governmental Auditing Standards* in considering the Shelby County Retirement System's internal control over financial reporting and compliance.

*Wathina Usherall, PLLC*

Memphis, Tennessee  
December 14, 2017

**SHELBY COUNTY RETIREMENT SYSTEM**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**

**JUNE 30, 2017**

This discussion and analysis of the Shelby County Retirement System ("SCRS") (the "Plan") financial performance provides a narrative overview and analysis of the Plan's financial activities and funding conditions for the fiscal year ending June 30, 2017. Please read it in conjunction with the Plan's financial statements, which follow this section.

**Financial Highlights**

- Total fiduciary plan net position at June 30, 2017 was \$1,140 million, increasing \$88 million, or 8.4% from the plan fiduciary position at June 30, 2016. Total fiduciary position held in trust for pension benefits at June 30, 2016 was \$1,052 million, decreasing over \$63 million, or 5.6%, from the plan net assets at June 30, 2015.
- Cash and cash equivalents for fiscal year 2017 decreased by \$1.4 million, or 2.6% compared to fiscal year 2016. Cash and cash equivalents for fiscal year 2016 increased by \$9.8 million, or 22.0% compared to fiscal year 2015.
- Contributions for fiscal year 2017 increased by \$6.1 million or 11.9%, compared to fiscal year 2016. Contributions for fiscal year 2016 increased by \$2.0 million or 4.1%, compared to fiscal year 2015.
- Net investment income for fiscal year 2017 totaled \$117.8 million, an increase of \$149.0 million, or 476.5% compared to fiscal year 2016. Net investment income for fiscal year 2016 totaled (\$31.3 million), a decrease of \$37.3 million, or 623.8% compared to fiscal year 2015.
- Benefit payments, member refunds and administrative expenses totaled \$87.5 million for the fiscal year 2017 and increased \$3.9 million or 4.7% over fiscal year 2016. Benefit payments, member refunds and administrative expenses totaled \$83.6 million for the fiscal year 2016 and increased \$5.4 million or 6.8% over fiscal year 2015.

**Overview of the Financial Statements**

The basic financial statements of the Plan are the Statements of Fiduciary Net Position, the Statements of Changes in Fiduciary Net Position, and notes to the financial statements. This report also contains required supplementary information in addition to the basic financial statements. Statements are shown for the most recent and previous fiscal years for comparison and analysis to changes in individual line items. The statements are presented using the accrual basis of accounting in the accordance with the Government Accounting Standards Board ("GASB") Statement No. 67.

The Statements of Fiduciary Net Position are a measure of the Plan assets, deferred outflows of resources, liabilities, and deferred inflows of resources at the close of the fiscal year. Total assets plus deferred outflows of resources less liabilities, less deferred inflows of resources equals fiduciary net position.

The Statement of Changes in Fiduciary Net Position presents how the Plan's net position changed during the fiscal year as a result of contributions, investment income (loss), operating expenses, and changes in net position.

The Plan pays retirement benefits using a defined formula based on the years of service, salary and age. The Plan also provides for disability and survivor benefits.

The Notes to the Financial Statements are a fundamental part of the financial statements and provide important information to support the amounts in the financial statements. The notes describe accounting policies along with plan description and benefits.

The Required Supplementary information consists of a Schedule of Changes in the Net Pension Liability and Related Ratios, a Schedule of Employer Contributions, a Schedule of Investment Returns, and related notes to the schedules concerning actuarial assumptions.

### **Analysis of Fiduciary Net Position**

At June 30, 2017, the fiduciary net position was \$1,140 million. The value of net position increased by \$88.1 million, or 8.4%, from \$1,052 million at June 30, 2016. The increase was due primarily to the increasing market value of the assets held for the fiscal year 2017. At June 30, 2016, the fiduciary net position was \$1,052 million. The value of net position decreased by \$63.0 million, or 5.6%, from \$1,115 million at June 30, 2015.

As of June 30, 2017, cash and cash equivalents decreased by \$1.4 million, or 2.6%, from fiscal year 2016. The decrease was due to money managers holding less cash and a decrease in the funds held in the operating cash account. As of June 30, 2016, cash and cash equivalents increased by \$9.8 million, or 22.0%, from fiscal year 2015.

The Plan's assets consist primarily of investments in domestic and international equities, government securities, corporate bonds, collateralized mortgage obligations, mortgage-backed pooled securities, limited partnerships, hedge funds, mutual funds, private real estate and infrastructure funds. For fiscal year 2017, investments totaled \$1,088 million, which represents an increase of 9.2% from fiscal year 2016. The increase in the investment portfolio was due primarily to an increase in the market value of equity related assets.

Receivables increased \$1.0 million from June 30, 2016 to \$3.6 million at June 30, 2017. The increase was due to an increase in securities sold pending settlement. Receivables decreased \$3.3 million from June 30, 2015 to \$2.6 million at June 30, 2016.

Total liabilities decreased \$46.0 million from \$121.1 million at June 30, 2016 to \$75.1 million at June 30, 2017. The decrease was due primarily to a decrease in collateral subject to return to borrowers related to the securities lending program.

Condensed financial information comparing SCRS'S fiduciary net position at June 30, 2017, 2016 and 2015 is presented below:

**Table 1**  
**Plan Fiduciary Net Position**  
**(Dollars in Thousands)**

|   | June 30, 2017           | June 30, 2016           | June 30, 2015           | FY16-FY17<br>Percentage<br>Change |
|---|-------------------------|-------------------------|-------------------------|-----------------------------------|
| <b>ASSETS</b>                               |                         |                         |                         |                                   |
| Cash and cash equivalents                   | \$ 52,856,412           | \$ 54,263,620           | \$ 44,474,928           | -2.6%                             |
| Investments at fair value                   | 1,088,158,357           | 996,829,249             | 1,067,520,811           | 9.2%                              |
| Receivables                                 | 3,600,492               | 2,618,235               | 5,950,822               | 37.5%                             |
| Collateral held for securities on loan      | 70,365,099              | 119,801,456             | 138,488,507             | -41.3%                            |
| <b>TOTAL ASSETS</b>                         | <u>1,214,980,360</u>    | <u>1,173,512,560</u>    | <u>1,256,435,068</u>    | <u>12.1%</u>                      |
| <b>DEFERRED OUTFLOWS OF RESOURCES</b>       |                         |                         |                         |                                   |
| Fair value of hedging derivatives           | 410,185                 | -                       | 304,048                 | 100.0%                            |
| <b>LIABILITIES</b>                          |                         |                         |                         |                                   |
| Liability for securities purchased          | 807,125                 | 823,485                 | 2,284,701               | -2.0%                             |
| Accounts payable & accrued expenses         | 3,928,881               | 509,063                 | 832,109                 | 671.8%                            |
| Collateral subject to return                | 70,365,099              | 119,801,456             | 138,488,507             | -41.3%                            |
| <b>TOTAL LIABILITIES</b>                    | <u>75,101,105</u>       | <u>121,134,004</u>      | <u>141,605,317</u>      | <u>-38.0%</u>                     |
| <b>DEFERRED INFLOWS OF RESOURCES</b>        |                         |                         |                         |                                   |
| Fair value of hedging derivatives           | -                       | 241,250                 | -                       | 100%                              |
| <b>NET POSITION RESTRICTED FOR PENSIONS</b> | <u>\$ 1,140,289,440</u> | <u>\$ 1,052,137,306</u> | <u>\$ 1,115,133,799</u> | <u>8.4%</u>                       |

### Analysis of Changes of Fiduciary Net Position

Members and employer contributions for fiscal year 2017 were \$57.6 million, an increase of \$6.1 million, or 11.9%, from \$51.5 million in 2016. The increase was due to increases in both employer and employee contributions. Members and employer contributions for fiscal year 2016 were \$51.5 million, an increase of \$2.0 million, or 4.1%, from \$49.4 million in 2015. Members covered under the SCRS Plan A were required to contribute 2.0% of pensionable earnings into the SCRS Pension Plan, while members covered under Pension Plan B, Plan C and Plan D were required to contribute 8.0%. The Shelby County Government contribution is determined by actuarial valuation. Shelby County Government contributed 17.1% of pensionable county employee earnings for the fiscal year 2017, which was greater than the actuarial determined annual contribution rate of 15.8%. Shelby County Government contributed 14.6% of pensionable county employee earnings for the fiscal year 2016, which was greater than the actuarial determined annual contribution rate of 13.1%.

Net investment income for the year ending June 30, 2017, increased by \$149.0 million compared to fiscal year 2016. The increase in the investment portfolio was due to increasing asset values as financial markets reacted favorably to improving global economies. Net investment income for the year ending June 30, 2016, decreased by \$37.3 million compared to fiscal year 2015.

Benefit payments were \$78.5 million in 2017, an increase from 2016 of \$4.7 million, or 6.4%. The 2017 increase in benefit payments is due to an increase in the number of new retirees. Benefit payments were \$73.8 million in 2016, an increase from 2015 of \$4.0 million, or 5.8%. Total refunds paid during fiscal year

2017 were \$7.7 million, a decrease of 4.2%, over fiscal year 2016. Total refunds paid during fiscal year 2016 were \$8.1 million, an increase of 19.1%, over fiscal year 2015. The 2017 decrease in refunds was due primarily to a decrease in the number of employees terminating or resigning before reaching normal retirement age.

Condensed financial information comparing SCRS's changes in plan net position for the years ended June 30, 2017, June 30, 2016 and June 30, 2015 is presented below:

**Table 2**  
**Changes in Plan Fiduciary Net Position**  
**(Dollars in Thousands)**

|  | June 30, 2017           | June 30, 2016           | June 30, 2015           | FY16-FY17<br>Percentage<br>Change |
|--|-------------------------|-------------------------|-------------------------|-----------------------------------|
| <b>NET POSITION RESTRICTED FOR PENSIONS, BEGINNING OF YEAR</b> | \$ 1,052,137,306        | \$ 1,115,133,799        | \$ 1,137,625,754        | -5.6%                             |
| <b>ADDITIONS</b>   |                         |                         |                         |                                   |
| Contributions  | 57,575,356              | 51,463,316              | 49,447,995              | 11.9%                             |
| Net investment income (loss)                                   | 117,756,085             | (31,280,512)            | 5,972,401               | -476.5%                           |
| Net securities lending activities income                       | 347,585                 | 444,863                 | 355,285                 | -21.9%                            |
| <b>TOTAL ADDITIONS</b>   | <u>175,679,026</u>      | <u>20,627,667</u>       | <u>55,775,681</u>       | <u>751.7%</u>                     |
| <b>DEDUCTIONS</b>  |                         |                         |                         |                                   |
| Benefit payments   | 78,551,778              | 73,833,173              | 69,788,399              | 6.4%                              |
| Refunds  | 7,732,918               | 8,069,459               | 6,773,851               | -4.2%                             |
| Administrative expenses  | 1,242,196               | 1,721,528               | 1,705,386               | -27.8%                            |
| <b>TOTAL DEDUCTIONS</b>  | <u>87,526,892</u>       | <u>83,624,160</u>       | <u>78,267,636</u>       | <u>4.7%</u>                       |
| <b>NET INCREASE (DECREASE)</b>                                 | <u>88,152,134</u>       | <u>(62,996,493)</u>     | <u>(22,491,955)</u>     | <u>-239.9%</u>                    |
| <b>NET POSITION, END OF YEAR</b>                               | <u>\$ 1,140,289,440</u> | <u>\$ 1,052,137,306</u> | <u>\$ 1,115,133,799</u> | <u>8.4%</u>                       |

## Funding Status

The "entry age normal" method is used in determining the funding requirement. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.

The valuation method for the County is based on a funded status target of 100%. If the funded status is more than or less than 100%, the surplus or deficit is amortized over a period of thirty years beginning with the valuation date coincident or following the plan change. At June 30, 2017 and 2016, the actuarial values of assets were \$1,209,053,000 which is a funding ratio of 71.1% and \$1,206,907,000 which is a funding ratio of 73.2% respectively. At June 30, 2015 and 2014, the actuarial values of assets were \$1,192,702,000 which is a funding ratio of 79.0% and \$1,155,350,000 which is a funding ratio of 82.6% respectively.

Retirement benefits are financed by employer and participant contributions and income earned on the Plan's investments. Over the long term, the investment portfolio returns have been a major component of additions to Plan assets. In fiscal year 2017, the Plan investment portfolio increased as global financial market conditions improved. The pension fund continues to perform soundly; the County contributions

have equaled or exceeded the Actuarial Determined Annual Contributions in recent years creating a Net Pension Asset, which provides some relief during turbulent economic times. This in addition to the contributions from SCRS Plan participants continues to reinforce the current and continued financial stability of the Plan. As mentioned in the Analysis of Changes in Plan Net Position section above, members covered under the SCRS Plan A were required to contribute 2.0% of pensionable earnings into the SCRS Pension Plan, while members covered under Pension Plan B, Plan C and Plan D were required to contribute 8.0% and SCRS is required to contribute the remaining amounts necessary to fund the Plan in accordance with actuarially determined contribution requirements. For the year 2017 SCRS' actual contribution rate of 17.1% exceeded the actuarial determined annual contribution rate of 15.8% as determined by an actuarial valuation. For the year 2016 SCRS' actual contribution rate of 14.6% exceeded the actuarial determined annual contribution rate of 13.1% as determined by an actuarial valuation.

### **Request for Information**

Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

Shelby County Tennessee Retirement System  
160 N. Main Street, Suite 701  
Memphis, TN 38103

**SHELBY COUNTY, TENNESSEE  
SHELBY COUNTY RETIREMENT SYSTEM**

**STATEMENTS OF FIDUCIARY NET POSITION**

June 30, 2017 and 2016

**ASSETS**

|   | 2017          | 2016          |
|---|---------------|---------------|
| Cash and cash equivalents                       | \$ 52,856,412 | \$ 54,263,620 |
| Receivables                                     |               |               |
| Accrued interest and dividends                  | 2,024,226     | 2,028,036     |
| Investments sold                                | 1,576,266     | 590,199       |
| Total receivables                               | 3,600,492     | 2,618,235     |
| Investments, at Fair Value                      |               |               |
| Domestic equity                                 | 296,020,349   | 243,928,620   |
| Fixed income                                    | 206,552,259   | 205,780,048   |
| Hedge funds                                     | 132,620,471   | 130,569,474   |
| International equity                            | 191,866,686   | 170,906,368   |
| Limited partnership interests                   | 95,156,885    | 88,062,293    |
| Private real estate and infrastructure          | 19,754,010    | 20,851,503    |
| Global low-volatility equity                    | 51,336,801    | 46,388,472    |
| Master limited partnerships                     | 94,850,896    | 90,342,471    |
| Total investments                               | 1,088,158,357 | 996,829,249   |
| Collateral held in trust for securities on loan | 70,365,099    | 119,801,456   |
| Total assets                                    | 1,214,980,360 | 1,173,512,560 |

**DEFERRED OUTFLOWS OF RESOURCES**

|                                   |         |   |
|-----------------------------------|---------|---|
| Fair value of hedging derivatives | 410,185 | - |
|-----------------------------------|---------|---|

**LIABILITIES**

|   |            |             |
|---|------------|-------------|
| Accounts payable and accrued expenses     | 807,125    | 823,485     |
| Investments purchase payable              | 3,928,881  | 509,063     |
| Collateral subject to return to borrowers | 70,365,099 | 119,801,456 |
| Total liabilities                         | 75,101,105 | 121,134,004 |

**DEFERRED INFLOWS OF RESOURCES**

|                                      |                  |                  |
|--------------------------------------|------------------|------------------|
| Fair value of hedging derivatives    | -                | 241,250          |
| Net position restricted for pensions | \$ 1,140,289,440 | \$ 1,052,137,306 |

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

**SHELBY COUNTY, TENNESSEE  
SHELBY COUNTY RETIREMENT SYSTEM**

**STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION**

For the Years Ended June 30, 2017 and 2016

|   | 2017             | 2016             |
|---|------------------|------------------|
| <b>Additions:</b>                         |                  |                  |
| Contributions                             |                  |                  |
| Employer contributions                    | \$ 41,887,837    | \$ 35,864,249    |
| Member contributions                      | 15,687,519       | 15,599,067       |
| Total contributions                       | 57,575,356       | 51,463,316       |
| Investment Income (Loss)                  |                  |                  |
| Net change in market value of investments | 94,809,995       | (52,678,916)     |
| Interest income                           | 6,148,607        | 10,431,262       |
| Dividend income                           | 20,052,102       | 14,981,515       |
| Other income                              | 326,509          | 11               |
|   | 121,337,213      | (27,266,128)     |
| Less investment management expenses       | 3,581,128        | 4,014,384        |
| Net investment income (loss)              | 117,756,085      | (31,280,512)     |
| Security Lending Activities               |                  |                  |
| Securities lending income                 | 496,413          | 646,551          |
| Securities lending expenses               | (148,828)        | (201,688)        |
| Net securities lending activities income  | 347,585          | 444,863          |
| Total net investment income (loss)        | 118,103,670      | (30,835,649)     |
| Total additions                           | 175,679,026      | 20,627,667       |
| <b>Deductions:</b>                        |                  |                  |
| Benefit payments                          | 78,551,778       | 73,833,173       |
| Refund of member contributions            | 7,732,918        | 8,069,459        |
| Administrative expenses                   | 1,242,196        | 1,721,528        |
| Total deductions                          | 87,526,892       | 83,624,160       |
| Net increase (decrease) in net position   | 88,152,134       | (62,996,493)     |
| Net position restricted for pensions      |                  |                  |
| Beginning of year                         | 1,052,137,306    | 1,115,133,799    |
| End of year                               | \$ 1,140,289,440 | \$ 1,052,137,306 |

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

**SHELBY COUNTY, TENNESSEE  
SHELBY COUNTY RETIREMENT SYSTEM**

**NOTES TO FINANCIAL STATEMENTS**

June 30, 2017 and 2016

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**NOTE 1 - ORGANIZATION**

The Shelby County Retirement System ("SCRS" or "Retirement System"), is a single employer public employee retirement system (PERS) established by Shelby County, Tennessee, for the employees of Shelby County, Tennessee. SCRS is administered by the Shelby County Retirement System Board of Administration (the "Board"), the majority of whose members are nominated by the Shelby County Mayor, subject to approval by the Shelby County Board of Commissioners. SCRS is considered to be part of the Shelby County, Tennessee (the "County") financial reporting entity and is included in the County's financial reports as a pension trust fund.

The County provides office space and certain administrative services at no cost to the System. All other costs to administer the plan are paid from plan earnings.

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

Basis of Accounting

The financial statements of the Retirement System are reported using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis of accounting, revenue is recorded as earned and expenses are recorded as incurred.

Cash and Cash Equivalents

The Retirement System considers investments purchased with an original maturity date of three months or less to be cash equivalents.

Investments Sold and Investments Purchased

Receivables for investments sold represent amounts due from brokers for unsettled security sales transactions at year end. Liabilities for investments purchased represent amounts due to brokers for unsettled security purchases at year end.

Investments

Investments are stated at fair market value, as defined by generally accepted accounting principles. See Note 6 for disclosure of fair value measurement.

Purchases and sales of securities are recorded on a trade-date basis. Consequently, investments have been increased for certain pending but unsettled purchases and investments have been reduced for certain pending but unsettled sales.

As of June 30, 2017, 28% of SCRS's investments are in OFI GTC Emerging Markets Equity Funds, Vanguard Developed Markets Index Fund, Vanguard Institutional Index Fund Institutional Shares, GT ERISA Limited Partnership Fund, and Ironwood International Limited Partnership Fund.

As of June 30, 2016, 5.19% of SCRS's investments were in Vanguard Institutional Index Fund Institutional Shares. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

### Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the Retirement System management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results may differ from those estimates.

### Deferred outflows of resources

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period and so is not recognized as an outflow of resources (expense/expenditure) until then. The Retirement System only has one item that qualifies for reporting in this category; the fair value of derivative instruments.

### Deferred inflows of resources

In addition to liabilities, the statement of net position reports a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an increase to net position that applies to a future period and is not recognized as an inflow of resources (revenue) until that time. The Retirement System has one item that qualifies for reporting in this category; the fair value of derivative instruments.

### New Governmental Accounting Standards Board (GASB) Pronouncement

SCRS adopted GASB Statement 82, *Pension Issues – an amendment of GASB statements No. 67, 68, and No. 73*, required for fiscal periods beginning after June 15, 2016, except for certain provisions effective for fiscal periods beginning after June 15, 2017. This Statement modifies the measure of payroll that is presented in the required supplementary information.

## **NOTE 3 – RETIREMENT SYSTEM**

### Plan Description

The Shelby County Retirement System consists of four component plans, Plan A, Plan B, Plan C and Plan D each governed by a separate plan document, and the Administration and Trust Agreement of the Shelby County Retirement System (the "Trust Agreement"). The Plans and the Trust Agreement were established by various resolutions of the Shelby County Commission having the force and effect of legislation.

Substantially all full-time and permanent part-time employees of the County (including its component units) are required as a condition of employment to participate in one of the plans of the SCRS. Employees exempted from the requirement and, in fact, not permitted to participate consist primarily of Shelby County Board of Education employees and employees who are covered by Social Security.

Plan B, the original Plan, is a contributory defined benefit pension plan for employees hired prior to December 1, 1978, and thereafter closed to new entrants. Until July 1, 2000, Plan A was a non-contributory defined benefit pension plan for those eligible employees hired on and after December 1, 1978, and for those employees who elected to transfer to Plan A from Plan B before January 1, 1981.

The Trust Agreement contains all administrative provisions applicable to Plans A, B, C and D, and further establishes a formal common trust to hold all of the assets of the plans.

Prior to 1990, for financial reporting purposes, Plan A and Plan B were accounted for separately. Beginning in 1990, both plans have been accounted for as a single reporting entity, whereby all assets of the SCRS are available for payment of benefits to participants of either plan.

All participants in Plan B are fully vested, and all active participants have now completed more than 25 years of service. Participants may retire after completing 25 years of service at any age or after completing 10 years of service upon attaining age 60 (age 55 for deputy sheriffs). The annual retirement benefit is the product of the average of the participant's highest three consecutive years' compensation (or, if the participant had completed 10 years of service before September 1, 1977, the participant's highest 12-months' compensation) and 2.7% a year for up to 25 years of service and an additional 1% per year for up to 10 further years of service. Plan B provides disability benefits for disabled participants and survivor benefits for certain survivors of retirees and of participants who die while actively employed.

Participants in Plan A accrue non-forfeitable benefits after having completed seven and one-half years of service (or attainment of age 65 regardless of years of service), although the benefits of participants who terminated before January 1, 1998, were vested only after completion of 10 years of service. A participant's normal retirement age is age 65. If a participant retires at or after his or her normal retirement age, his or her monthly retirement benefit is a percentage of his or her highest 36 consecutive months' earnings, with the percentage based upon a mathematical table in the Plan document that takes into account the participant's years of service and his or her age. Public Safety Employees are entitled to retire before age 65 with unreduced benefits if they have completed 25 years of service as Public Safety Employees and under certain other circumstances as defined by the Plan Agreement.

A vested participant of Plan A may also elect early retirement to begin at any time after attaining age 55. The early retirement monthly benefit is calculated using a different table that takes into account the same factors. A vested participant who terminates before age 55 may elect to begin receiving monthly benefits at any time after the participant attains age 55 (but no later than age 65), and his or her benefits are calculated under a third table. If, however, the present value of a vested participant's accrued benefit is under \$30,000, the distribution is required to be made in the form of a lump sum payment. If the present value of the accrued benefit is between \$30,000 and \$50,000, the participant may elect to receive a lump sum distribution.

Plan A also provides disability benefits for participants who became disabled before January 1, 2002, and it provides survivor benefits for certain survivors of retirees and of participants who die while actively employed.

Effective July 1, 2011, Plan A was amended to mandate employee contributions of .5% for all active employees participating in Plan A. Employee contributions were phased in over a period of four years at a .5% increase each year, reaching 2% by July 1, 2014. Member contributions are made by Plan B participants in the amount of 8% of their earnings (or 8% of a lesser amount of their earnings in the case of participants with more than 35 years of service). Employer contributions to the Trust are funded currently in an amount determined by the System's actuary to fund the benefits of both Plan A and Plan B participants.

Plan C became effective March 1, 2005 for newly hired employees and September 1, 2005 for current employees. Plan A was closed to new entrants as of February 28, 2005. Participation is mandatory for eligible employees hired after March 1, 2005. Each Plan A active participant as of September 1, 2005, had the option to stay in Plan A or to move his or her participation to Plan C. Public Safety Employees in Plan A were required to move to Plan C to preserve their right to retire with unreduced benefits with 25

years of service; otherwise, they reverted to the original Plan A normal retirement provisions. All elections have now been made.

Effective July 1, 2011, each Plan C participant is required to contribute 6.5% of his or her base compensation to the Trust Fund. Employee contributions were phased in over a period of four years at a .5% increase each year, reaching 8% by July 1, 2014. These contributions will accrue "interest" at the rate of 2% annually, all of which will be reflected in a bookkeeping account. At the end of each calendar quarter, the County will match 3% of each participant's contributions, and a separate bookkeeping account will be maintained. Interest will be credited to this account in the same percentage and in the same way as interest is added to the participant contributions account.

The participant's own contributions account is fully vested at all times. The County's matching account is vested only after the participant has completed seven and one-half years of service. Credited service will be calculated in exactly the same way as it is calculated in Plan A.

Plan C contains a transition period. If a Plan A participant who elects to become a participant in Plan C terminates employment within five years, pension benefits will be calculated under Plan A, not Plan C. For each Plan A Public Safety Employee, however, the number of years the participant contributed to Plan A as a public safety employee will count toward the five year transition period. If the five year transition period is not satisfied before a participant's termination, then, (a) if the participant was not a Public Safety Employee while under Plan A, the Plan C participant contributions account will be refunded to the participant, and (b) if the participant was a Public Safety Employee while under Plan A, the amount of the refund will be the difference between the Plan C participant contributions account and the employee contributions account the participant would have had, if the original 25-and-out plan had remained in effect and the participant had remained an active participant.

If the transitional period is satisfied, a Plan C participant will be entitled to the following benefits. Upon termination but before beginning to receive a monthly pension, the participant will have the right to withdraw from the Trust Fund an amount equal to the lesser of (1) the maximum permissible cash distribution as of the date of termination up to \$50,000 or (2) the present value of the participant's accrued benefit at the relevant time. This withdrawal is called an "optional cash distribution." No optional cash distributions may be made before termination of employment or after beginning to receive a monthly pension.

A Plan C participant will be entitled to an unreduced "normal retirement pension" benefit if the participant has at least 25 years of credited service upon termination, regardless of age. If a participant attains age 65, having completed at least seven and one-half (7 ½) years but less than 25 years of credited service, the participant is also entitled to retire with a "normal" retirement pension. The amount of the normal retirement pension is the higher of two calculated amounts. In the first calculation, three figures are multiplied together: (1) the participant's "final average earnings" (determined in the same way as in Plan A); (2) the participant's years of credited service (no more than 35); and (3) 2.35%; the result is then reduced actuarially by the amount of any optional cash distributions the participant has elected to receive. The second figure is calculated by actuarially converting the sum of the participant contributions account and matching account (after reduction for all optional cash distributions) into a monthly pension for life or, if the participant is married, into a 75% joint and survivor pension.

If a Plan C participant terminates employment between age 55 and 65 with between seven and one-half and 25 years of credited service, the participant is entitled to a monthly "early" retirement pension for life. Again, the amount of the early retirement pension is the higher of two calculated amounts similar to those used for calculating the normal retirement pension. Participants who terminate employment before age 55 are also entitled to future benefits. Also, as in Plan A, deferred vested retirement pensions are required to be paid in the form of a lump sum if the actuarial value is \$30,000 or less.

Plan C provides survivor benefits for certain survivors, but it does not provide any disability benefits. Plan C was closed to new entrants on June 30, 2011.

Plan D became effective July 1, 2011 for all newly hired employees. Each Plan D participant is required to contribute 8% of his or her base compensation to the Trust Fund, which currently contains the assets of Plans A, B, and C. These contributions will accrue "interest" at the rate of 2% annually, all of which will be reflected in a bookkeeping account. The participant's own contributions account is fully vested at all times. Credited service will be calculated in exactly the same way as it is calculated in Plan A.

A Plan D participant will be entitled to an unreduced "normal retirement pension" benefit if the participant has at least seven and one-half (7 ½) years of credited service and has reached age 67. If the participant is a Public Safety employee who has earned at least seven and one-half (7 ½) years of credited services, is at least age 55 and either (i) his last 20 years of credited service before attaining age 55 are constituted Public Safety Service or (ii) if he has fewer than 20 years, all of his years are constituted Public Safety Service.

The amount of the normal retirement pension is the higher of two calculated amounts. In the first calculation, three figures are multiplied together: (1) the participant's "final average earnings" (determined in the same way as in Plan A); (2) the participant's years of credited service (no more than 35); and (3) the percentage factor set forth in the Plan document which is based on the participant's age at his annuity starting date (or 2.175% for Public Safety employees). The second figure is calculated by actuarially converting the sum of the participant contributions account and matching account (after reduction for all optional cash distributions) into a monthly pension for life or, if the participant is married, into a 75% joint and survivor pension.

If a Plan D participant terminates employment between age 62 and 67 (50 and 55 for Public Safety employees) with seven and one-half years of credited service (20 for Public Safety employees), the participant is entitled to a monthly "early" retirement pension for life. Again, the amount of the early retirement pension is the higher of two calculated amounts similar to those used for calculating the normal retirement pension. Participants who terminate employment before age 55 but have fulfilled the seven-and one-half (7 ½) years of credited service are eligible for deferred benefits. Also, as in Plan C, deferred vested retirement pensions are required to be paid in the form of a lump sum if the actuarial value is \$30,000 or less.

Plan D provides survivor benefits for certain survivors, but it does not provide any disability benefits.

At June 30, 2017, the SCRS membership consisted of:

|   |                         |
|---|-------------------------|
| Retirees and beneficiaries currently receiving benefits         | 3,801                   |
| Terminated members entitled to, but not yet receiving, benefits | 207                     |
| Terminated participants entitled to a refund of contributions   | 267                     |
| County to City transfers  | 180                     |
| Current active members  | <u>5,011</u>            |
| <br>Total   | <br><u><u>9,466</u></u> |

### Contributions and Funding Policy

The System's funding policy for employee contribution requirements is established by the Board. For fiscal years 2017 and 2016, the contribution requirements were based on the actuarially determined contribution rate and dollar amount, respectively.

The actuarially determined contribution rate was calculated using the entry age normal cost method for Plans A, B, C and D participants for 2017 and 2016.

The actuarial required employer contribution rate was 15.7% for the year ended June 30, 2017. During the year ended June 30, 2017, actual employer contributions were made at a rate of 17.1% of pensionable county employee earnings, totaling \$41,887,837 and employee contributions were \$15,687,519. Pensionable county employee earnings do not include County to City transfer employees. The actuarial required employer contribution is significantly impacted by the amortization of the actuarial surplus created from the investment results in prior years. The employer has chosen to fund a level amount that is approximately the normal cost for benefits earned.

During the year ended June 30, 2016, the employer contributions of \$35,864,249 which were 14.6% of the related covered payroll costs and the employee contributions were \$15,599,067.

The components of the net pension liability of the Retirement System at June 30, 2017 were as follows (\$ thousands):

|  |    |                |
|--|----|----------------|
| Total pension liability                                    | \$ | 1,699,338      |
| Fiduciary net position                                     |    | 1,140,289      |
| Net pension liability                                      | \$ | <u>559,049</u> |
|  |    |                |
| Ratio of fiduciary net position to total pension liability |    | 67.10%         |

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

|                             |  |
|-----------------------------|--|
| Inflation                   | 2.75 percent   |
| Salary increases            | 2.75 – 5.75 percent, including inflation   |
| Investment rate of return   | 7.00 percent, net of pension plan investment expense, including inflation  |
| Expenses:                   | 0.50 percent of payroll  |
| Cost-of-Living Adjustments: | 1.00 percent per year, compounded for Plan B;<br>2.75 percent per year, compounded for Plan A and C;<br>2.00 percent per year, compounded for Plan D |

Percent Married: 65% of active members are assumed to be married with the male three years older than his spouse.

Assets: Market Value of Assets

Valuation Method: Entry Age Normal actuarial cost method

Mortality rates were based on the RP-2000 Combined Mortality Table set forward three years for males and set forward one year for females and using a Scale AA projection to 2025 for the period after service retirement and for dependent beneficiaries as well as for deaths in active service. The RP-2000 Disabled Mortality Table set forward six years for males and set forward nine years for females and using a Scale AA projection to 2015 is used for the period after disability retirement. The actuarial demographic assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2007 – June 30, 2012. The actuarial economic assumptions used in the June 30, 2017 valuation were based on the results of an Economic Experience Investigation as of June 30, 2015 with the assumed investment rate of return further reduced to 7.00 percent by the Retirement Board of Trustees on September 13, 2016.

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

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

| Asset Class           | Target Asset Allocation | Expected Return | Expected Standard Deviation |
|-----------------------|-------------------------|-----------------|-----------------------------|
| Domestic Equity       | 14.10%                  | 6.25%           | 17.00%                      |
| International Equity  | 10.40%                  | 6.45%           | 18.70%                      |
| Low Volatility Equity | 8.20%                   | 6.45%           | 13.40%                      |
| Private Equity        | 6.60%                   | 8.70%           | 27.50%                      |
| Core Fixed Income     | 6.70%                   | 3.25%           | 5.00%                       |
| High Yield            | 1.00%                   | 5.00%           | 10.00%                      |
| EMD Hard Currency     | 6.40%                   | 5.50%           | 10.00%                      |
| Global Fixed Income   | 5.10%                   | 2.35%           | 3.90%                       |
| Credit Opportunities  | 6.40%                   | 6.20%           | 13.40%                      |
| Absolute Return       | 16.00%                  | 5.85%           | 6.50%                       |
| Private Real Estate   | 1.00%                   | 5.55%           | 14.00%                      |
| Private Real Asset    | 8.00%                   | 6.80%           | 15.00%                      |
| MLPs                  | 10.00%                  | 9.00%           | 17.00%                      |
| Cash                  | 0.00%                   | 1.55%           | 1.25%                       |

The discount rate used to measure the total pension liability was 7.00 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rates and that employer contributions will be made at the actuarially determined rates in future years. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following presents the net pension liability of the Retirement System, calculated using the discount rate of 7.00 percent, as well as what the Retirement System's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00 percent) or 1-percentage-point higher (8.00 percent) than the current rate (\$ thousands):

|   | 1% Decrease<br>(6.00%) | Current<br>Discount<br>Rate (7.00%) | 1% Increase<br>(8.00%) |
|---|------------------------|-------------------------------------|------------------------|
| Retirement System's net pension liability | \$ 771,262             | \$ 559,049                          | \$ 381,969             |

#### **NOTE 4 – CUSTODIAL CREDIT RISK**

Custodial credit risk for deposits and investments is the risk that in the event of a financial institution's failure, SCRS would not be able to recover the value of its deposits, investments, or collateralized securities that are in the possession of an outside party. Deposits and investments are exposed to custodial credit risk if they are not insured, unregistered or not in the name of SCRS, or not collateralized. SCRS's cash deposits may be covered by federal depository insurance ("FDIC") or by collateral held in a multiple financial institution collateral pool administered by the State. The FDIC insures the first \$250,000 of the Retirement System's interest bearing deposits at each financial institution. Deposit balances over \$250,000 are insured by the collateral pool for those participating financial institutions. At June 30, 2017, deposits of \$51,936,932 were uncollateralized.

#### **NOTE 5 - INVESTMENTS**

The Administration and Trust Agreement of Shelby County Retirement System (the "Trust Agreement") vests the Shelby County Retirement System Board of Administration (the "Board") with exclusive control over SCRS's investment portfolio. The Trust Agreement provides for specific investment authority and limitations in accordance with applicable state laws and county regulations. The Board members exercise their authority and control over investments solely in the interest of plan participants and beneficiaries. Additionally, the Board executes its policies with the aid of external investment advisors. The Trust Agreement generally provides that the Board may invest in the following:

Bonds, notes or treasury bills of the United States or other obligations guaranteed as to principal and interest by the United States or any of its agencies.

Certificates of deposit and other evidences of deposit at Tennessee or federally chartered financial institutions. The institutions must be federally insured.

Obligations of the United States or its agencies under a repurchase agreement.

Prime commercial paper which is rated at least A2 and issued by a corporation having no record of default of obligations during the ten (10) years preceding the investment.

Prime bankers acceptances eligible for purchases by the Federal Reserve System.

Corporate bonds rated B3 or better by Moody's or B- or better by Standard and Poor's.

Common or preferred shares of stock in any entity listed on the New York Stock Exchange, American Stock Exchange or NASDAQ Stock Exchange or in American Depository Receipts ("ADRs"). The total market value of ADRs and common or preferred shares of stock, calculated on a monthly basis, shall not exceed 70% of the total market value of the Trust Fund.

Covered call and put options on individual stocks or indexes, with the prior approval of the Investment Committee.

Financial futures contracts on a limited basis for bona fide hedging purposes and only with prior approval of the Investment Committee.

Real estate including interests in real estate investment trusts, provided, however, that the total real estate investments of SCRS shall not exceed five percent (5%) of the total value of the SCRS.

International equities provided, however, that the total international investments of SCRS, excluding American Depository Receipts, shall not exceed thirty percent (30%) of the total value of the SCRS. Investments in international equities must be recommended by the Investment Committee and approved by a 2/3 vote of the Board of Trustees.

Co-mingled funds, including registered mutual funds and interest in collective trusts as approved by the Investment Committee.

Other investments, as approved individually by the Investment Committee, including securities offered through private placement memoranda.

Please refer to the Trust Agreement for a complete description of investment policies.

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 -2.81 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment or deposit. Duration is the measure of the price sensitivity of a fixed income portfolio to changes in interest rates. The longer the duration of a portfolio, the greater is its price sensitivity to changes in interest rates. The SCRS limits its exposure to interest rate risk by diversifying its investments by security type and institution.

The fair values of fixed income investments grouped by maturity at June 30, 2017 and June 30, 2016, are as follows:

|                     | 2017                  | 2016                  |
|---------------------|-----------------------|-----------------------|
| Current to one year | \$ 8,106,790          | \$ 8,571,340          |
| One to two years    | 20,795,713            | 10,367,146            |
| Two to three years  | 9,448,344             | 14,871,704            |
| Three to four years | 8,553,639             | 4,552,753             |
| Four to five years  | 2,931,047             | 7,699,898             |
| Five years or more  | 156,716,726           | 159,717,207           |
|                     | <u>\$ 206,552,259</u> | <u>\$ 205,780,048</u> |

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. To control credit risk, credit quality guidelines have been established. Investment parameters as established by the Trust Agreement and the Investment Committee are summarized above. There are no restrictions on U.S. Government or Agency issues.

The Retirement System's exposure to credit risk at June 30, 2017 and 2016, is presented below by investment category as rated by Standard and Poor's rating service:

| <u>Investment Type</u>                | <u>Ratings</u>                | <u>2017<br/>Fair Value</u> | <u>2016<br/>Fair Value</u> |
|---------------------------------------|-------------------------------|----------------------------|----------------------------|
| Asset Backed Securities               | AAA                           | \$ 1,011,974               | -                          |
|                                       | Not Rated                     | 1                          | 7                          |
| Collateralized Bonds                  | Not Rated                     | -                          | 4                          |
| Commercial Mortgage-Backed            | AA                            | 38,177                     | -                          |
|                                       | A                             | -                          | 82,383                     |
| Corporate Bonds                       | AAA                           | 1,011,956                  | -                          |
|                                       | AA                            | 4,788,564                  | 4,516,901                  |
|                                       | A                             | 13,713,679                 | 9,339,323                  |
|                                       | BBB                           | 16,762,495                 | 18,042,709                 |
|                                       | BB                            | 263,250                    | 887,287                    |
|                                       | B                             | 700,315                    | -                          |
|                                       | Not Rated                     | 39,698,563                 | 36,218,643                 |
| Corporate Convertible Bonds           | D                             | -                          | 664,125                    |
| Government Agencies                   | AAA                           | 1,193,413                  | -                          |
|                                       | AA                            | 10,665,548                 | 10,649,128                 |
|                                       | Not Rated                     | 955,287                    | 954,207                    |
| Government Bonds (1)                  | AA                            | -                          | 2,718,964                  |
|                                       | A                             | 15,694,339                 | 12,163,875                 |
|                                       | BBB                           | 3,164,064                  | -                          |
|                                       | BB                            | 4,253,115                  | 7,489,966                  |
|                                       | Not Rated                     | 15,784,793                 | 16,606,902                 |
|                                       | U.S Government<br>Guaranteed  | 29,698,321                 | 32,779,286                 |
|                                       | U.S. Government<br>Guaranteed | 397,323                    | 177,282                    |
| Government Mortgage Backed Securities | Not Rated                     | 40,713,598                 | -                          |
| Hedge Multi Strategy                  | AAA                           | 1,987,028                  | 2,032,740                  |
| Municipal Bonds                       | AA                            | 1,153,237                  | 2,175,666                  |
|                                       | A                             | 941,261                    | 1,003,085                  |
|                                       | BBB                           | 300,714                    | 307,503                    |
|                                       | BBB                           | -                          | 103,163                    |
| Non-Government Backed CMOs            | B                             | 630,336                    | 608,504                    |
|                                       | CCC                           | -                          | 563,111                    |
|                                       | D                             | 364,573                    | 432,837                    |
|                                       | Not Rated                     | 666,335                    | 765,414                    |
|                                       | Other Fixed Income            | Not Rated                  | -                          |
| Total Fixed Income                    |                               | <u>\$ 206,552,259</u>      | <u>\$ 205,780,048</u>      |

(1) At June 30, 2017, Moody's ratings and amounts of Government Bonds were Aaa of \$25,943,266, Aa of \$4,742,191, A of \$19,298,310, Baa of \$7,361,276, Ba of \$6,631,988, Not rated of \$862,546, and U.S. Government Guaranteed of \$3,755,055.

## Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of the investment. The Retirement System's exposure to foreign currency risk in U.S. Dollars as of June 30, 2017, is as follows:

| <u>Currency</u>                                      | <u>Equities</u>       | <u>Government<br/>Bonds and<br/>Agencies</u> | <u>Other<br/>Fixed<br/>Income</u> | <u>Hedge<br/>Funds</u> | <u>Total</u>          |
|--|-----------------------|--|-----------------------------------|------------------------|-----------------------|
| Australian dollar                                    | \$ 664,038            | \$ 4,373,519                                 | \$ -                              | \$ -                   | \$ 5,037,557          |
| Brazilian real                                       | -                     | 4,253,115                                    | -                                 | -                      | 4,253,115             |
| British sterling pound                               | 16,902,055            | 4,742,192                                    | -                                 | -                      | 21,644,247            |
| Canadian dollar                                      | 2,875,598             | -  | -                                 | -                      | 2,875,598             |
| Danish krone   | 1,808,619             | -  | -                                 | -                      | 1,808,619             |
| Euro   | 17,130,299            | 2,378,873                                    | 1,009,612                         | -                      | 20,518,784            |
| Indonesian rupiah                                    | -                     | 3,618,330                                    | -                                 | -                      | 3,618,330             |
| Japanese yen   | 11,639,931            | -  | -                                 | -                      | 11,639,931            |
| Malaysian ringgit                                    | -                     | 4,240,492                                    | -                                 | -                      | 4,240,492             |
| Mexican peso   | -                     | 10,960,250                                   | -                                 | -                      | 10,960,250            |
| Norwegian krone                                      | 1,608,955             | -  | -                                 | -                      | 1,608,955             |
| Polish zloty   | -                     | 4,734,089                                    | -                                 | -                      | 4,734,089             |
| Singapore dollar                                     | 1,003,220             | -  | -                                 | -                      | 1,003,220             |
| Swedish krona  | 2,632,004             | -  | -                                 | -                      | 2,632,004             |
| Swiss franc  | 2,723,159             | -  | -                                 | -                      | 2,723,159             |
| Turkish lira   | -                     | 226,025                                      | -                                 | -                      | 226,025               |
| Total securities subject to<br>foreign currency risk | 58,987,878            | 39,526,885                                   | 1,009,612                         | -                      | 99,524,375            |
| International portfolio in<br>U.S. dollars           | 184,215,609           | 4,465,249                                    | 3,783,505                         | -                      | 192,464,363           |
| Total international securities                       | <u>\$ 243,203,487</u> | <u>\$ 43,992,134</u>                         | <u>\$ 4,793,117</u>               | <u>\$ -</u>            | <u>\$ 291,988,738</u> |

The Retirement System's exposure to foreign currency risk in U.S. Dollars as of June 30, 2016, is as follows:

| <u>Currency</u>                                      | <u>Equities</u> | <u>Government<br/>Bonds and<br/>Agencies</u> | <u>Other<br/>Fixed<br/>Income</u> | <u>Hedge<br/>Funds</u> | <u>Total</u>   |
|--|-----------------|--|-----------------------------------|------------------------|----------------|
| Australian dollar                                    | \$ 1,649,089    | \$ 5,466,732                                 | \$ -                              | \$ -                   | \$ 7,115,821   |
| Brazilian real                                       | 248,380         | 4,544,231                                    | 290,847                           | -                      | 5,083,458      |
| British sterling pound                               | 16,817,669      | 4,074,491                                    | 268,882                           | -                      | 21,161,042     |
| Canadian dollar                                      | 5,718,187       | -  | -                                 | -                      | 5,718,187      |
| Czech Republic koruna                                | 165,222         | -  | -                                 | -                      | 165,222        |
| Danish krone   | 937,424         | -  | -                                 | -                      | 937,424        |
| Euro   | 15,279,361      | 2,281,135                                    | 1,217,696                         | -                      | 18,778,192     |
| Hong Kong dollar                                     | 543,436         | -  | -                                 | -                      | 543,436        |
| Hungarian forint                                     | 437,354         | 2,945,735                                    | -                                 | -                      | 3,383,089      |
| Indonesian rupiah                                    | 130,485         | 3,525,329                                    | -                                 | -                      | 3,655,814      |
| Japanese yen   | 14,958,774      | -  | -                                 | -                      | 14,958,774     |
| Korean won   | 1,885,519       | -  | -                                 | -                      | 1,885,519      |
| Malaysian ringgit                                    | 709,538         | 3,379,532                                    | -                                 | -                      | 4,089,070      |
| Mexican peso   | 660,829         | 10,605,669                                   | -                                 | -                      | 11,266,498     |
| New Israeli shekel                                   | 519,117         | -  | -                                 | -                      | 519,117        |
| New Zealand dollar                                   | 1,872,647       | 2,718,964                                    | -                                 | -                      | 4,591,611      |
| Norwegian krone                                      | 2,122,181       | -  | -                                 | -                      | 2,122,181      |
| Philippine peso                                      | 198,102         | -  | -                                 | -                      | 198,102        |
| Polish zloty   | 231,962         | 1,558,206                                    | -                                 | -                      | 1,790,168      |
| Singapore dollar                                     | 93,956          | -  | -                                 | -                      | 93,956         |
| South African rand                                   | 433,867         | 2,396,849                                    | -                                 | -                      | 2,830,716      |
| Swedish krona  | 3,293,778       | -  | -                                 | -                      | 3,293,778      |
| Swiss franc  | 4,966,588       | -  | -                                 | -                      | 4,966,588      |
| Thai baht  | 463,411         | -  | -                                 | -                      | 463,411        |
| Turkish lira   | 177,625         | -  | -                                 | -                      | 177,625        |
| Total securities subject to<br>foreign currency risk | 74,514,501      | 43,496,873                                   | 1,777,425                         | -                      | 119,788,799    |
| International portfolio in<br>U.S. dollars           | 96,391,867      | 4,594,322                                    | 5,572,919                         | 33,451,328             | 140,010,436    |
| Total international securities                       | \$ 170,906,368  | \$ 48,091,195                                | \$ 7,350,344                      | \$ 33,451,328          | \$ 259,799,235 |

### Securities Lending Transactions

SCRS has authorized its custodial agent to enter into, on behalf of SCRS, securities lending transactions comprised of loans of securities to broker-dealers and other entities for collateral with a simultaneous agreement to return the collateral for the same securities in the future. Initial collateral, consisting of cash and securities must not be less than 102% of the market value of the borrowed securities or not less than 105% if the borrowed securities and collateral are denominated in different currencies. The borrower is required to deliver additional collateral when necessary so that the total collateral held by the custodial agent for all loans to the borrower will at least equal 102% of market value of all the borrowed securities. At June 30, 2017 and 2016, SCRS had no credit risk exposure to borrowers as amounts owed to the borrowers exceeded amounts the borrowers owed to SCRS. Collateral held in trust for securities on loan consists of an investment in the Core USA Collateral Pool.

The fair value of investment securities loaned for collateral and held by broker-dealers at June 30, 2017 and 2016 are summarized as follows:

|                      | <u>2017</u>          | <u>2016</u>           |
|----------------------|----------------------|-----------------------|
| Domestic equity      | \$ 52,070,745        | \$ 93,651,618         |
| International equity | 1,041,466            | 2,765,224             |
| Fixed income         | 16,097,094           | 21,656,926            |
|                      | <u>\$ 69,209,305</u> | <u>\$ 118,073,768</u> |

### Risks and Uncertainties

SCRS invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statements of plan assets.

SCRS contributions are made based upon certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change. Due to uncertainties inherent in the estimation and assumption processes, it is at least reasonably possible that changes in these estimates and assumptions in the near term could materially affect the amounts reported and disclosed in the financial statements.

### **NOTE 6 – FAIR VALUE MEASUREMENT**

Generally accepted accounting principles establish a framework for measuring fair value which provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1) and the lowest priority to unobservable inputs (level 3).

The three levels of the fair value hierarchy are described below:

Level 1 - Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access.

Level 2 - Inputs to the valuation methodology include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability;
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 - Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes in the methodologies used at June 30, 2017.

For SCRS, level 1 securities are valued using prices quoted in active markets for those securities. Level 2 securities are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Level 3 securities are valued using unobservable inputs (i.e. extrapolated data, proprietary models, indicative quotes, and estimated net asset value) as provided by the investment manager of the investee company.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while SCRS believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The following table sets forth by level, within the fair value hierarchy, SCRS's assets at fair value as of June 30, 2017 and 2016.

|                            | Assets at Fair Value as of June 30, 2017 |             |            |               |
|----------------------------|--|-------------|------------|---------------|
|                            | Level 1                                  | Level 2     | Level 3    | Total         |
| Equities                   |  |             |            |               |
| Consumer discretionary     | \$ 46,438,525                            | \$ -        | \$ -       | \$ 46,438,525 |
| Consumer staples           | 10,619,224                               | -           | -          | 10,619,224    |
| Energy                     | 6,038,764                                | -           | -          | 6,038,764     |
| Financials                 | 21,136,653                               | -           | -          | 21,136,653    |
| Health Care                | 24,698,320                               | -           | -          | 24,698,320    |
| Industrials                | 37,447,849                               | -           | -          | 37,447,849    |
| Information technology     | 36,618,586                               | -           | -          | 36,618,586    |
| Materials                  | 8,431,119                                | -           | -          | 8,431,119     |
| Real estate                | 3,805,761                                | -           | -          | 3,805,761     |
| Telecommunication services | 3,372,541                                | -           | -          | 3,372,541     |
| Utilities                  | 740,930                                  | -           | -          | 740,930       |
| Miscellaneous              | 56,949,806                               | 231,520,712 | 51,405,046 | 339,875,564   |
| Total equities             | 256,298,078                              | 231,520,712 | 51,405,046 | 539,223,836   |

## Assets at Fair Value as of June 30, 2017 (Continued)

|  | Level 1               | Level 2               | Level 3               | Total                   |
|--|-----------------------|-----------------------|-----------------------|-------------------------|
| Fixed Income                             |                       |                       |                       |                         |
| Asset backed securities                  | -                     | 1,011,975             | -                     | 1,011,975               |
| Commercial mortgage-backed securities    | -                     | 38,177                | -                     | 38,177                  |
| Corporate bonds                          | -                     | 38,934,716            | 40,713,599            | 79,648,315              |
| Funds - other fixed income               | -                     | 38,004,105            | -                     | 38,004,105              |
| Government agencies                      | -                     | 12,814,247            | -                     | 12,814,247              |
| Government bonds                         | -                     | 68,594,632            | -                     | 68,594,632              |
| Government mortgage backed securities    | -                     | 397,323               | -                     | 397,323                 |
| Municipal/provincial bonds               | -                     | 4,382,240             | -                     | 4,382,240               |
| Non-government backed C.M.O.s            | -                     | 1,661,245             | -                     | 1,661,245               |
| Total fixed income                       | -                     | 165,838,660           | 40,713,599            | 206,552,259             |
| Hedge fund                               | -                     | 62,540,358            | 70,080,113            | 132,620,471             |
| Real estate                              | -                     | -                     | 19,754,010            | 19,754,010              |
| Master limited partnerships              | 94,850,896            | -                     | -                     | 94,850,896              |
| Venture capital and partnerships         | -                     | -                     | 95,156,885            | 95,156,885              |
| Total investments measured at fair value | <u>\$ 351,148,974</u> | <u>\$ 459,899,730</u> | <u>\$ 277,109,653</u> | <u>\$ 1,088,158,357</u> |

## Assets at Fair Value as of June 30, 2016

|  | Level 1               | Level 2               | Level 3               | Total                 |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| Equities                                 |                       |                       |                       |                       |
| Consumer discretionary                   | \$ 57,881,053         | \$ 8,196              | \$ -                  | \$ 57,889,249         |
| Consumer staples                         | 30,155,099            | -                     | -                     | 30,155,099            |
| Energy                                   | 9,195,962             | 4,688,864             | -                     | 13,884,826            |
| Financials                               | 22,417,722            | -                     | -                     | 22,417,722            |
| Health Care                              | 29,190,752            | -                     | -                     | 29,190,752            |
| Industrials                              | 50,171,564            | -                     | -                     | 50,171,564            |
| Information technology                   | 37,894,046            | -                     | -                     | 37,894,046            |
| Materials                                | 10,734,183            | -                     | 562,557               | 11,296,740            |
| Real estate                              | 5,286,056             | 191,163               | -                     | 5,477,219             |
| Telecommunication services               | 15,387,817            | -                     | -                     | 15,387,817            |
| Utilities                                | 6,568,005             | -                     | -                     | 6,568,005             |
| Miscellaneous                            | -                     | 180,210,987           | 119,705               | 180,330,692           |
| Total equities                           | 274,882,259           | 185,099,210           | 682,262               | 460,663,731           |
| Fixed Income                             |                       |                       |                       |                       |
| Commercial mortgage-backed securities    | -                     | 82,394                | -                     | 82,394                |
| Corporate bonds                          | -                     | 69,668,989            | -                     | 69,668,989            |
| Funds - other fixed income               | -                     | 44,497,030            | -                     | 44,497,030            |
| Government agencies                      | -                     | 11,603,335            | -                     | 11,603,335            |
| Government bonds                         | -                     | 71,758,993            | -                     | 71,758,993            |
| Government mortgage backed securities    | -                     | 177,282               | -                     | 177,282               |
| Municipal/provincial bonds               | -                     | 5,518,995             | -                     | 5,518,995             |
| Non-government backed C.M.O.s            | -                     | 2,473,028             | -                     | 2,473,028             |
| Total fixed income                       | -                     | 205,780,046           | -                     | 205,780,046           |
| Hedge fund                               | -                     | 93,338,494            | 37,230,980            | 130,569,474           |
| Real estate                              | -                     | 559,729               | 8,527,577             | 9,087,306             |
| Master limited partnerships              | 90,342,471            | -                     | -                     | 90,342,471            |
| Venture capital and partnerships         | -                     | -                     | 100,386,221           | 100,386,221           |
| Total investments measured at fair value | <u>\$ 365,224,730</u> | <u>\$ 484,777,479</u> | <u>\$ 146,827,040</u> | <u>\$ 996,829,249</u> |

## NOTE 7 – DERIVATIVE INSTRUMENTS – FORWARD CONTRACTS

SCRS may enter into foreign currency forward exchange contracts primarily to hedge against foreign currency exchange rate risks on its non-U.S. dollar denominated investment securities. When entering into a forward currency contract, SCRS agrees to receive or deliver a fixed quantity of foreign currency for an agreed-upon price on an agreed future date. SCRS's net equity therein, representing unrealized gain or loss on the contracts, as measured by the difference between the forward foreign exchange rates at the dates of entry in the contracts and the forward rates at the reporting date is included in SCRS's statement of fiduciary net position. Realized and unrealized gains and losses are included in SCRS's statement of changes in fiduciary net position. These instruments involve market risk, credit risk, or both kinds of risks in excess of the amount recognized in the statement of fiduciary net position. Risks arise from the possible inability of counterparties to meet the terms of their contracts and movement of currency and securities values and interest rates. At June 30, 2017, SCRS has the following foreign currency forward exchange contracts:

|   | Settlement         | Unrealized<br>(Gain)/Loss |
|---|--------------------|---------------------------|
| 17,800,000 Norwegian krone vs. \$2,073,517  | July 10, 2017      | \$ 51,912                 |
| 1,050,000,000 Chilean peso vs. \$33,139     | July 14, 2017      | (33,139)                  |
| 24,400,000 Swedish krona vs. \$2,731,782    | July 21, 2017      | 164,793                   |
| 421,000,000 Japanese yen vs. \$3,548        | August 2, 2017     | (3,548)                   |
| 3,300,000 Canadian dollar vs. \$2,497,238   | August 4, 2017     | 45,497                    |
| 850,000 Euro vs. \$3,233,305                | August 10, 2017    | (93,133)                  |
| 28,200,000 Norwegian krone vs. \$3,281,958  | August 15, 2017    | 87,778                    |
| 2,620,000 Australian dollar vs. \$1,934,282 | August 17, 2017    | 74,157                    |
| 19,700,000 Swedish krona vs. \$2,282,483    | September 12, 2017 | 63,151                    |
| 5,860,000 British pound vs. \$7,579,851     | September 15, 2017 | 50,493                    |
| 245,000,000 Indian rupee vs. \$3,753,984    | September 20, 2017 | 2,224                     |
|   |                    | <u>\$ 410,185</u>         |

At June 30, 2016, SCRS has the following foreign currency forward exchange contracts:

|  | Settlement         | Unrealized<br>(Gain)/Loss |
|--|--------------------|---------------------------|
| 641,500 Chilean peso vs. \$930,519         | July 8, 2016       | \$ 37,633                 |
| 17,800,000 Norwegian krone vs. \$2,162,648 | July 13, 2016      | (35,515)                  |
| 24,400,000 Swedish krona vs. \$3,022,458   | July 14, 2016      | (140,817)                 |
| 3,925,000 Euros vs. \$4,486,671            | August 10, 2016    | (119,613)                 |
| 81,000,000 Chilean peso vs. \$118,265      | August 19, 2016    | 3,532                     |
| 19,700,000 Swedish krona vs. \$2,400,873   | August 22, 2016    | (70,233)                  |
| 245,000,000 Indian rupee vs. \$3,615,116   | September 21, 2016 | (37,947)                  |
| 930,000,000 Chilean peso vs. \$1,326,865   | September 26, 2016 | 66,923                    |
| 858,000,000 Chilean peso vs. \$1,261,913   | October 21, 2016   | 21,006                    |
| 894,000,000 Chilean peso vs. \$1,307,266   | November 7, 2016   | 33,781                    |
|  |                    | <u>\$ (241,250)</u>       |

## NOTE 8 - COMMITMENTS

SCRS has capital commitments totaling approximately \$106.5 million to ten investment fund managers. As of June 30, 2017, approximately \$27.7 million is unfunded and the remaining commitment will be funded within the next four years.

**REQUIRED SUPPLEMENTARY INFORMATION**

**SHELBY COUNTY, TENNESSEE  
SHELBY COUNTY RETIREMENT SYSTEM**

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS**

Last Ten Fiscal Years (\$ in Thousands)

|   | 2017                | 2016                | 2015                | 2014                |
|---|---------------------|---------------------|---------------------|---------------------|
| Total Pension Liability   |                     |                     |                     |                     |
| Service cost  | \$ 27,640           | \$ 24,763           | \$ 25,533           | \$ 23,641           |
| Interest  | 112,438             | 110,121             | 108,830             | 104,501             |
| Benefit changes   | -                   | -                   | -                   | -                   |
| Difference between expected and actual experience                 | (3,124)             | (4,524)             | (6,934)             | -                   |
| Changes in assumptions  | -                   | 90,986              | 59,700              | -                   |
| Benefit payments  | (78,552)            | (73,833)            | (69,788)            | (71,577)            |
| Refunds of contributions  | (7,733)             | (8,069)             | (6,774)             | -                   |
| Net change in total pension liability                             | 50,669              | 139,444             | 110,567             | 56,565              |
| Total pension liability - beginning                               | 1,648,669           | 1,509,225           | 1,398,658           | 1,342,090           |
| Total pension liability - ending (a)                              | <u>\$ 1,699,338</u> | <u>\$ 1,648,669</u> | <u>\$ 1,509,225</u> | <u>\$ 1,398,655</u> |
| Fiduciary Net Position  |                     |                     |                     |                     |
| Contributions - employer  | \$ 41,888           | \$ 35,864           | \$ 34,213           | \$ 31,976           |
| Contributions - member  | 15,688              | 15,599              | 15,235              | 13,917              |
| Net investment income   | 118,103             | (30,836)            | 6,327               | 156,598             |
| Benefit payments  | (78,552)            | (73,833)            | (69,788)            | (71,577)            |
| Administrative expense  | (1,242)             | (1,722)             | (1,705)             | (1,337)             |
| Refunds of contributions  | (7,733)             | (8,069)             | (6,774)             | -                   |
| Other   | -                   | -                   | -                   | -                   |
| Net change in fiduciary net position                              | 88,152              | (62,997)            | (22,492)            | 129,577             |
| Fiduciary net position - beginning                                | 1,052,137           | 1,115,134           | 1,137,626           | 1,008,049           |
| Fiduciary net position - ending (b)                               | <u>\$ 1,140,289</u> | <u>\$ 1,052,137</u> | <u>\$ 1,115,134</u> | <u>\$ 1,137,626</u> |
| Net pension liability - ending (a) - (b)                          | <u>\$ 559,049</u>   | <u>\$ 596,532</u>   | <u>\$ 394,091</u>   | <u>\$ 261,029</u>   |
| Ratio of fiduciary net position to total pension liability        | 67.10%              | 63.82%              | 73.89%              | 81.34%              |
| Covered payroll   | \$ 245,415          | \$ 244,818          | \$ 243,655          | \$ 240,466          |
| Net pension liability as a percentage of covered employee payroll | 227.80%             | 243.66%             | 161.74%             | 108.55%             |

Notes to Schedule:

Changes of Benefit Terms: none

Changes of Assumptions: In 2013, rates of withdrawal, disability, retirement and assumed rates of salary increase were adjusted to more closely reflect actual and anticipated experience. These assumptions were recommended as part of the Experience Study for the System for the five year period ended June 30, 2012. In 2015, the price inflation was lowered from 3.00% to 2.75% and the investment rate of return was lowered from 8% to 7.50%. In addition, the expected salary increases were lowered by 0.25% at each service level. These assumptions were recommended as part of the Economic Experience Investigation as of June 30, 2015. In 2016, the investment rate of return was lowered from 7.5% to 7.00% as approved by the Retirement Board of Trustees on September 13, 2016.

\*Only four years of information was available from the actuarial valuation. Prior years are unavailable.

See independent auditor's report.

**SHELBY COUNTY, TENNESSEE  
SHELBY COUNTY RETIREMENT SYSTEM**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS**

Last Ten Fiscal Years (\$ in Thousands)

|   | 2017       | 2016       | 2015       | 2014       | 2013       | 2012       | 2011       | 2010       | 2009       | 2008       |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Actuarially determined employer contribution            | \$ 38,668  | \$ 32,113  | \$ 33,220  | \$ 32,983  | \$ 31,826  | \$ 23,402  | \$ 18,571  | \$ 16,652  | \$ 15,261  | \$ 12,956  |
| Actual employer contributions                           | 41,888     | 35,864     | 34,213     | 31,976     | 30,170     | 23,402     | 18,788     | 19,390     | 18,733     | 18,744     |
| Annual contribution deficiency (excess)                 | \$ (3,220) | \$ (3,751) | \$ (993)   | \$ 1,007   | \$ 1,656   | \$ -       | \$ (217)   | \$ (2,738) | \$ (3,472) | \$ (5,788) |
| Covered payroll   | \$ 245,415 | \$ 244,818 | \$ 243,655 | \$ 240,466 | \$ 250,367 | \$ 258,670 | \$ 265,137 | \$ 266,559 | \$ 271,888 | \$ 260,108 |
| Actual contributions as a percentage of covered payroll | 17.07%     | 14.65%     | 14.04%     | 13.30%     | 12.05%     | 9.05%      | 7.09%      | 7.27%      | 6.89%      | 7.21%      |

**Notes to the Schedule:**

The actuarially determined contributions in the schedule of employer contributions are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the most recent contributions reported in that schedule:

|                                       |   |
|---------------------------------------|---|
| Actuarial cost method                 | Entry Age Normal                                |
| Amortization method                   | Level Dollar, closed                            |
| Single equivalent amortization period | 22 years  |
| Asset valuation method                | 10-year smoothed market                         |
| Inflation                             | 2.75 percent                                    |
| Salary Increase                       | 2.75 - 5.75 percent, including inflation        |
| Investment rate of return             | 7.50 percent, net of investment related expense |

Note: Although 2013 and 2014 show a deficiency in contribution dollars, the Retirement System contributed the full actuarial determined contribution as a percentage of payroll.

See independent auditor's report.

**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER  
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS  
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN  
ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

To the Chairman and Members of the Shelby County  
Retirement System Board of Administration  
Shelby County Retirement System  
Memphis, Tennessee

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Shelby County Retirement System as of and for the years ended June 30, 2017 and 2016, and the related notes to the financial statements, which collectively comprise the Shelby County Retirement System's basic financial statements, and have issued our report thereon dated December 14, 2017.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered Shelby County Retirement System's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Shelby County Retirement System's internal control. Accordingly, we do not express an opinion on the effectiveness of the entity's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Shelby County Retirement System's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*Watkins Mikusall, PLLC*

Memphis, Tennessee  
December 14, 2017