



# FY2017

## COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the year ended June 30, 2017

Serving the People Who Serve Our Schools®







# Dave Yost • Auditor of State

Retirement Board  
School Employees Retirement System  
300 East Broad Street, Suite 100  
Columbus, Ohio 43215

We have reviewed the *Independent Auditor's Report* of the School Employees Retirement System, Franklin County, prepared by RSM US LLP, for the audit period July 1, 2016 through June 30, 2017. Based upon this review, we have accepted these reports in lieu of the audit required by Section 117.11, Revised Code. The Auditor of State did not audit the accompanying financial statements and, accordingly, we are unable to express, and do not express an opinion on them.

Our review was made in reference to the applicable sections of legislative criteria, as reflected by the Ohio Constitution, and the Revised Code, policies, procedures and guidelines of the Auditor of State, regulations and grant requirements. The School Employees Retirement System is responsible for compliance with these laws and regulations.

A handwritten signature in black ink that reads "Dave Yost".

Dave Yost  
Auditor of State

January 11, 2018

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**SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO  
COMPREHENSIVE ANNUAL FINANCIAL REPORT  
For the year ended June 30, 2017**

Prepared by SERS Staff  
Richard Stensrud, Executive Director  
300 E. Broad St., Suite 100, Columbus, Ohio 43215-3746  
[www.ohsers.org](http://www.ohsers.org)  
*Serving the People Who Serve Our Schools®*

## **Mission**

To provide our membership with valuable lifetime pension benefit programs and services

## **Vision**

Through the continuous pursuit of excellence and innovative solutions, we will partner with our stakeholders so that our membership will understand and achieve security in retirement

## **Values**

- Focus • Accountability • Communication
- Collaboration • Innovation



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# SERS Retirement Board



**Barbra Phillips**



**Madonna Faragher**



**Jeffrey DeLeone**



**James Haller**



**Christine Holland**



**Catherine Moss**



**James Rossler, Jr.**



**Daniel Wilson**



**Beverly Woolridge**

*Chair, Employee-Member*  
Barbra M. Phillips  
Term Expires 6/30/2017

*Vice-Chair, Employee-Member*  
Madonna D. Faragher  
Term Expires 6/30/2019

*Appointed Member*  
Jeffrey DeLeone  
Term Expires 12/5/2020

*Employee-Member*  
James Haller  
Term Expires 6/30/2021

*Employee-Member*  
Christine D. Holland  
Term Expires 6/30/2019

*Retiree-Member*  
Catherine P. Moss  
Term Expires 6/30/2020

*Appointed Member*  
James A. Rossler, Jr.  
Term Expires 11/4/2020

*Appointed Member*  
Daniel L. Wilson  
Term Expires 9/27/2020

*Retiree-Member*  
Beverly Woolridge  
Term Expires 6/30/2019

## Advisors

Independent Auditor  
RSM US LLP - Cleveland, Ohio

Actuary  
Cavanaugh Macdonald Consulting, LLC -  
Kennesaw, Georgia

Investment Consultants and Investment Managers and Brokers' Fees - see page 54 - 56

Investment Consultant  
Wilshire Associates, Inc. – Santa Monica, California

Hedge Fund Consultant  
Aksia LLC - New York, New York

Medical Advisor  
Dr. Glen Borchers - Columbus, Ohio



Richard Stensrud



Helen Ninos



Joseph Marotta



Joseph Bell



Farouki Majeed



Matthew Sanders



Tracy Valentino



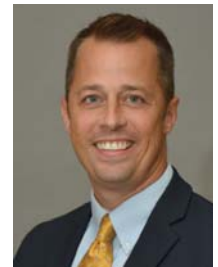
Anne Jewel



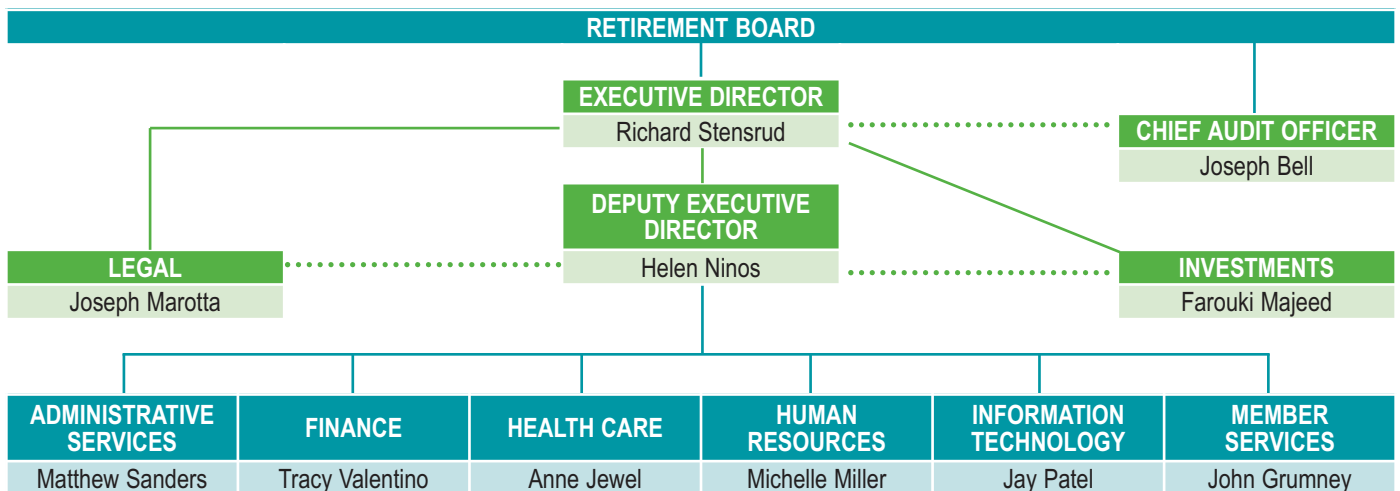
Michelle Miller



Jay Patel



John Grumney





Government Finance Officers Association

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

Presented to

**School Employees Retirement System  
of Ohio**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2016**

Executive Director/CEO



Public Pension Coordinating Council

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

Presented to

**School Employees Retirement System of Ohio**

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

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

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

Alan H. Winkler  
Program Administrator



## SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

300 EAST BROAD ST., SUITE 100 • COLUMBUS, OHIO 43215-3746 • 614-222-5853  
Toll-Free 866-280-7377 • www.ohsers.org

RICHARD STENSRUD  
Executive Director

HELEN M. NINOS  
Deputy Executive Director

December 29, 2017

Dear Chair and Members of the Retirement Board:

We are pleased to submit the Comprehensive Annual Financial Report of the School Employees Retirement System of Ohio (SERS) for the fiscal year ended June 30, 2017. We are responsible for the accuracy of the contents, and the completeness and fairness of the presentation, including disclosures. A narrative overview and analysis to accompany the basic financial statements is presented as Management's Discussion and Analysis (MD&A); it can be found immediately following the report of the independent auditor in the Financial Section. This letter of transmittal is designed to complement the MD&A.

Established in 1937 by an act of the Ohio General Assembly, SERS provides pensions and benefits to public school, community school, and community college employees who are not required to possess a certificate issued pursuant to sections 3319.22 to 3319.31 of the Ohio Revised Code in order to perform their duties. By statute, benefit plans include retirement for age and service, disability benefits, and survivor benefits that are paid upon the death of a member before retirement. A post-retirement health care program also is provided, although it is not required by law.

A system of internal accounting controls ensures the security of member and employer contributions and provides reasonable, but not absolute, assurance that assets are properly safeguarded, transactions are properly executed, and financial statements are reliable. Our independent external auditors have conducted an audit of the basic financial statements in accordance with auditing standards generally accepted in the United States of America. They have full and unrestricted access to you to discuss their audit and related findings concerning the integrity of financial reporting and adequacy of internal controls.

### MAJOR INITIATIVES AND HIGHLIGHTS

**New Benefits Computer System Goes Live** In February, the SERS staff began using a new state-of-the-art benefits computer system designed specifically for SERS' current and future pension administration needs. The computer system, nicknamed SMART (SERS Member and Retiree Tracking System) by staff, replaces an antiquated system in which member files were kept both electronically and on paper. Accessing the paper files often delayed responses to members and retirees. Now, all files can be accessed instantaneously by SERS' customer service staff as they speak with a member.

For members and retirees, the installation of the new system includes numerous new self-service options available from the SERS website. From the account login portal, members can review account balances and see contributions and service time, apply for disability or retirement online, update personal information, change beneficiaries, and schedule counseling appointments. Retirees can change their tax withholding, update their direct deposit, and look at pay stubs and 1099s.

Since the computer replacement process began in 2011, staff from all departments have been involved with purging obsolete data, converting necessary data from the old format to the new format, and imaging paper files so they would be accessible electronically. In addition, staff routinely met with the developers to make sure the new system was designed with functionality that would speed up customer service. To ensure that member and retiree data remains safe and secure, information security staff performed rigorous testing before the system was deployed.

In advance of the system roll out, Employer Services staff held one-on-one training sessions in all parts of the state for school administrators who are responsible for electronically transferring contributions and service information to SERS. Representatives from 992 employers took part in these sessions, which is 70% of SERS' total employer population.

The SMART system's functionality passed a critical test in June when the Member Services and Health Care departments processed more pension estimates, enrollments, and waivers than they ever had during a similar period.

**Legislature Gives SERS Board Authority to Make COLA Changes** After nearly two years of discussions to find solutions to SERS' immediate financial challenges and long-term funding goals, the SERS Board approved a plan that would modify the

structure and method for making Cost-of-Living Adjustments (COLAs). Because this solution required changes to state law, SERS' government relations staff and executive leadership engaged with House and Senate legislators to make the necessary changes. The changes to the COLA were initially included in SB 151 and HB 242, but were later consolidated and added into the state's budget bill, HB 49. Governor John Kasich signed HB 49 on June 30, 2017.

The final legislation included the following adjustments:

1. Changed the System's COLA from a fixed 3% annual increase to a COLA based on the change in the Consumer Price Index (CPI-W), with a cap of 2.5% and a floor of 0%
2. Provided the Board the authority to grant or suspend the COLA, or to adjust the COLA above or below CPI-W; however, any adjustment above or below CPI-W could only be enacted if the system's actuary determines it would not materially impair the fiscal integrity of the system, or is necessary to preserve the fiscal integrity of the system

On October 9, 2017, the Board voted to suspend COLA increases for retirees and benefit recipients for three years beginning January 1, 2018. The Board also authorized staff to seek legislation that will delay the start of COLA increases for future retirees and benefit recipients. These changes will be reviewed annually to make sure they adequately address SERS' financial needs.

The process to identify appropriate changes was open and transparent. SERS hosted multiple advocacy group meetings in which the System's actuary and Finance staff were present to discuss all possible changes and their financial effects on members, retirees, and the retirement system. Members, retirees, and employers were kept informed of the potential changes through articles in quarterly newsletters, website stories, email communications, summaries of the Board meetings, postings on Facebook and Twitter, and details in webinars, online videos, and presentations at retirement meetings.

Since the COLA was introduced in 1971, there have been eight COLA and ad hoc changes. These included implementing and removing waiting periods, adjusting fixed rates, using a rate tied to the CPI-W, and one-time increases.

**Fiduciary Audit Report Labels SERS as a "Well-Run Organization"** Every 10 years, the Ohio Retirement Study Council (ORSC) hires an independent auditor to assess the fiduciary performance of each Ohio pension system.

Last year, the ORSC hired Funston Advisory Services to perform that audit for SERS. To facilitate the information gathering process, SERS' Chief Audit Officer (CAO) was the primary internal point of contact for Funston and was responsible for coordinating on-site visits, scheduling interviews with SERS staff, and gathering requested documents.

Funston was tasked with reviewing SERS' operations in six key areas: board governance and administration; organizational structure and staffing; investment policy and oversight; legal compliance; risk management and controls; and IT (information technology) operations. Funston reviewed more than 200 policies, procedures, and reports, and interviewed all of SERS' Trustees, more than 30 staff members, and more than 20 external service providers.

Overall, the report emphasized that:

- SERS' Board is appropriately authorized and actively engaged
- Staff is competent, and roles and accountabilities are clear
- SERS is compliant with pertinent legislation and regulations
- Investment policy and oversight are robust
- The Internal Audit Department does an effective job of providing independent reassurance

In June, Randy Miller, principal of Funston, and Keith Johnson, partner of Reinhart Law, presented the results of the audit to the Board. In summarizing the results, Miller said "SERS is in a great position. It is fine-tuning rather than fixing big problems." Johnson added that in some areas, especially investment operations, SERS was "setting a national standard."

While there were no areas with glaring deficiencies, Funston made 79 recommendations for continued improvement. SERS is committed to addressing these recommendations, and has given the CAO the responsibility of tracking the progress.

**Federal Health Care Changes** In May, the U.S. House of Representatives passed the American Health Care Act (AHCA), a bill that would repeal and replace the Affordable Care Act. The Congressional Budget Office estimated that more than 23 million people would lose health care coverage under the AHCA plan. The U.S. Senate then began drafting its own health care law. In June, the Senate unveiled its health care plan called the Better Care Reconciliation Act (BCRA). After reviewing the bill's provisions, which would drastically cut Medicaid, raise health care costs for people between the ages of 50 and 64, and cut taxes that supported the Medicare program, SERS asked retirees to urge their legislators to vote against the BCRA. SERS took this

position because the BCRA would cause lower income retirees to lose coverage through Medicaid and cause others to lose affordable health insurance on the health care exchanges. SERS sent letters to 51 senators in states where SERS retirees live, and more than 3,000 SERS retirees in 19 states sent messages to their legislators through SERS' Legislative Action Center. The bill was defeated 51-49 in late July.

**New Health Care Options Save Retirees and SERS Money** In 2017, SERS added two new health care initiatives aimed at saving retirees and SERS money: a Marketplace wraparound plan and assistance with applying for early Medicare for people with disabilities.

For non-Medicare (under age 65) retirees, the SERS Board approved a plan to offer limited wraparound coverage to those who choose coverage from the federal Health Insurance Marketplace under a pilot program established in the Patient Protection and Affordable Care Act (ACA). This coverage "wraps around" and enhances the essential health benefits provided by the Marketplace plan, and retirees are able to maintain their eligibility for a Marketplace subsidy. SERS contracted with HealthSCOPE Benefits, Inc., a third-party administrator, for management of the Marketplace Wraparound Plan. Because wraparound coverage is considered to be SERS health care coverage, non-Medicare retirees who opt for SERS' wraparound coverage may switch to other coverage offered by SERS if they are dissatisfied with the wraparound coverage. More than 400 retirees participated in the wraparound coverage in FY2017.

SERS also launched an initiative to identify retirees enrolled in SERS' health care coverage who are under age 65 and may be eligible for early Medicare due to a disability. Human Arc, a third-party administrator, was selected by SERS to contact benefit recipients who may be eligible, and assist them with their Social Security applications. In the first three months of the project, Human Arc mailed nearly 2,000 letters and talked to more than 900 SERS benefit recipients. As of June 30, 2017, Human Arc had assisted 110 retirees to qualify for early Medicare coverage.

## INVESTMENTS

SERS' investment portfolio is diversified by asset class, investment approach, and individual investments within each asset class to reduce overall portfolio risk and volatility. At year end, SERS' investment portfolio at fair value was \$13.7 billion. Investment return was 13.2% (net) for the fiscal year versus the benchmark return of 11.5% and the actuarial assumed return of 7.5%. Net investment income was \$1.65 billion compared to \$108.79 million in FY2016. The SERS Investment Committee structure is fully operational and represents a leading practice in investment operations. For more information on SERS' portfolio performance and investment strategy and policy, please turn to the Investment Section of this report.

On July 1, 2016, Wilshire Associates, Inc. (Wilshire) became the SERS' investment consultant and, in partnership with SERS' investment staff completed an asset liability review. SERS staff and Wilshire explored numerous change options, most involving the reduction of the multi-asset strategies portfolio and increases in dedicated mandates such as high-yield bonds, emerging market debt, and master limited partnerships. Ultimately, staff recommended and Wilshire supported a proposal to keep the current asset allocation. The allocations are 45% Global Equities, 10% Global Private Equity, 19% Global Fixed Income, 15% Global Real Assets, 10% Multi-Asset Strategies, and 1% Cash Equivalents.

## FUNDING

SERS' primary objective is to assure that at the time benefits commence, sufficient funds will be available to provide retirement, disability, and survivor benefits for its members. In addition, SERS is committed to sustaining contribution rates that remain level from generation to generation.

SERS' benefits are separated to comply with various sections of the Internal Revenue Code (IRC), and then reported and valued for funding purposes in accordance with relevant GASB statements. For FY2017, the funded ratios for the three benefits mandated by statutes increased, which was primarily due to the strong performance of SERS' investments and the changes associated with HB 49. The funding level for these benefits increased from 66.7% over a 28-year period to 70.01% over a 27-year period. The funding level for discretionary health care benefits increased from 15.38% to 15.94% over a 30-year period. Historical information related to progress on meeting the funding objective can be found in the Required Supplementary Information in the Financial Section of this report.

## AWARDS AND ACKNOWLEDGEMENTS

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to SERS for its *Comprehensive Annual Financial Report* (CAFR) for the fiscal year ended June 30, 2016. This was the 32nd consecutive year that SERS has received this prestigious award. A Certificate of Achievement is

valid for a period of one year only. We believe that our current CAFR continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

The GFOA gave SERS an Award for Outstanding Achievement in Popular Annual Financial Reporting for its *Summary Annual Financial Report* for the fiscal year ended June 30, 2016. This Award for Outstanding Achievement in Popular Annual Financial Reporting is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports. In order to receive this award, a government unit must publish a *Popular Annual Financial Report*, whose contents conform to program standards of creativity, presentation, understandability and reader appeal. This award is valid for one year only.

SERS also received the Public Pension Standards Award for 2016 the Public Pension Coordinating Council (PPCC). Developed by the PPCC to promote excellence in meeting professional standards for plan funding and administration among state and local public retirement systems, the Public Pension Standards are the benchmark for measuring current practices of defined benefit plans. The PPCC is a coalition of three national associations that represent public retirement systems and administrators: the National Association of State Retirement Administrators, the National Council on Teacher Retirement, and the National Conference on Public Employee Retirement Systems.

On October 20, 2016, the SERS Board officially recognized the contributions of Executive Director Lisa Morris who previously announced her intention to retire at the end of the month. As executive director, she led SERS through a major pension reform effort that culminated in 2012 with the passage of SB 341, which increased age and service requirements to address increasing life expectancy rates for future retirees. During this process, she met with 56 newspaper editorial boards to remind statewide media of the value of defined benefit pension plans and SERS' statewide economic impact.

With Lisa's retirement, the Board named Deputy Executive Director Helen Ninos as Interim Executive Director. Following a nationwide search for Lisa's replacement, the Board named Richard Stensrud as SERS' seventh executive director on February 17, 2017. SERS' Board Chair Barbra Phillips said that because of Richard's 20 years of public pension experience "he is the right person to lead SERS on the continued path to achieving excellence." Richard officially joined SERS on March 31, 2017.

Before joining SERS, Stensrud served as CEO of the \$8 billion Sacramento County Employees' Retirement System (SCERS). Along with serving as CEO of SCERS, Stensrud was the Chair of the Legislative Committee for the State Association of County Retirement Systems, representing over twenty retirement systems, for the past ten years.

This public service followed two years as CEO of the Merced County Employees' Retirement Association. Additionally, Stensrud held general counsel and senior policy advisor roles for the Missouri Consolidated Health Care Plan, Teachers' Retirement System of Illinois, and Public School and Education Employees Retirement System of Missouri. He also has legislative experience as the general counsel/director of policy and planning for the Missouri State Treasurer and as assistant attorney general in the Missouri Attorney General's Office.

This report represents the collaboration of SERS' staff and advisors. It is intended to provide complete and reliable information as a basis for management decisions, and for compliance with legal requirements, and as measurement of the responsible stewardship of SERS' assets.

In closing, we recognize that our strength is a reflection of the quality of our staff. We value their efforts that enable us to maintain effective internal controls while at the same time deliver high quality service to our members, retirees, and employers.

Respectfully submitted,

Richard Stensrud  
Executive Director

Tracy L. Valentino, CPA  
Chief Financial Officer



## Legislative Summary

SERS and its members can be significantly affected by legislation enacted by the Ohio General Assembly and Congress. SERS closely monitors legislative and regulatory activities, and when appropriate, provides testimony or otherwise educates Ohio legislators, congressional representatives, and regulatory agencies on the impact of those proposals.

### State Legislation

#### FROM THE 131ST GENERAL ASSEMBLY:

**HB 520 Public Retirement Systems (04/06/2017, Effective)** – This bill contained recommended statutory clean-up items for all five systems.

#### FROM THE 132ND GENERAL ASSEMBLY:

**HB 49 Operating Budget (SERS' provisions effective 09/29/2017)** – This bill contained SERS' Cost-of-Living-Adjustment (COLA) changes. Effective January 1, 2018, SERS COLAs will change from a fixed 3% annual increase to one based on the Consumer Price Index (CPI-W), with a cap of 2.5% and a floor of 0%. HB 49 also provided the SERS Retirement Board with the authority to award or suspend the COLA, or to adjust the COLA above or below CPI-W; however, any adjustment above or below CPI-W could only be enacted if the system's actuary determines it would not materially impair the fiscal integrity of the system, or is necessary to preserve the fiscal integrity of the system.

### Federal Legislation

#### FROM THE 114TH CONGRESS:

**HR 711 Equal Treatment for Public Servants Act (03/22/2016, House Ways and Means Social Security Subcommittee, Hearing)** – This bill repeals the Windfall Elimination Provision and replaces it with a formula that is proportional to a worker's full career earnings. This bill is likely to be reintroduced in the 115th Congress. Chairman Kevin Brady continues to consider this bill as a high priority for this session.

#### FROM THE 115TH CONGRESS:

**S 915 Social Security Fairness Act (04/24/2017, Referred to Senate Committee on Finance)** – This bill repeals the Government Pension Offset and Windfall Elimination Provisions.

**HR 10 Financial CHOICE Act (06/08/2017 House passed, Referred to Senate)** – This bill contains a plan to replace the Dodd-Frank Act and promote economic growth. CHOICE stands for "Creating Hope and Opportunity for Investors, Consumers and Entrepreneurs." SERS is a member of the Council of Institutional Investors, and has developed a one-page document to be used to educate the Ohio delegation. Five concerns about the legislation were noted in SERS' letter, including shareholder rights; independent proxy research; fair and transparent compensation; disclosure and reporting; and, independence of the SEC.

**HR 1628 American Health Care Act (05/04/2017 House passed, Referred to Senate)** – SERS had major concerns with this bill and subsequent amendments, including the limits on state Medicaid expansion; the change from subsidies to tax credits based on age only and not income; the impact on retirees under age 65; the move to increase the premium spread from a 3:1 to a 5:1 ratio; the continuous coverage incentive; the need to maintain a robust Medicare program; and, the continued inclusion of the Cadillac Tax as a revenue-raiser.

In an April letter, SERS asked that Congress stabilize the Marketplace by authorizing the cost-sharing reduction payments to insurers for the remainder of 2017 and into 2018, and to settle the risk corridor payment litigation. SERS also asked that the individual mandate be maintained until the new or revised national health care plan is enacted. SERS was also concerned with the lack of appropriate funding for high risk pools for retirees with pre-existing conditions.

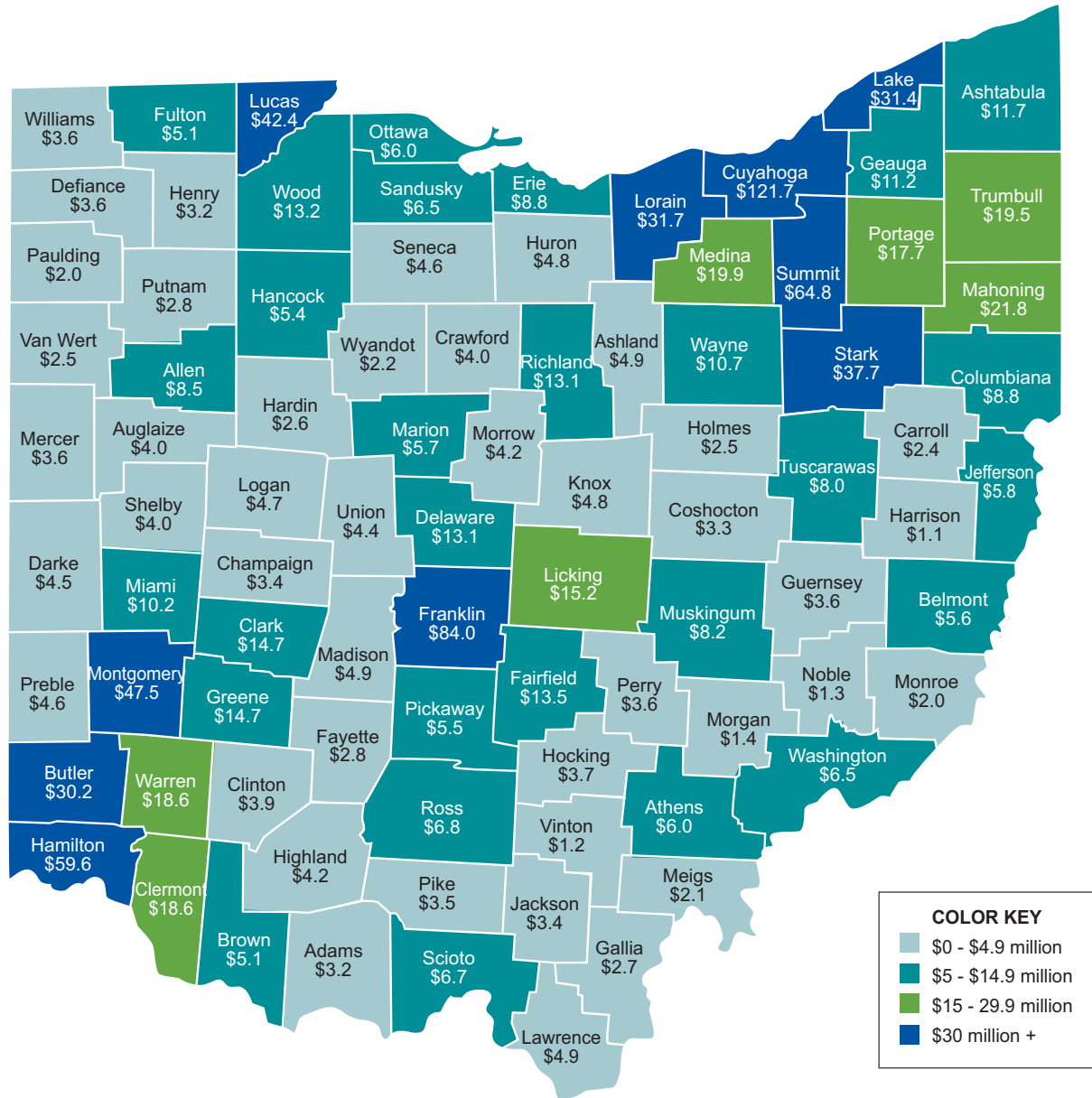
The Senate version, called the "Better Care Reconciliation Act," was released on June 22, approximately six days prior to the anticipated vote. It provided more money for tax credits for individuals; raised the eligibility above the poverty threshold for those tax credits; and provided dollars to help states deal with the opioid crisis. It also provided a longer runway to phase out Medicaid expansion, among other changes.

An email blast was created and sent out to the two populations of SERS retirees and members. The SERS website provided information to make it easy for them to contact their Senators and the retiree groups were notified to help spread the word. By the end of the week, over 3,000 emails had been generated by retirees for Senators living in 19 states, including Alabama, Arizona, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, and West Virginia.

The SERS letter on the concerns with the BCRA from Executive Director Richard Stensrud was sent out to 51 Senators, including all Senators in the listed 19 states, majority and minority leadership, and other Senators who were also concerned with the bill's provisions.

# Economic Impact

## Pension Benefits by County FY2017 (\$ in millions)



Public pensions positively impact Ohio’s economy. Of the 79,157 individuals receiving pension benefits from SERS, 91% live in Ohio.

In FY2017 alone, benefit payments of more than \$1 billion were distributed among Ohio’s 88 counties, positively impacting the state’s economy. For every dollar in employer contributions invested in SERS’ pensions last year, \$2.57 was returned to local economies.



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RSM US LLP

**Independent Auditor's Report**

The Retirement Board  
School Employees Retirement System of Ohio  
and The Honorable Dave Yost  
Columbus, Ohio

**Report on the Financial Statements**

We have audited the accompanying financial statements of School Employees Retirement System of Ohio (SERS), which comprise the statement of fiduciary net position as of June 30, 2017, and the related statement of changes in fiduciary net position for the year ended June 30, 2017, and the related notes to the financial statements as listed in the table of contents.

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

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

**Auditor's Responsibility**

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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 opinion.

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**Independent Auditor's Report (Continued)****Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of SERS as of June 30, 2017, and the changes in fiduciary net position for the year ended June 30, 2017, in accordance with accounting principles generally accepted in the United States of America.

**Other Matters***Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis and the Schedule of Changes in the Employers' Net Pension Liability, the Schedule of the Net Pension Liability, the Schedule of Employer Contributions, the Schedule of Investment Returns, the Schedule of Changes in the Net OPEB Liability, the Schedule of the Net OPEB Liability, the Schedule of Employer Contributions – OPEB, the Schedule of Investment Returns – OPEB, the Schedule of SERS' Proportionate Share of the Net Pension Liability – Traditional Pension Plan, the Schedule of SERS' Proportionate Share of the Net Pension Liability – Combined Pension Plan, the Schedule of Contributions – Traditional Pension Plan and the Schedule of Contributions – Combined Pension Plan and the related notes, on pages 39 – 43, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Additional Information*

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The additional information, including the schedules of administrative expenses, investment expenses, and payments to consultants, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements. The additional information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the additional information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

*Other Information*

The introductory, investments, actuarial and statistical sections, as listed in the table of contents have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Independent Auditor's Report (Continued)

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

In accordance with *Government Auditing Standards*, we have also issued our report dated December 29, 2017 on our consideration of SERS' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of SERS' internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering SERS' internal control over financial reporting and compliance.

*RSM US LLP*

Cleveland, Ohio  
December 29, 2017

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## Management's Discussion and Analysis (Unaudited)

This section presents management's discussion and analysis of the School Employees Retirement System of Ohio's financial performance for fiscal year ended June 30, 2017. This information is based on SERS' financial statements, which begin on Page 20. We encourage readers to consider the information presented here in conjunction with the information in our Letter of Transmittal, which is found in the Introductory Section of this report. In addition to historical information, Management's Discussion and Analysis includes forward-looking statements that involve certain risks and uncertainties. Actual results, performance, and achievements may differ from those expressed or implied in such forward-looking statements, due to a wide range of factors, including changes in the securities markets, general economic conditions, and legislative changes, as well as other factors.

### FINANCIAL HIGHLIGHTS

- SERS' total assets at June 30, 2017 were \$14,365.8 million, an increase of \$1,164.3 million or 8.8% compared to FY2016 assets.
- SERS' total liabilities at June 30, 2017 were \$377.4 million, a decrease of \$7.3 million or 1.9% compared to FY2016 liabilities.
- Total additions to plan net assets were \$2,599.8 million, comprised of contributions of \$950.7 million and net investment income of \$1,649.1 million.
- Total deductions from plan net assets for FY2017 totaled \$1,425.9 million, including benefits payments of \$1,341.3 million and administrative expenses of \$27.0 million, an increase of 1.7% over FY2016 deductions.
- The net increase in plan net assets was \$1,173.9 million compared to a net decrease of \$383.6 million in FY2016.

### OVERVIEW OF FINANCIAL STATEMENTS

SERS' financial statements are prepared in accordance with generally accepted accounting principles in the United States of America. Management's Discussion and Analysis is intended to serve as an introduction to SERS' financial statements, which are prepared using the accrual basis of accounting. Following Management's Discussion and Analysis are the basic financial statements. Reviewing these statements, along with the accompanying notes, gives the reader a better understanding of SERS' financial position. The Statement of Fiduciary Net Position is a point-in-time snapshot of the amount the plans have accumulated in assets to pay for future benefits and any liabilities that are owed as of the statement date. The Statement of Changes in Fiduciary Net Position presents the additions and deductions for the fiscal year. Major sources of additions are contributions and investment income. Major sources of deductions are benefits, refunds, and administrative expenses.

The Notes to Financial Statements supply additional information that is essential for a full understanding of the data provided in the financial statements. The notes describe the history and

purpose of the plans; present information about accounting policies; and disclose material risks, subsequent events, and contingent liabilities, if any, that may significantly impact SERS' financial position. In addition to the financial statements and notes, Required Supplementary Information (RSI) is also provided. This supplementary information includes data on funding progress and employer contributions, along with other information useful in evaluating the financial condition of SERS. The financial statements, notes, and RSI, for the first time this year, includes information as required by GASB Statement No. 82, *Pension Issues - an Amendment of GASB Statements No. 67, No. 68, and No. 73*, and GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. Following the RSI is other supplementary information, including

### CONDENSED SUMMARY OF TOTAL FIDUCIARY NET POSITION

(\$ in millions)			Change	
	2017	2016	Amount	Percent
<b>ASSETS</b>				
Cash	\$ 610.7	\$ 658.9	\$ (48.2)	(7.3)%
Receivables	239.1	206.6	32.5	15.7
Investments	13,365.6	12,271.1	1,094.5	8.9
Capital Assets, Net	70.4	64.5	5.9	9.1
Other Assets	80.0	0.4	79.6	19,900.0
<b>Total Assets</b>	<b>14,365.8</b>	<b>13,201.5</b>	<b>1,164.3</b>	<b>8.8</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>				
Deferred Outflows - Pension	7.8	5.7	2.1	36.8
<b>LIABILITIES</b>				
Benefits & Accounts Payable	41.4	38.2	3.2	8.4
Other Liabilities	336.0	346.5	(10.5)	(3.0)
<b>Total Liabilities</b>	<b>377.4</b>	<b>384.7</b>	<b>(7.3)</b>	<b>(1.9)</b>
<b>DEFERRED INFLOWS OF RESOURCES</b>				
Deferred Inflows - Pension	0.2	0.4	(0.2)	(50.0)
<b>Net Position</b>	<b>\$13,996.0</b>	<b>\$12,822.1</b>	<b>\$ 1,173.9</b>	<b>9.2%</b>

### CONDENSED SUMMARY OF CHANGES IN TOTAL FIDUCIARY NET POSITION

(\$ in millions)			Change	
	2017	2016	Amount	Percent
<b>ADDITIONS</b>				
Contributions	\$ 950.7	\$ 909.9	\$ 40.8	4.5%
Net Investment Income	1,649.1	108.8	1,540.3	1,415.7
<b>Total Additions</b>	<b>2,599.8</b>	<b>1,018.7</b>	<b>1,581.1</b>	<b>155.2</b>
<b>DEDUCTIONS</b>				
Benefits	1,341.3	1,309.7	31.6	2.4
Refunds & Transfers	57.6	68.1	(10.5)	(15.4)
Admin. Expenses	27.0	24.5	2.5	10.2
<b>Total Deductions</b>	<b>1,425.9</b>	<b>1,402.3</b>	<b>23.6</b>	<b>1.7</b>
<b>Net Increase (Decrease)</b>	<b>1,173.9</b>	<b>(383.6)</b>	<b>1,557.5</b>	<b>406.0</b>
<b>Balance, Beginning of Year</b>	<b>12,822.1</b>	<b>13,205.7</b>	<b>(383.6)</b>	<b>(2.9)</b>
<b>Balance, End of Year</b>	<b>\$13,996.0</b>	<b>\$12,822.1</b>	<b>\$ 1,173.9</b>	<b>9.2%</b>



schedules with detailed information on investment and administrative expenses.

In accordance with GASB 68, which significantly revised accounting for pension costs and liabilities, the net pension liability equals SERS' proportionate share of the Ohio Public Employees Retirement System's unfunded actuarial accrued liability. However, SERS is not responsible for certain key factors affecting the balance of this liability. In Ohio, the employee shares the obligation of funding pension benefits with the employer. Both employer and employee contribution rates are capped by state statute. A change in these caps requires action of both houses of the general assembly and approval by the governor. Benefit provisions also are determined by state statute. In Ohio, public employers are not legally bound to pay off the unfunded liabilities of the public pension systems. The pension systems are solely responsible for the prudent fiscal administration of their plans.

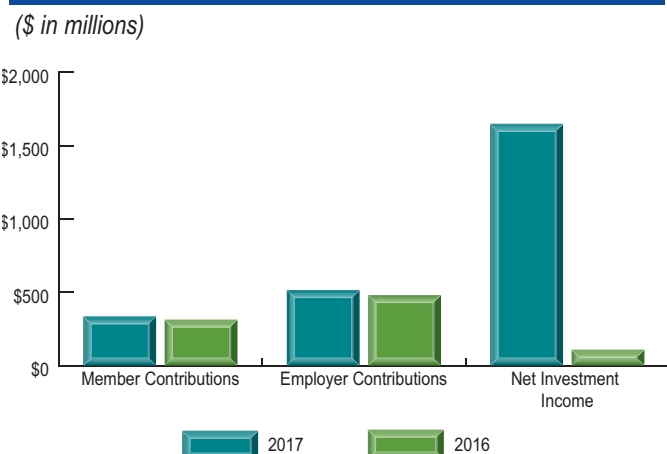
Most long-term liabilities have set repayment schedules or, in the case of compensated absences (i.e. sick and vacation leave), are satisfied through paid time-off or termination payments. There is no repayment schedule for the net pension liability. Changes in pension benefits, contribution rates, and return on investments affect the balance of the net pension liability, but are outside the control of the local government. In the event that contributions, investment returns, and other changes are insufficient to keep up with required pension payments, state statute does not assign/identify the responsible party for the unfunded portion.

**FINANCIAL ANALYSIS**

A cost-sharing, defined-benefit, public retirement system, such as SERS, has a long-term perspective on financial activities. SERS' primary responsibility is to assure that sufficient funds will be available to provide retirement, disability, and survivor benefits, Medicare B, and lump sum death benefits. Laws governing SERS' financing intend the contribution rates to remain approximately level from generation to generation.

A Condensed Summary of Total Fiduciary Net Position and a Condensed Summary of Changes in Fiduciary Net Position as of June 30, 2017 and 2016, and for the years then ended are shown in the table on page 16.

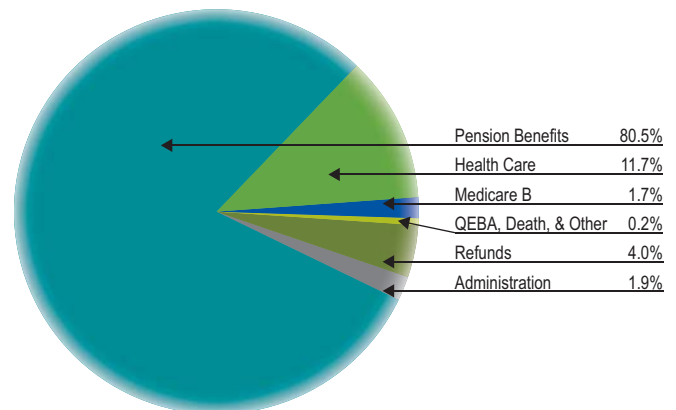
**Comparative Additions by Source FY2017 & FY2016**



SERS is comprised of five separate plans – the Pension Trust Fund, the Medicare B Fund, the Death Benefit Fund, the Qualified Excess Benefit Arrangement (QEBA) Fund, and the Health Care Fund. Pension benefits are funded through a combination of employee and employer contributions and investment income. Medicare Part B premium reimbursements and death benefits are funded through employer contributions and investment income. The QEBA, a separate plan under Internal Revenue Code §415, is funded by contributions from the retiree's last employer and invested separately in a short-term investment fund. Funding for the health care program comes from employers, retiree premium payments, the federal government, and investment income. The graph below left labeled "Comparative Additions by Source FY2017 and FY2016" depicts the proportion that each source added to the fund's assets.

Expenses are incurred primarily for the purpose for which SERS was created: the payment of benefits to non-teaching Ohio public school, community school, and community college employees. Included in the deductions from net position were benefit payments, refunds of contributions due to member terminations or deaths, net transfers to other Ohio retirement systems to provide benefits for those members who had membership in more than one system, and administrative expenses.

**Deductions from Plan Fiduciary Net Position FY2017**



SERS' net position increased by \$1,173.9 million during FY2017, compared to a net decrease of \$383.6 million in FY2016.

- For financial statement purposes, employee contributions consist of 10% of reported payroll, and member purchases of restored and optional service credits. Employer contributions include 14% of reported payroll, the employer's share of optional and compulsory purchased service credit, early retirement incentives, and the health care surcharge. Employer contributions in excess of those required to support the Pension, Medicare B, and Death Benefits Funds may be allocated to the Health Care Fund. Effective June 18, 2015, SERS adopted a new funding policy that will allocate a higher portion of the employer contribution toward the Pension, Medicare B, and Death Benefits Funds until the fund achieves a funded status of 90%.
- Employee contributions and employer contributions, excluding the surcharge, increased 7.1% based on an

## Financial Section

increase in reported payroll, as well as an increase in the number of active members.

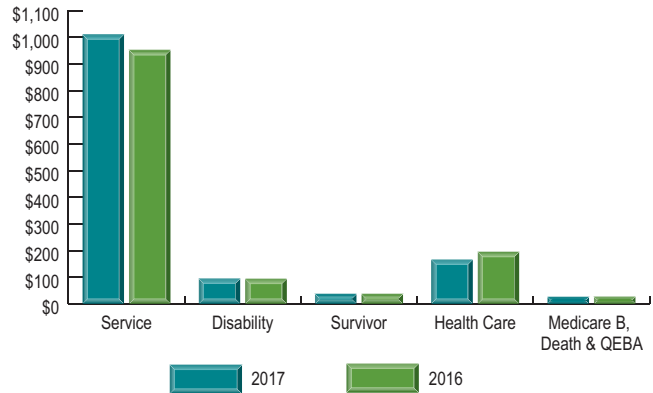
- Employer contributions to the Health Care Fund are derived from two sources. The first source is an allocation of the employers' 14% contribution after pension benefits are actuarially funded. Because of the change in SERS' funding policy, no portion of the employer contribution was allocated to the Health Care Fund in FY2017. The second is a health care surcharge for members who earn less than an actuarially determined minimum salary, which is established annually by the Board based on the actuary's recommendation. Regardless of the minimum compensation amount, legislated limits on SERS' surcharge revenue restrict the actual surcharge to 1.5% of statewide payroll, and no employer pays more than 2.0% of the district's payroll. Because of an increase in reported payroll and an increase in active members, the surcharge also increased from \$44.9 million in FY2016 to \$47.7 million in FY2017.
- Along with employer contributions and investment income, additions to the Health Care Fund include health care premiums paid by retirees. Enrollment and total premiums remained substantially the same from FY2016 to FY2017.
- The other sources of contributions to the Health Care Fund include a net reimbursement from the federal program for Medicare Part D qualified prescription drug plans (PDP) and from our primary Medicare Advantage provider based on a risk-sharing contract effective January 1, 2011. Premiums for this program are estimated at the beginning of the contract and then adjusted based on actual claims experience and Medicare reimbursements. If experience is favorable, SERS receives a payment for the adjusted premium; however if experience is not favorable, SERS pays an additional premium to the provider.
- Investment income is allocated to all funds except the QEBA. It is presented net of investment fees and is comprised of interest, dividends, and realized and unrealized investment gains and losses. Investment expense is comprised of external manager, custody, and master record keeper fees and internal investment and accounting expenses. SERS'

investment portfolio, with the exception of cash and short-term investments, is managed by external investment managers. SERS had a net investment gain of \$1,649.1 million compared to a gain of \$108.8 million in FY2016. Staff continued with the implementation of the strategic plan adopted in FY2013. Significant progress was made in terms of improving the portfolio structure to optimize risk and return and reducing fees.

- Payments to service, disability, and survivor benefit recipients increased \$61.1 million, or 5.51% during FY2017. Service retirement payments increased 6.04% while disability and survivor benefits payments increased by 1.71% and 1.34%, respectively. Each year, a portion of the increase in payment amounts comes from the 3% cost-of-living adjustment (COLA) calculated on the base benefit amount. The remainder of the increase is the relatively higher benefits of new retirees due to higher final average salary. New service retirements remained level for the past three years. However, new service retirements increased as we approached August 1, 2017, the date when legislated changes in age and service credit requirements for retirement eligibility became effective. New retirees being added to the retiree rolls also have outpaced those being removed from the retiree rolls by 2-3% each year since FY2011.

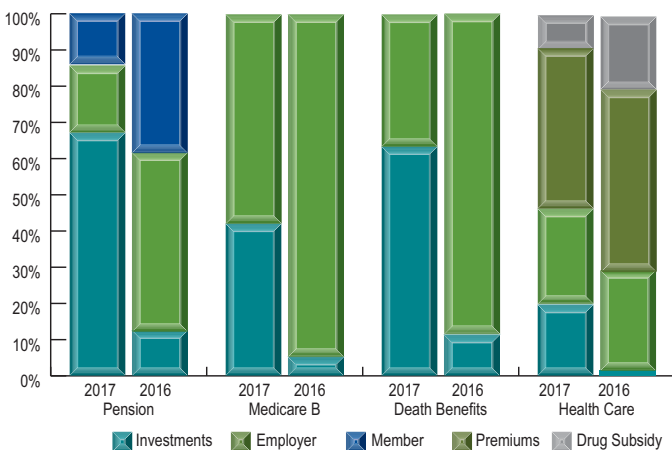
### Comparative Benefit Payments FY2017 & FY2016

(\$ in millions)



- Total refunds paid decreased 13.7% from FY2016 to FY2017. A lump sum of employee contributions is only distributed to members who have terminated public employment, applied for a refund, and waited for expiration of the 90-day waiting period that begins with the last day of service. SERS' members cannot take partial distributions. Reemployed retirees who are eligible for an annuity may elect a lump sum distribution, which includes the employee's contributions, a portion of the employer's contributions, and interest.
- If a member has been employed in a job covered by the State Teachers Retirement System of Ohio (STRS) or the Ohio Public Employees Retirement System (OPERS) defined-benefit plans as well as in a job covered by SERS, the member may receive a retirement benefit independently from each system, if eligible, or combine the service credit and accounts in all the systems to receive one benefit at

### Comparison of Additions to Fiduciary Net Position by Fund



retirement. The system that holds the greatest service credit will calculate and pay the benefit; the employee's full contributions and a share of the employer contributions and interest are transferred to the paying system. Net transfers to other Ohio systems increased in FY2017 when compared to FY2016.

- SERS reimburses a portion (\$45.50) of the Medicare Part B premium to retirees eligible for SERS' health care program who provide proof of enrollment in Medicare Part B. The reimbursement amount, established by statute, has not changed since 2001; therefore, changes in expense are driven by eligible retirees' enrollment in Medicare Part B or termination of a benefit. Medicare Part B expense remained substantially the same in FY2017. The eligibility of new retirees to receive the Part B reimbursement is now tied to enrollment in one of SERS' health care plans.
- SERS pays a \$1,000 death benefit, established by statute in 2001, to the designated beneficiary of service and disability retirees. Death benefit payments decreased 10.0% in FY2017.
- Most retirees and dependents choosing SERS' health care coverage are over the age of 65 and, therefore, enrolled in a fully insured Medicare Advantage plan; however, SERS maintains a traditional, self-insured preferred provider organization for its non-Medicare retiree population. For both groups, SERS offers a self-insured prescription drug program. Health care expenses decreased \$29.3 million, or 14.93%, to \$167.1 million. Our goals for the non-Medicare program are to provide access to quality coverage at an affordable cost and to focus on care management to improve the quality of care and to lower costs. Health care is a benefit that is permitted, not mandated, by statute. Our funding policy is to maintain the Health Care Fund with a 20-year solvency period to insure that the fluctuations in the cost of health care do not cause an interruption in the program.

**ACTUARIAL**

The annual actuarial valuation measures the total liability for all benefits earned to date. The accrued liability is a present value estimate of all the benefits that have been earned to date but not yet paid. The actuarial accrued liability (AAL) for the four funds changed as follows:

AAL (\$ in millions)				
Fund	AAL FY2017	AAL FY2016	(Decrease)	% (Decrease)
Pension	\$ 19,148	\$ 19,331	\$ (183)	(0.95)%
Medicare B	402	402	-	0.00
Death	38	38	-	0.00
Health Care	2,396	2,407	(11)	(0.46)

The unfunded accrued liability (UAL) is the present value of the future benefits payable that are not covered by the actuarial value of assets as of the valuation date. The funded ratio reflects the percentage of the accrued liability covered by the actuarial value of assets. A decrease in the UAL indicates progress towards

funding. The unfunded liability and the funded ratio changed as follows:

UAL (\$ in millions)						
Fund	UAL FY2017	UAL FY2016	(Decrease)	% (Decrease)	Funded Ratio FY2017	Funded Ratio FY2016
Pension	\$ 5,611	\$ 6,316	\$ (705)	(11.16)%	70.7%	67.3%
Medicare B	249	260	(11)	(4.23)	38.0	35.4
Death	15	16	(1)	(6.25)	60.5	57.9
Health Care	2,014	2,037	(23)	(1.13)	15.9	15.4

In FY2017, the enactment of House Bill 49 (HB 49) prospectively changed the COLA from the fixed 3.0% to a COLA that is indexed to CPI-W not greater than 2.5% with a floor of 0%. In addition, with the authority granted to the Board under HB 49, the Board enacted a three-year COLA suspension for benefit recipients in calendar years 2018, 2019, and 2020. The decrease in the UAL is primarily a result of the enactment of HB 49 and the Board's adoption of the three-year COLA suspension.

**CONDITIONS EXPECTED TO AFFECT FINANCIAL POSITION OR RESULTS OF OPERATIONS**

SERS' primary objective is to assure that at the time benefits commence, sufficient funds will be available to provide retirement, disability, and survivor benefits for its members. In addition, SERS is committed to sustaining contribution rates that remain level from generation to generation.

SERS' benefits are separated to comply with various sections of the Internal Revenue Code (IRC), and then reported and valued for funding purposes in accordance with applicable GASB statements. For FY2017, the funded ratios for the three benefits mandated by statutes increased, which was due primarily to the changes in assumptions adopted as a result of the enactment of HB 49 and Board adoption of the three-year COLA suspension. Additional legislative changes are being pursued to delay COLAs for future benefit recipients to three years versus the current one year. This will further improve SERS' funded position.

**REQUEST FOR INFORMATION**

This financial report is designed to provide the Retirement Board, our membership, employers, and investment managers with a general overview of SERS' finances. Questions concerning any of the information provided in this report or requests for additional financial information should be directed to:

School Employees Retirement System of Ohio  
 Finance Department  
 300 East Broad Street, Suite 100  
 Columbus, Ohio 43215

## Financial Section

### Statement of Fiduciary Net Position as of June 30, 2017

	Pension Trust Fund	Medicare B Fund	Death Benefit Fund	QEBA Fund	Health Care Fund	TOTAL
<b>ASSETS</b>						
Cash & Operating Short Term Investments	\$ 532,247,307	\$ 9,603,097	\$ 1,132,046	\$ 212,792	\$ 67,463,767	\$ 610,659,009
Receivables						
Contributions						
Employer	14,471,213	698,839	67,840	-	46,998,977	62,236,869
Employee	12,186,465	-	-	-	-	12,186,465
Investments Receivable	151,965,023	1,687,799	265,296	130	3,322,167	157,240,415
Other Receivables	1,248,830	-	-	-	6,135,197	7,384,027
Total Receivables	179,871,531	2,386,638	333,136	130	56,456,341	239,047,776
Investments at Fair Value						
US Equity	3,933,361,337	43,594,985	6,859,702	-	85,329,511	4,069,145,535
Non-US Equity	3,415,544,921	37,855,822	5,956,640	-	74,096,111	3,533,453,494
Private Equity	1,508,961,215	16,724,408	2,631,597	-	32,735,086	1,561,052,306
Fixed Income	1,914,269,996	21,216,604	3,338,448	-	41,527,769	1,980,352,817
Real Estate	2,056,968,865	22,798,192	3,587,312	-	44,623,449	2,127,977,818
Total Investments at Fair Value	12,829,106,334	142,190,011	22,373,699	-	278,311,926	13,271,981,970
Securities Lending Collateral at Fair Value	90,525,659	1,003,331	157,875	-	1,963,845	93,650,710
Capital Assets						
Land	3,315,670	-	-	-	-	3,315,670
Property & Equipment, at Cost	93,446,298	-	-	-	-	93,446,298
Accumulated Depreciation	(26,339,099)	-	-	-	-	(26,339,099)
Property & Equipment, Book Value	70,422,869	-	-	-	-	70,422,869
Prepays and Other Assets	80,038,251	-	-	6,163	-	80,044,414
<b>TOTAL ASSETS</b>	<b>13,782,211,951</b>	<b>155,183,077</b>	<b>23,996,756</b>	<b>219,085</b>	<b>404,195,879</b>	<b>14,365,806,748</b>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>						
Deferred Outflows - Pension	7,752,846	-	-	-	-	7,752,846
<b>LIABILITIES</b>						
Accounts Payable & Accrued Expenses	24,765,019	2,555	2,771	1,687	15,041,175	39,813,207
Benefits Payable	1,398,848	-	213,452	-	-	1,612,300
Investments Payable	234,919,354	2,603,703	409,695	-	5,096,291	243,029,043
Obligations under Securities Lending	89,834,610	995,672	156,670	-	1,948,853	92,935,805
<b>TOTAL LIABILITIES</b>	<b>350,917,831</b>	<b>3,601,930</b>	<b>782,588</b>	<b>1,687</b>	<b>22,086,319</b>	<b>377,390,355</b>
<b>DEFERRED INFLOWS OF RESOURCES</b>						
Deferred Inflows - Pension	203,691	-	-	-	-	203,691
<b>NET POSITION HELD IN TRUST FOR PENSIONS AND OTHER POSTEMPLOYMENT BENEFITS</b>	<b>\$ 13,438,843,275</b>	<b>\$ 151,581,147</b>	<b>\$ 23,214,168</b>	<b>\$ 217,398</b>	<b>\$ 382,109,560</b>	<b>\$ 13,995,965,548</b>

See accompanying notes to the financial statements.

## Statement of Changes in Fiduciary Net Position for the year ended June 30, 2017

	Pension Trust Fund	Medicare B Fund	Death Benefit Fund	QEBA Fund	Health Care Fund	TOTAL
<b>ADDITIONS</b>						
Contributions						
Employer	\$ 442,032,882	\$ 24,155,026	\$ 1,608,830	\$ 365,280	\$ 47,672,886	\$ 515,834,904
Employee	336,627,658	-	-	-	-	336,627,658
Other Income						
Health Care Premiums	-	-	-	-	80,849,519	80,849,519
Federal Subsidies & Other Receipts	-	-	-	-	17,341,005	17,341,005
	<u>778,660,540</u>	<u>24,155,026</u>	<u>1,608,830</u>	<u>365,280</u>	<u>145,863,410</u>	<u>950,653,086</u>
Income from Investment Activity						
Net Appreciation in Fair Value	1,404,279,293	15,427,049	2,458,105	-	31,369,736	1,453,534,183
Interest and Dividends	<u>276,730,059</u>	<u>3,066,935</u>	<u>486,092</u>	<u>766</u>	<u>6,326,268</u>	<u>286,610,120</u>
	<u>1,681,009,352</u>	<u>18,493,984</u>	<u>2,944,197</u>	<u>766</u>	<u>37,696,004</u>	<u>1,740,144,303</u>
Investment Expenses	<u>(89,745,933)</u>	<u>(985,853)</u>	<u>(157,118)</u>	<u>-</u>	<u>(2,005,180)</u>	<u>(92,894,084)</u>
Net Income from Investment Activity	1,591,263,419	17,508,131	2,787,079	766	35,690,824	1,647,250,219
Income from Securities Lending						
Gross Income	2,166,280	23,798	3,792	-	48,392	2,242,262
Brokers' Rebates	(194,521)	(2,137)	(340)	-	(4,345)	(201,343)
Management Fees	<u>(184,590)</u>	<u>(2,028)</u>	<u>(323)</u>	<u>-</u>	<u>(4,124)</u>	<u>(191,065)</u>
Net Income from Securities Lending Activity	1,787,169	19,633	3,129	-	39,923	1,849,854
Total Investment Income	<u>1,593,050,588</u>	<u>17,527,764</u>	<u>2,790,208</u>	<u>766</u>	<u>35,730,747</u>	<u>1,649,100,073</u>
<b>TOTAL ADDITIONS</b>	<u>2,371,711,128</u>	<u>41,682,790</u>	<u>4,399,038</u>	<u>366,046</u>	<u>181,594,157</u>	<u>2,599,753,159</u>
<b>DEDUCTIONS</b>						
Benefits						
Retirement	1,012,404,884	22,336,187	-	369,195	-	1,035,110,266
Disability	96,312,675	1,336,790	-	-	-	97,649,465
Survivor	38,270,097	1,045,636	-	-	-	39,315,733
Death	-	-	2,122,612	-	-	2,122,612
Health Care Expenses	-	-	-	-	167,106,908	167,106,908
	<u>1,146,987,656</u>	<u>24,718,613</u>	<u>2,122,612</u>	<u>369,195</u>	<u>167,106,908</u>	<u>1,341,304,984</u>
Refunds and Lump Sum Payments	60,692,833	-	-	-	-	60,692,833
Net Transfers to Other Ohio Systems	(3,139,875)	-	-	-	-	(3,139,875)
Administrative Expenses	<u>24,343,472</u>	<u>6,277</u>	<u>53,601</u>	<u>3,018</u>	<u>2,582,204</u>	<u>26,988,572</u>
	<u>81,896,430</u>	<u>6,277</u>	<u>53,601</u>	<u>3,018</u>	<u>2,582,204</u>	<u>84,541,530</u>
<b>TOTAL DEDUCTIONS</b>	<u>1,228,884,086</u>	<u>24,724,890</u>	<u>2,176,213</u>	<u>372,213</u>	<u>169,689,112</u>	<u>1,425,846,514</u>
Net Increase (Decrease)	1,142,827,042	16,957,900	2,222,825	(6,167)	11,905,045	1,173,906,645
<b>NET POSITION HELD IN TRUST FOR PENSIONS AND OTHER POSTEMPLOYMENT BENEFITS</b>						
Net Position, Beginning of Year	<u>12,296,016,233</u>	<u>134,623,247</u>	<u>20,991,343</u>	<u>223,565</u>	<u>370,204,515</u>	<u>12,822,058,903</u>
Net Position, Ending of Year	<u>\$ 13,438,843,275</u>	<u>\$ 151,581,147</u>	<u>\$ 23,214,168</u>	<u>\$ 217,398</u>	<u>\$ 382,109,560</u>	<u>\$ 13,995,965,548</u>

See accompanying notes to the financial statements.

## Notes to Financial Statements June 30, 2017

### 1. Summary of Significant Accounting Policies

**Basis of Accounting** The financial statements of the School Employees Retirement System of Ohio (SERS) are prepared using the accrual basis of accounting. Member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

**Use of Estimates** In preparing financial statements in conformity with governmental accounting principles generally accepted in the United States of America, SERS' management makes estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosures of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates and assumptions. Certain SERS investment assets, in particular Global Real Assets and Global Private Equity funds, use estimates in reporting fair value in the financial statements. These estimates are subject to uncertainty in the near term, which could result in changes in the values reported for those assets in the Statement of Fiduciary Net Position.

**Health Care Expenses Incurred and Unpaid** Amounts accrued for health care expenses payable for recipients less than age 65 in the Health Care Fund are based upon estimates that have been developed from prior claims experience.

**Allocation of Expenses to Plans** Direct expenses are charged to the plan for which they are incurred. All indirect expenses are paid by the Pension Trust Fund and are reimbursed by the Medicare B, Death Benefit, and Health Care Funds, in proportion to their use of the assets.

**Benefit Payments** Benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms.

**Investments** Investment purchases and sales are recorded as of the trade date. Dividend income is recognized on the ex-dividend date. Other investment income is recognized when earned.

Investments are reported at fair value. Fair value is the amount reasonably expected to be received for an investment in a current sale between a willing buyer and a willing seller. Fixed income securities, real estate investment trusts (REITs), derivatives, and common and preferred stocks are valued based on published market prices and quotations from national security exchanges and securities pricing services. International stocks are then adjusted to reflect the current exchange rate of the underlying currency. Investments for which no national exchanges or pricing services exist, such as private equity assets, are valued at fair value by the investment partnership based on the valuation methodology outlined in the partnership agreement. Real estate may be valued by the manager or independent appraisers.

Commingled assets that are not traded on a national exchange are valued by the commingled manager. SERS performs due diligence reviews of the investment pricing, process, and infrastructure of private equity, commingled, and real estate investments to assure that the asset values provided by the managers are reasonable.

Net appreciation (depreciation) is determined by calculating the change in the fair value of investments between the beginning of the year and the end of the year, less purchases of investments at cost, plus sales of investments at fair value. Investment expenses consist of external expenses directly related to SERS' investment operations, as well as the internal administrative expenses associated with SERS' investment program.

The monies held by the Pension Trust, Medicare B, Death Benefit, and Health Care Funds are pooled for the purpose of the investment of those plans. Each plan holds units of the investment pool, which are adjusted on a monthly basis. The value of one unit of the pool on June 30, 2017, was \$2,173.72. The unit holdings and net value of each of the funds at the close of the fiscal year were:

INVESTMENT POOL AS OF JUNE 30, 2017		
	Units	Value
Pension Trust Fund	6,093,789	\$13,246,194,872
Medicare B Fund	67,540	146,812,766
Death Benefits Fund	10,627	23,101,093
Health Care Fund	132,197	287,360,157
<b>Total</b>	<b>6,304,153</b>	<b>\$13,703,468,888</b>

**Office Building, Equipment, and Fixtures (Non-Investment Assets)** The cost of equipment and fixtures in excess of \$5,000 is capitalized at cost when acquired. Improvements that increase the useful life of the property are capitalized. Maintenance and repairs are charged to expense as incurred. Software costs in excess of \$25,000 are capitalized. Intangible assets, such as internally-developed software, are capitalized in accordance with GASB 51, *Accounting and Financial Reporting for Intangible Assets*. In February 2017, SERS finalized development and placed into use internally-developed software. Depreciation and amortization have been provided using the straight-line method over the following useful lives:

Description	Estimated Lives
Furniture, equipment, and software	3-7 years
Building and improvements	40 years
Internally-developed software	20 years

**Reserves** Ohio Revised Code Section 3309.60 establishes various reserves to account for future and current benefit payments. These are:

- **Employees' Savings Fund** Accumulated members' contributions are held in trust pending refund or transfer to another account other than the Guarantee Fund or Expense Fund.

- **Employers' Trust Fund** Accumulated employer contributions are held for future benefit payments.
- **Annuity and Pension Reserve Fund** This reserve contains the monies set aside to pay all annuities and pensions. Money is transferred to this fund from the Employees' Savings Fund, Employers' Trust Fund, and Guarantee Fund at the time of retirement.
- **Survivors' Benefit Fund** Monies in this account are set aside to finance payments to beneficiaries of deceased members. Money is transferred to this fund from the Employees' Savings Fund, Employers' Trust Fund, and Guarantee Fund in an amount to fund all liabilities at the end of each year.
- **Guarantee Fund** Income derived from the investment pool and any gifts or bequests are accumulated in this fund. The balance in this fund is transferred to other reserves to aid in the funding of future benefit payments and administrative expenses.
- **Expense Fund** This fund provides for the payment of administrative expenses with the necessary money allocated to it from the Guarantee Fund.

RESERVE BALANCES AS OF JUNE 30, 2017	
	Reserve Account Totals
Employees' Savings Fund	\$ 3,289,712,679
Employers' Trust Fund	(495,025,977)
Annuity and Pension Reserve Fund	10,837,043,789
Survivors' Benefit Fund	364,235,057
Guarantee Fund	-
Expense Fund	-
<b>Fund Totals</b>	<b>\$13,995,965,548</b>

## 2. Description of the System

**Organization** SERS is a statewide, cost-sharing, multiple-employer defined benefit public employee retirement system. Established by state law in 1937, SERS provides retirement, disability, and survivor benefits to non-teaching employees of Ohio's public K-12 school districts, vocational, technical, and community schools, community colleges, and the University of Akron.

The Retirement Board is responsible for the general administration and management of the retirement system. The Board comprises nine members: four elected employee members; two elected retiree members; and three appointed investment expert members. One investment expert is appointed by the Governor, a second one by the State Treasurer, and the third one jointly by the Speaker of the House and President of the Senate.

Several separate plans comprise the Retirement System. The pension plans include the Pension Trust Fund, the Medicare B Fund, the Death Benefit Fund, and the Qualified Excess Benefit

Arrangement (QEBA) Fund. The Pension Trust Fund holds the funds to pay the basic retirement, disability, and survivor benefits authorized under state law, Ohio Revised Code (ORC) Chapter 3309. The Medicare B Fund reimburses a portion of the Medicare Part B premiums paid by eligible benefit recipients as permitted under ORC Section 3309.69. The current reimbursement is \$45.50 per month. The Death Benefit Fund pays \$1,000 to a designated beneficiary of a deceased retiree or disability benefit recipient as allowed under ORC Section 3309.50. The QEBA Fund pays benefits as allowed by federal tax law to retirees whose SERS benefits exceed Internal Revenue Code (IRC) 415(b) limits. A fifth plan, the Health Care Fund, provides money for payment of health care expenses under SERS' health care coverage for retirees and other benefit recipients.

**Pension Benefits** Following the passage of Senate Bill 341, SERS' pension reform legislation, new age and service requirements for retirement became effective January 7, 2013. For members who retire on or after August 1, 2017, the new requirements are:

- age 67 with 10 years of service credit, or age 57 with 30 years of service credit, to retire with full benefits
- age 62 with 10 years of service credit, or age 60 with 25 years of service credit, to retire early with actuarially-reduced benefits

To protect the benefits of longtime members, SERS included a grandfather provision and a buy-up option that give members the opportunity to retire under the previous age and service credit requirements after August 1, 2017.

The grandfather provision allows members, who reach 25 years of service on or before August 1, 2017, to retire under the previous age and service credit eligibility requirements. These age and service requirements are:

- any age with 30 years of service credit to retire with full benefits; or
- age 60 with five (5) years of service credit, or age 55 with 25 years of service credit to retire with actuarially reduced benefits

The buy-up option allows members who will have fewer than 25 years of service credit as of August 1, 2017, to retire under previous retirement eligibility requirements if they pay the actuarial difference between the benefit they would have received under the new requirements and the benefit they may receive under the previous requirements. Members who want to buy-up must complete their payment on or before August 1, 2017.

The current formula used in calculating an annual retirement benefit is as follows: number of years of service credit up to 30 years x 2.2% of the member's final average salary (FAS) + number of years of service credit over 30 years x 2.5% of FAS. For SERS, FAS equals the average of the highest three years of salary. If the member does not meet the age and service

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requirements to retire with full benefits, the annual benefit is reduced to cover a longer period of retirement.

### EMPLOYER AND EMPLOYEE MEMBERSHIP DATA (as of June 30, 2017)

<b>Employer Members</b>	
Local	372
City	191
Educational Service Center	53
Village	49
Higher Education	15
Vocational/Technical	49
Community Schools	315
Other	17
<b>Total</b>	<b>1,061</b>
<b>Employee Members and Retirees</b>	
Retirees and beneficiaries currently receiving benefits	79,157
Terminated employees entitled to but not yet receiving benefits	4,735
<b>Total</b>	<b>83,892</b>
<b>Active Employees</b>	
Vested active employees	52,560
Non-vested active employees	105,421
<b>Total</b>	<b>157,981</b>

If a member has been employed in a job covered by the State Teachers Retirement System of Ohio (STRS) or the Ohio Public Employees Retirement System (OPERS) as well as in a job covered by SERS, at retirement the member may receive a retirement benefit independently from each of the systems, if eligible, or may combine the service credit and accounts in all the systems to receive one benefit. The system with the greatest service credit will be the system that will calculate and pay the benefit. While the salaries in one year will be added together, if the member has service credit in each system for the same year, the member cannot be credited with more than one year of service credit.

If a retiree from OPERS, SERS, STRS, Ohio Police & Fire, or Ohio State Highway Patrol is employed in a SERS-covered position, then employee and employer contributions are required for the new position. The retiree accrues a new benefit in the form of an annuity based on the contributions paid by the retiree and the employer payable at age 65 or termination of employment, whichever is later. This is separate from the original SERS benefit. There are no other benefits available and the retiree does not accrue any additional service credit for the period of reemployment. Prior to age 65 and after termination of employment, a reemployed retiree may request a refund of the employee contributions for the reemployed period.

### 3. Contributions

State retirement law requires contributions by covered employees and their employers, and limits the maximum rate of contributions. The Retirement Board sets contribution rates within the allowable limits. The adequacy of employer contribution rates is determined annually by actuarial valuation using the entry age normal cost method. During FY2017, employees and their employers were

required to contribute 10% and 14%, respectively, of active member payroll.

Employer (excluding surcharge discussed below) and employee contributions were \$468.2 million and \$336.6 million, respectively, in 2017. The contribution amounts also include contributions for purchased service credit.

The Retirement Board, acting with the advice of the actuary, allocates the current employer contribution rate among the plans of the System. For FY2017, the allocation of the employer contribution rate to pension plan benefits was established as the rate necessary to cover normal cost and amortize the unfunded accrued liability. The 14% contribution rate paid by employers was allocated to the funds as follows:

Pension Trust Fund	13.20%
Medicare B Fund	0.75%
Death Benefit Fund	0.05%

The portion of the employer contribution not required to actuarially fund the pension plans (Pension Trust Fund, Medicare B Fund, and Death Benefit Fund) may be available for the Health Care Fund, depending on funded ratios. The funded ratio for the basic benefits was 66.66%, which was below the 70% funded ratio that would permit an allocation to the Health Care Fund. A health care surcharge on employers is collected for employees earning less than an actuarially determined minimum compensation amount, and is pro-rated according to service credit earned during the year. Statutes provide that no employer shall pay a health care surcharge greater than 2.0% of that employer's SERS-covered payroll; nor may SERS collect in aggregate more than 1.5% of total statewide SERS-covered payroll for the health care surcharge. For FY2017, the minimum compensation level was established at \$23,500. The surcharge accrued for FY2017 and included in employer contributions in the Statement of Changes in Fiduciary Net Position is \$47.7 million.

### 4. Funding Policy

The statute sets a contribution cap of 24% of payroll; 14% from employers and 10% from employees. Employer contributions in excess of those required to support the basic benefits may be allocated to retiree health care funding. If the funded ratio is less than 70%, the entire 14% employers' contribution shall be allocated to SERS' basic benefits. If the funded ratio is 70% but less than 80%, at least 13.50% of the employers' contribution shall be allocated to SERS' basic benefits, with the remainder (if any) allocated to the Health Care Fund. If the funded ratio is 80% but less than 90%, at least 13.25% of the employers' contribution shall be allocated to SERS' basic benefits, with the remainder (if any) allocated to the Health Care Fund. If the funded ratio is 90% or greater, the Health Care Fund may receive any portion of the employers' contribution that is not needed to fund SERS' basic benefits.

### 5. Fair Value Measurement

SERS categorizes fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The categorization of investments within the hierarchy is based upon the valuation transparency of the instrument and should not



be perceived as the particular investment's risk.

Level 1 – Unadjusted quoted prices for identical investments in active markets.

Level 2 – Investments reflect prices that are based on a similar quoted prices in active markets; quoted prices for identical or similar investments in markets that are not active; and model based valuations with observable inputs.

Level 3 – Investments reflect prices based upon valuation practices where significant inputs are unobservable.

The assessment of the significance of particular inputs to these fair value measurements requires consideration be given to factors specific to each asset or liability. The following table summarizes the fair value hierarchy of the SERS' investment portfolio.

Bond Mutual Funds generally include investments in money market-type securities reported at cost plus accrued interest, which approximates market or fair value.

Equity, US Corporate Obligations, US Government and derivative securities classified in Level 1 are valued using prices quoted in active markets for those securities.

Debt and derivative securities classified in Level 2 are valued using either a bid evaluation or a matrix based pricing technique. Bid evaluations are typically based on market quotations, yields, maturities, call features, and ratings. Matrix pricing is used to value securities based on the securities relationship to benchmark quoted prices. Index linked debt securities are valued by multiplying the external market price by the applicable day's Index Ratio. Level 2 debt securities have non-proprietary information

**INVESTMENTS AND SHORT-TERM HOLDINGS MEASURED AT FAIR VALUE**

(\$ in thousands)

Investments by Fair Value Level	6/30/2017	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Debt Securities</b>				
Bond Mutual Funds	\$ 587,109	\$ 587,109	\$ -	\$ -
Certificates of Deposit	13,278	-	13,278	-
Commercial Paper	1,016	-	1,016	-
Foreign Obligations	47,921	-	46,860	1,061
Mortgage and Asset Backed	152,092	-	151,676	416
Municipal Obligations	37,420	-	37,420	-
US Agency Obligations	424,260	-	424,260	-
US Corporate Obligations	742,166	8,508	733,572	86
US Government	533,101	462,265	70,836	-
<b>Total Debt Securities</b>	<b>2,538,363</b>	<b>1,057,882</b>	<b>1,478,918</b>	<b>1,563</b>
<b>Equity Securities</b>				
Foreign Stocks	2,046,766	2,046,701	49	16
US Common & Preferred Stock	2,886,353	2,880,330	6,022	1
<b>Total Equity Securities</b>	<b>4,933,119</b>	<b>4,927,031</b>	<b>6,071</b>	<b>17</b>
<b>Total Investments by Fair Value Level</b>	<b>\$ 7,471,482</b>	<b>\$ 5,984,913</b>	<b>\$ 1,484,989</b>	<b>\$ 1,580</b>
<b>Investments Measured at the net asset value (NAV)</b>				
Commingled Bond Funds	\$ 27,873			
Commingled International Equity Funds	1,488,011			
Commingled Real Estate Investment Funds	50,680			
Hedge Funds	1,269,988			
Private Equity Funds	1,561,051			
Private Real Estate Funds	1,989,475			
<b>Total Investments Measured at the NAV</b>	<b>6,387,078</b>			
<b>Total Investments Measured at Fair Value</b>	<b>\$13,858,560</b>			
<b>Investment Derivative Instruments</b>				
Foreign Fixed Derivatives	\$ 721	\$ 645	\$ 76	
Foreign Equity Derivatives	6,415	(547)	6,962	
US Equity Derivatives	(147)	(147)	-	
US Fixed Derivatives	610	(346)	956	
<b>Total Investment Derivative Instruments</b>	<b>\$ 7,599</b>	<b>\$ (395)</b>	<b>\$ 7,994</b>	

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that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market.

Equity and equity derivative securities classified in Level 2 are securities whose values are derived daily from associated traded securities.

Debt, equities, and investment derivatives classified in Level 1 of the fair value hierarchy are valued directly from a predetermined

primary external pricing vendor. Assets classified in Level 2 are subject to pricing by an alternative pricing source due to lack of information available by the primary vendor.

The fair values of investments in certain equity, fixed income and marketable alternative funds are based on the investments' net asset value provided by the investee. Investments that are measured at fair value using the net asset value as practical expedient are not classified in the fair value hierarchy.

### INVESTMENTS MEASURED AT THE NET ASSET VALUE

(\$ in thousands)

Investments by Fair Value Level	6/30/2017	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Commingled Bond Funds <sup>(1)</sup>	\$ 27,873	\$ -	Monthly	1-10 Days
Commingled International Equity Funds <sup>(1)</sup>	1,488,011	-	Daily, Semi-Monthly, Monthly	1-120 Days
Commingled Real Estate Investment Funds <sup>(1)</sup>	50,680	-	Daily	1 Day
Hedge Funds				
Equity Long / Short <sup>(2)</sup>	309,243	-	Monthly, Quarterly	45-60 Days
Event Driven <sup>(3)</sup>	448,507	-	Quarterly, Annually	60-90 Days
Multi-Strategy / Risk Focus <sup>(4)</sup>	90,441	-	Daily, Monthly	1-10 Days
Relative Value <sup>(5)</sup>	238,863	-	Monthly, Quarterly	60-120 Days
Tactical Trading <sup>(6)</sup>	182,934	-	Monthly, Quarterly	5-30 Days
Private Equity Funds <sup>(7)</sup>	1,561,051	273,681	Not Eligible	Not Eligible
Private Real Estate Funds <sup>(7)</sup>	1,989,475	1,054,082	Not Eligible	Not Eligible
<b>Total Investments Measured at the NAV</b>	<b>\$ 6,387,078</b>			

(1) *Commingled Bond Funds, Equity Funds and Real Estate Investment Funds* Four bond funds, 46 international equity funds, and one real estate investment fund are considered to be commingled in nature. Each is valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

(2) *Equity Long / Short Hedge Funds* Consisting of six funds, this strategy invests both long and short in US and global equity securities, with a goal of adding growth and minimizing market exposure. These investments are valued at NAV per share. Due to contractual lock-up restrictions, approximately 73% of the value of these investments are eligible for redemption in the next six months. The remaining 27% of the value of these investments remain restricted for anywhere ranging from nine to 37 months.

(3) *Event Driven Hedge Funds* Consisting of eight funds, this strategy seeks to gain an advantage from pricing inefficiencies that may occur in the onset or aftermath of a corporate action or related event. These investments are valued at NAV per share. Due to contractual lock-up restrictions, approximately 43% of the value of these investments are eligible for redemption in the next six months. The remaining 57% of the value of these investments remains restricted for anywhere ranging from nine to 24 months.

(4) *Multi-Strategy / Risk Focus Hedge Funds* The single fund included in this group aims to pursue varying strategies in order to diversify risks and reduce volatility. This investment is valued at NAV per share, and is redeemable within a month or less, as it is not subject to lock-up restrictions.

(5) *Relative Value Hedge Funds* Consisting of eight funds, this strategy's main focus is to benefit from valuation discrepancies that may be present in related financial instruments by simultaneously purchasing or selling these instruments. These investments are valued at NAV per share. Due to contractual lock-up restrictions, approximately 91% of these investments are eligible for redemption in the next six months. The remaining 9% of the value of these investments are eligible within the next year.

(6) *Tactical Trading Hedge Funds* The primary focus of the three funds within this group is to invest across multiple strategies based upon the outcomes of economic and technical analyses, with the goal of long-term benefit. These investments are valued at NAV per share. Due to contractual lock-up restrictions, all funds are eligible for redemption within the next six months.

(7) *Private Equity and Real Estate Funds* SERS' Private Equity portfolio consists of 86 funds, investing primarily in Buyout Funds, with some exposure to Distressed Funds, Structured Debt, Venture Capital, and Special Situations. The Real Estate portfolio, comprised of 35 funds, invests mainly in U.S. commercial real estate. The fair values of these funds are measured at net asset value, and are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5 to 10 years.

## FAIR VALUE SUBJECT TO ISSUER CREDIT RISK

	Fair Value Based Upon S&P Credit Quality Rating (\$ in thousands)											Total	
	AAA	AA	A	BBB	BB	B	CCC	CC	C	D	Not Rated		
Bond Mutual Funds	\$ 587,109	\$ -	\$ 3,478	\$ 1,855	\$ -	\$ 22,540	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 614,982
Commercial Paper	-	1,016	-	-	-	-	-	-	-	-	-	-	1,016
Foreign Obligations	4,426	-	17,864	13,195	4,974	3,147	-	-	-	-	5,037	-	48,643
Mortgage and Asset Backed	69,609	11,149	5,702	16,309	6,460	3,802	5,392	5,348	814	1,306	26,201	-	152,092
Municipal Obligations	-	11,691	19,511	5,334	-	-	-	44	-	-	563	277	37,420
Negotiable Certificates of Deposit	-	-	-	-	-	-	-	-	-	-	-	13,278	13,278
US Agency	1,059	422,024	-	898	279	-	-	-	-	-	-	-	424,260
US Corporate Obligations	8,580	38,101	121,100	433,807	90,645	29,641	13,153	-	-	58	7,691	-	742,776
US Government	-	533,101	-	-	-	-	-	-	-	-	-	-	533,101
<b>Total</b>	<b>\$ 670,783</b>	<b>\$ 1,017,082</b>	<b>\$ 167,655</b>	<b>\$ 471,398</b>	<b>\$ 102,358</b>	<b>\$ 59,130</b>	<b>\$ 18,545</b>	<b>\$ 5,392</b>	<b>\$ 814</b>	<b>\$ 1,927</b>	<b>\$ 52,484</b>	<b>\$ -</b>	<b>\$ 2,567,568</b>

## FAIR VALUE SUBJECT TO COUNTERPARTY CREDIT RISK

	S&P Credit Quality Rating	Fair Value (\$ in thousands)
Foreign Fixed Derivatives	A+	\$ (36)
	A-	8
	NR*	645
<b>Total</b>		<b>617</b>
US Fixed Derivatives	AA1	786
	A+	(129)
	A	310
	A-	(12)
	NR*	(346)
<b>Total</b>		<b>609</b>
<b>Total</b>		<b>\$ 1,226</b>

\*Excludes Futures and Options as they are facilitated via exchange and not subject to counterparty risk.

## FAIR VALUE SUBJECT TO INTEREST RATE RISK

Investment	Fair Value (\$ in thousands)	Option Adjusted Duration (in years)
Bond Mutual Funds	\$ 614,982	0.17
Certificates of Deposit	13,278	3.33
Commercial Paper	1,016	0.02
Foreign Fixed Derivatives*	616	-12.53
Foreign Obligations	47,921	6.06
Mortgage and Asset Backed	152,092	1.61
Municipal Obligations	37,420	7.56
US Agency	424,260	3.09
US Corporate Obligations	742,166	0.59
US Fixed Derivatives	610	-34.76
US Government	533,101	7.91
<b>Total</b>	<b>\$ 2,567,462</b>	<b>2.69</b>

\*Excludes Fixed Pending FX

## 6. Cash Deposits and Investments

**Custodial Credit Risk, Deposits** Custodial credit risk for deposits is the risk that in the event of a bank failure, SERS' deposits may not be returned. In accordance with state law, the Board of Deposit designates SERS' depository bank, and the Treasurer of State serves as custodian and contracts depository services for all SERS' deposits. Therefore, SERS does not have a policy for deposit custodial credit risk.

At June 30, 2017, the carrying amounts of SERS' operating and investment cash deposits totaled \$23,549,822, and the corresponding bank balances totaled \$1,368,700. Of the bank balances, the Federal Deposit Insurance Corporation insured \$214,493. In accordance with state law, bank balances of \$700,472 were collateralized at 102% with securities held in the name of SERS' pledging financial institutions. The remaining bank deposits of \$453,735 were uninsured and uncollateralized.

**Custodial Credit Risk, Investments** Custodial credit risk for investments is the risk if the securities are uninsured, are not registered in the name of the SERS and are held by either the counterparty or the counterparty's trust department or agent, but not in the SERS name. As of June 30, 2017, approximately \$6.3 billion of SERS' assets are not held by the custodians or registered in the SERS name.

**Credit Risk** Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. ORC 3309.15 and the Board's Statement of Investment Policy (adopted September 2015) direct that the funds of SERS will be invested following the prudent person standard. This fiduciary standard dictates that the Board consider the probable safety of investments, avoid speculative investments, and invest as persons of prudence, discretion, and intelligence would manage their own affairs. The Board accomplishes this through a combination of internal and external investment professionals.

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**Concentration of Credit Risk** Concentration of credit risk is the risk of loss attributed to the magnitude of a plan's investment in a single issuer. SERS does not hold investments representing 5% or more of plan investment portfolio in any one issuer.

**Interest Rate Risk** Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. SERS does not have a policy for managing interest rate risk.

At June 30, 2017, SERS held interest-only strips that had a total fair value of \$75,750,747. These securities are based on cash flows from interest payments on underlying mortgages. Therefore, they are sensitive to prepayments by mortgagees, which may

result from a decline in interest rates. SERS also held principal-only strips that had a total fair value of \$6,614,371. These principal-only strips are sensitive to interest rate increases that may result in decreasing mortgage prepayments, thus increasing the average maturity of this investment.

**Foreign Currency Risk** Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. SERS' exposure to foreign currency risk derives from its positions in foreign currency and foreign currency-denominated investments.

### FAIR VALUE SUBJECT TO FOREIGN CURRENCY RISK (\$ in thousands)

Currency	Cash & Cash Equivalents	Fixed Income	Non-US Equities	Real Estate	Private Equity	Derivative Securities
Argentina Peso	\$ 322	\$ 961	\$ -	\$ -	\$ -	\$ -
Australian Dollar	53,701	(26)	56,387	-	-	2,301
Brazilian Real	2,560	3,763	33,004	-	-	(32)
British Pound Sterling	878	5,551	228,529	(5)	680	-
Bulgarian Lev	6	-	-	-	-	-
Canadian Dollar	42,743	-	45,696	-	-	2,876
Chilean Peso	577	64	-	-	-	-
Chinese Yuan	(557)	138	8,983	-	-	-
Colombian Peso	(722)	4,629	-	-	-	-
Czech Koruna	8,696	-	1,956	-	-	-
Danish Krone	2,869	-	27,602	-	-	-
Dominican Republic Peso	-	5	-	-	-	-
Egyptian Pound	-	-	305	-	-	-
Euro	(55,332)	3,240	342,207	72,450	124,567	(3,793)
Hong Kong Dollar	(17,017)	-	182,783	-	-	1,311
Hungarian Forint	-	-	4,098	-	-	-
Indian Rupee	1,761	1,469	29,501	-	-	-
Indonesian Rupiah	1,208	3,840	10,200	-	-	-
Israeli Shekel	2,351	-	4,292	-	-	-
Japanese Yen	(52,318)	-	352,944	-	-	(3,230)
Malaysian Ringgit	38	854	10,724	-	-	(11)
Mexican Peso	12,082	14,672	9,271	-	-	-
New Zealand Dollar	(15,341)	-	3,445	-	-	-
Norwegian Krone	(1,739)	1,479	9,981	-	-	-
Peruvian New Sol	(203)	305	-	-	-	-
Philippines Peso	8	-	4,233	-	-	-
Polish Zloty	65	3,607	10,754	-	-	-
Russian Ruble	492	3,428	6,653	-	-	-
Singapore Dollar	6,947	-	9,180	-	-	-
South African Rand	1,864	3,290	16,693	-	-	-
South Korean Won	172	234	117,812	-	-	(219)
Swedish Krona	(9,170)	-	44,730	-	-	912
Swiss Franc	10,096	-	85,131	-	-	-
Taiwan Dollar	1,093	-	33,952	-	-	-
Thailand Baht	907	-	8,867	-	-	-
Turkish Lira	10,487	2,900	31,342	-	-	-
UAE Dirham	17	-	2,602	-	-	-
Uruguayan Peso	240	117	-	-	-	-
	\$ 9,781	\$ 54,520	\$ 1,733,857	\$ 72,445	\$ 125,247	\$ 115

**FAIR VALUE OF FORWARD CURRENCY AND HEDGED CONTRACTS**

As of June 30, 2017 and 2016 (\$ in thousands)

	2017	2016
Forward Currency Purchases	\$ 1,336,537	\$ 246,096
Forward Currency Sales	1,943,224	268,406
Unrealized gain (loss)	7,066	74

**FUTURES CONTRACTS**

As of June 30, 2017 and 2016 (\$ in thousands)

Type	FY2017			FY2016		
	Number of Contracts	Notional Value	Contract Value	Number of Contracts	Notional Value	Contract Value
<b>Equity Futures</b>						
International Equity Index Futures - Long	393	\$ 33,891	\$ (547)	-	\$ -	\$ -
U.S. Stock Index Futures - Long	236	28,714	(147)	742	76,486	2,656
<b>Fixed Income / Cash Equivalent Futures</b>						
Cash Equivalent (Eurodollar) Futures - Long	129	31,570	100	84	20,750	104
Cash Equivalent (Eurodollar) Futures - Short	(511)	(125,530)	(102)	(809)	(200,269)	(553)
International Fixed Income Index Futures - Long	72	10,874	97	69	5,746	(1)
International Fixed Income Index Futures - Short	(163)	(39,279)	506	(76)	(18,730)	(261)
US Treasury Futures Long	1,197	164,320	119	1,184	173,936	3,296
US Treasury Futures Short	(426)	(59,298)	(580)	(511)	(79,941)	(4,084)
<b>Total Futures (Net)</b>	<b>927</b>	<b>\$ 45,262</b>	<b>\$ (554)</b>	<b>683</b>	<b>\$ (22,022)</b>	<b>\$ 1,157</b>

**OPTIONS CONTRACTS**

As of June 30, 2017 and 2016 (\$ in thousands)

Type	FY2017			FY2016		
	Number of Contracts	Notional Value	Fair Value	Number of Contracts	Notional Value	Fair Value
<b>Fixed Income Options</b>						
Fixed Income Call Options on Futures - Written	-	\$ -	\$ -	-	\$ -	\$ -
Fixed Income Put Options on Futures - Purchased	41	5	3	-	-	-
Fixed Income Put Options on Futures - Written	-	-	-	-	-	-
Fixed Income Call Options on Futures (non-dollar) - Purchased	403	197	56	-	-	-
Fixed Income Call Options on Futures (non-dollar) - Written	(339)	(97)	(37)	(53)	(24)	(25)
Fixed Income Put Options on Futures (non-dollar) - Purchased	133	64	94	-	-	-
Fixed Income Put Options on Futures (non-dollar) - Written	(37)	-	42	-	-	-

**Derivatives** Derivatives are investment instruments whose cash flows or fair values are derived from the value of some other asset or index. SERS uses a variety of derivatives primarily to maximize yields and offset volatility due to interest rate and currency fluctuations. SERS is exposed to various types of credit, market, and legal risks related to these investments. The investment staff continually monitors these types of investments.

Foreign exchange forward currency contracts are legal agreements between two parties to purchase and sell a foreign currency, for a price specified at the contract date, with delivery and settlement in the future. SERS enters into these contracts to hedge the foreign currency movements of assets held in the underlying funds. The contracts do not subject SERS to risk due to exchange rate movements since gains and losses on the contracts offset gains and losses on the transactions being hedged. SERS could be at risk for replacing these contracts at current market rates, should the counterparty default. SERS seeks to control this risk through contracting only with counterparties who meet credit guidelines.

**SWAP CONTRACTS**

As of June 30, 2017 and 2016 (\$ in thousands)

Type	FY2017		FY2016	
	Notional Value	Fair Value	Notional Value	Fair Value
Credit Default	\$ 43,595	\$ 111	\$ 29,645	\$ (424)
Interest Rate	4,079,772	817	4,323,584	(2,413)

A futures contract is a contract to buy or sell units of an index or financial instrument on a specified future date at a price agreed upon when the contract is originated. SERS uses equity and fixed income futures during the fiscal year to rebalance its asset allocation and overlay its cash exposure in the US and Non-US equity portfolios. Only the most liquid futures are used by SERS to overlay the temporary and transactional cash held, and to rebalance asset allocations between asset classes.

Options give buyers the right, but not the obligation, to buy or sell an asset at a predetermined strike price over a specified period. The option premium is usually a small percentage of the

## Financial Section

underlying asset's value. When writing an option, SERS receives a premium up front and bears the risk of an unfavorable change in the price of the underlying asset during the option's life. When SERS purchases an option, it pays a premium to a counterparty who bears the risk of an unfavorable change in the price of the underlying asset during the option's life.

Swaps represent an agreement between two or more parties to exchange a sequence of cash flows during a predetermined timeframe. SERS utilizes swaps to manage interest rate fluctuations, default by a borrower, and to gain market exposure without having to actually own the asset.

**Securities Lending** SERS participates in a securities lending program that directly holds equity and fixed income investments using Goldman Sachs Agency Lending (GSAL) as a third-party lending agent. Securities are loaned to independent broker/dealers in exchange for cash collateral equal to approximately 102% of the market value of domestic securities on loan and 105% of the market value of international securities on loan, with a simultaneous agreement to return the collateral for the same securities in the future. At the same time, SERS records a liability for the collateral held in the securities lending program. Total net proceeds from GSAL were \$914,597 during FY2017.

At June 30, 2017, SERS had no credit risk exposure on the securities lending collateral because the collateral exceeded the value of the securities loaned.

Under the terms of the lending agreement, SERS is fully indemnified against losses that might occur in the program due to the failure of a broker to return a security that was borrowed where the collateral is inadequate to replace the security. SERS is also indemnified should the borrower fail to pay distributions of earnings on the securities lent.

### SECURITIES LENDING

As of June 30, 2017 (\$ in thousands)	Fair Value of Securities on Loan	Collateral Value (Securities and Cash)
Foreign Stocks	\$ 20,864	\$ 25,465
US Common & Preferred Stock	64,241	62,752
US Corporate Obligations	5,562	4,719
	\$ 90,667	\$ 92,936

Securities on loan can be recalled on demand by SERS or returned by the borrower at any time. There is no matching of the securities lent with the invested cash collateral. The lending agent mitigates risk by focusing on intrinsic value lending, and BNY Mellon reinvests the cash collateral in accordance with contractual investment guidelines that are designed to ensure the safety of principal and obtain a moderate rate of return. Earnings generated from the collateral investments, less the amount of rebates paid to the dealers result in the gross earnings from lending activities, which is then split on an 85%/15% basis with GSAL. SERS is at risk to contribute additional funds should the earnings from the invested SERS collateral not be sufficient to pay the negotiated dealer rebate. At June 30, 2017, the GSAL collateral portfolio had an average weighted maturity of eight days. SERS receives pro-rated income from participation in the securities lending program of a commingled investment. SERS has no direct responsibility for this program and the collateral held by this securities lending program is not held in SERS' name. Total net direct proceeds from the commingled investment during FY2017 were \$218,563.

**Commitments** As of June 30, 2017, unfunded commitments related to the opportunistic, private equity, and real estate investments totaled \$1.33 billion.

### 7. Capital Assets (Non-Investment Assets)

#### CAPITAL ASSETS ACTIVITY for the year ended June 30, 2017

Cost:	Land	Office Building & Improvements	Furniture & Equipment	Internally- Developed Software*	Internally- Developed Software In Progress	Total Capital Assets
Balances, June 30, 2016	\$ 3,315,670	\$ 53,022,110	\$ 6,149,894	\$ -	\$ 26,760,194	\$ 89,247,868
Additions	-	287,831	732,202	-	6,522,398	7,542,431
Transfer/Reclass	-	-	-	33,282,592	(33,282,592)	-
Disposals	-	-	(28,331)	-	-	(28,331)
Balances, June 30, 2017	3,315,670	53,309,941	6,853,765	33,282,592	-	96,761,968
<b>Accumulated Depreciation:</b>						
Balances, June 30, 2016	-	19,197,417	5,514,122	-	-	24,711,539
Additions	-	1,335,187	320,704	-	-	1,655,891
Disposals	-	-	(28,331)	-	-	(28,331)
Balances, June 30, 2017	-	20,532,604	5,806,495	-	-	26,339,099
<b>Net Capital Assets, June 30, 2017</b>	<b>\$ 3,315,670</b>	<b>\$ 32,777,337</b>	<b>\$ 1,047,270</b>	<b>\$ 33,282,592</b>	<b>\$ -</b>	<b>\$ 70,422,869</b>

\*The internally-developed software was placed into service February 2017.

**8. Net Pension Liability and Actuarial Information – Defined Benefit Plans**

The components of the net pension liability as of June 30, 2017:

**Plan funds (\$ in thousands)**

Total Pension Liability (a) . . . . .	\$19,588,418
Fiduciary Net Position (b) . . . . .	\$13,613,639
Net Pension Liability (Surplus) (a) - (b) . . . . .	\$ 5,974,779
Fiduciary Net Position as a Percent of Total Pension Liability (b) / (a) . . . . .	69.50%

The total pension liability is determined by SERS' actuaries in accordance with GASB Statement No. 67, as part of their annual actuarial valuation for each defined benefit retirement plan. Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts (e.g., salaries, credited service) and assumptions about the probability of occurrence of events far into the future (e.g., mortality, disabilities, retirements, employment terminations). Actuarially determined amounts are subject to continual review and potential modifications, as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employers and plan members to that point. The projection of benefits for financial reporting purposes does not explicitly incorporate the potential effects of legal or contractual funding limitations.

Actuarial calculations reflect a long-term perspective. For a newly hired employee, actuarial calculations will take into account the employee's entire career with the employer and also take into consideration the benefits, if any, paid to the employee after termination of employment until the death of the employee and

any applicable contingent annuitant. In many cases, actuarial calculations reflect several decades of service with the employer and the payment of benefits after termination.

The long-term return expectation for the Pension Plan Investments has been determined by using a building-block approach and assumes a time horizon, as defined in the Statement of Investment Policy. A forecasted rate of inflation serves as the baseline for the return expectation. Various real return premiums over the baseline inflation rate have been established for each asset class. The long-term expected nominal rate of return has been determined by calculating an arithmetic weighted average of the expected real return premiums for each asset class, adding the projected inflation rate, and adding the expected return from rebalancing uncorrelated asset classes.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Cash	1.00%	0.50%
US Equity	22.50	4.75
International Equity	22.50	7.00
Fixed Income	19.00	1.50
Private Equity	10.00	8.00
Real Assets	15.00	5.00
Multi-Asset Strategies	10.00	3.00

Total pension liability was calculated using the discount rate of 7.50%. The projection of cash flows used to determine the discount rate assumed the contributions from employers and from the members would be computed based on contribution requirements as stipulated by state statute. Projected inflows from investment earnings were calculated using the long-term assumed investment rate of return (7.50%). Based on those assumptions, the plan's fiduciary net position was projected to be available to make all 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 benefits to determine the total pension liability.

**Key methods and assumptions used in calculating the Total Pension Liability**

Valuation Date	June 30, 2017
Actuarial Cost Method	Entry Age Normal (Level Percent of Payroll)
Actuarial Assumptions:	
Experience Study Date	Period of 5 years ended June 30, 2015
Investment Rate of Return	7.50% net of investment expense, including inflation
Cost of Living Increases (COLA) or "Ad Hoc" COLA	2.5%
Future Salary Increases, including Inflation	3.5% - 18.2%
Inflation	3.0%
Mortality Assumptions	For post-retirement mortality, the table used in evaluating allowances to be paid is the RP-2014 Blue Collar Mortality Table with fully generational projection and Scale BB, with 120% of male rates and 110% of female rates used. The RP-2000 Disabled Mortality Table with 90% for male rates and 100% for female rates set back five years is used for the period after disability retirement.

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Net pension liability is sensitive to changes in the discount rate, and to illustrate the potential impact the table presents the net pension liability calculated using the discount rate of 7.50%, as well as what the plan's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.50%), or one percentage point higher (8.50%) than the current rate.

**System's net pension liability**  
 (\$ in thousands)

1% Decrease (6.50%) .....	\$8,291,441
Current Discount Rate (7.50%) .....	\$5,974,779
1% Increase (8.50%) .....	\$4,034,102

**9. Defined Benefit Pension Plans**

**Net Pension Liability** The net pension liability reported on the Statement of Fiduciary Net Position represents a liability to employees for pensions. It is included in accounts payable and accrued expenses in the Statement of Fiduciary Net Position. Pensions are a component of exchange transactions, between an employer and its employees, of salaries and benefits for employee services. Pensions are provided to an employee, on a deferred-payment basis as part of the total compensation package offered by an employer for employee services each financial period. The obligation to sacrifice resources for pensions is a present obligation because it was created as a result of employment exchanges that already have occurred.

The net pension liability represents SERS' proportionate share of each pension plan's collective actuarial present value of projected benefit payments attributable to past periods of service, net of each pension plan's fiduciary net position. The net pension liability calculation is dependent on critical long-term variables, including estimated average life expectancies, earnings on investments, cost-of-living adjustments, and others. While these estimates use the best information available, unknown future events require this estimate to be adjusted annually.

Ohio Revised Code limits SERS' obligation for this liability to annually required payments. SERS cannot control benefit terms or the manner in which pensions are financed; however, SERS does receive the benefit of employees' services in exchange for compensation including pension.

GASB No. 68 assumes the liability is solely the obligation of the employer, because (1) they benefit from employee services; and (2) state statute requires all funding to come from these employers. All contributions to date have come solely from these employers (which also includes costs paid in the form of withholdings from employees). State statute requires the pension plans to amortize unfunded liabilities within 30 years. If the amortization period exceeds 30 years, each pension plan's board must propose corrective action to the state legislature. Any resulting legislative change to benefits or funding could significantly affect the net pension liability. Resulting adjustments to the net pension liability would be effective when the changes are legally enforceable.

**Plan Description – Ohio Public Employees Retirement System (OPERS)** Public employees participate in Ohio Public Employees Retirement System (OPERS), a cost-sharing, multiple-employer public employee retirement system administered by OPERS. OPERS provides retirement and disability benefits to members and death and survivor benefits to beneficiaries. OPERS also provides health care benefits to some retirees and beneficiaries. OPERS issues a stand-alone financial report that includes financial statements, required supplementary information, and detailed information, about OPERS' fiduciary net position. That report can be obtained by writing OPERS, 277 E. Town Street, Columbus, OH 43215, or by visiting the OPERS website: [www.OPERS.org/investments/cafr.shtml](http://www.OPERS.org/investments/cafr.shtml).

New members have a choice of three retirement plans: The Traditional Plan (defined benefit plan); the Combined Plan (combination of defined benefit and defined contribution plans); and the Member Directed Plan (defined contribution plan). Benefits are established by Chapter 145 of the Ohio Revised Code. The defined benefit (DB) plan offers an annual retirement allowance based on final average salary multiplied by a percentage that varies based on years of service.

Senate Bill (SB) 343 was enacted into law with an effective date of January 7, 2013. In the legislation, members were categorized into three groups with varying provisions of the law applicable to each group. Members who were eligible to retire under law in effect prior to SB 343 or who will be eligible to retire no later than five years after January 7, 2013, comprise transition Group A. Members who have 20 years of service credit prior to January 7, 2013, or who will be eligible to retire no later than 10 years after January 7, 2013, are included in transition Group B. Group C includes those members who are not in either of the other groups and members who were hired on or after January 7, 2013.

Benefit payments vary in amount depending on years of service credit, FAS, age, and plan of payment selection. FAS is the average of the three highest years of earnable salary for Groups A and B; and the average of the five highest years of earnable salary for members in Group C. The age-and-service formula benefit cannot exceed 100% of the FAS (Law Enforcement is 90%) or the limits under Internal Revenue Code Section 415 and may be subject to the contribution-based benefit cap. The base benefit amount calculated by the formula will be reduced if a member begins receiving a retirement benefit before reaching the age-and-service requirements for an unreduced benefit.

In the Traditional Pension Plan (DB), the benefit formula for state and local members in transition Groups A and B applies a factor of 2.2% to the member's FAS for the first 30 years of service. A factor of 2.5% is applied to years of service in excess of 30. The benefit formula for State and Local members in transition Group C applies a factor of 2.2% to the member's FAS for the first 35 years of service and a factor of 2.5% is applied to years of service in excess of 35.

In the Combined Plan, the benefit formula for the defined benefit component of the plan for state and local members in transition



Groups A and B applies a factor of 1.0% to the member's FAS for the first 30 years of service. A factor of 1.25% is applied to years of service in excess of 30. The benefit formula for transition Group C applies a factor of 1.0% to the member's FAS and the first 35 years of service and a factor of 1.25% is applied to years in excess of 35.

When a benefit recipient has received benefits for 12 months, an annual COLA is provided. This COLA is calculated on the base retirement benefit at the date of retirement and is not compounded. For those retiring prior to January 7, 2013, the COLA will continue to be a 3% simple annual COLA. For those retiring after January 7, 2013, beginning in calendar year 2019, the COLA will be based on the average percentage increase in the Consumer Price Index, capped at 3%.

A DB or Combined Plan member with five or more years of credited service who is determined to be disabled may qualify for a disability benefit.

**Funding Policy – OPERS** Employees covered by OPERS are required to contribute 10% of their salary to the plan and employers are required to contribute 14%. Both rates are at the statutory maximum.

SERS' contractually required contribution to OPERS was \$2,069,109 for fiscal year 2017. Of this amount, \$150,815 is reported as an intergovernmental payable.

**Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions** The net pension liability was measured as of December 31, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. SERS' proportion of the net pension liability was based on SERS' share of contributions to the pension plan relative to the contributions of all participating entities. Following is information related to the proportionate share and pension expense:

OPERS	Traditional	Combined	Total
Proportionate Share of the Net Pension Asset	\$ -	\$ 126,764	\$ 126,764
Proportionate Share of the Net Pension Liability	\$ 21,712,365	\$ -	\$ 21,712,365
Proportion of the Net Pension Asset/Liability	0.0956142%	0.2277590%	0.0977496%
Pension Expense	\$ 3,200,176	\$ (13,007)	\$ 3,187,169

At June 30, 2017, SERS reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

OPERS	Traditional	Combined	Total
<b>Deferred Outflows of Resources</b>			
Assumption Changes	\$ 3,443,844	\$ 30,895	\$ 3,474,739
Net Difference between projected and actual earnings on pension plan investments	3,160,101	32,318	3,192,419
Differences between expected and actual experience	29,430	-	29,430
Actuarial Losses	-	-	-
Changes in Proportion	268,756	4,582	273,338
Contributions subsequent to the measurement date	730,522	52,398	782,920
<b>Total Deferred Outflows of Resources</b>	<b>\$ 7,632,653</b>	<b>\$ 120,193</b>	<b>\$ 7,752,846</b>
<b>Deferred Inflows of Resources</b>			
Differences between expected and actual experience	\$ (126,537)	\$ (66,759)	\$ (193,296)
Actuarial Gains	-	-	-
Changes in proportion	(9,422)	(973)	(10,395)
<b>Total Deferred Inflows of Resources</b>	<b>\$ (135,959)</b>	<b>\$ (67,732)</b>	<b>\$ (203,691)</b>

\*\$782,920 reported as deferred outflows of resources related to pensions resulting from SERS' contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as indicated in the schedule above. Deferrals arising from differences between expected and actual earnings on pension plan investments will be amortized over five years for both plans. Deferrals arising from differences between projected and actual experience and changes in proportionate share will be amortized over the average remaining service life of the entire pool of employees. The Traditional Plan has 3.0856 years of average remaining service. The Combined Plan has 9.1304 years of average remaining service life.

OPERS			
Fiscal Year Ending June 30	Traditional	Combined	Total
2018	\$ 2,828,966	\$ 6,633	\$ 2,835,599
2019	2,894,923	6,633	2,901,556
2020	1,137,063	5,228	1,142,291
2021	(94,780)	(6,151)	(100,931)
2022	-	(4,994)	(4,994)
2023	-	(4,994)	(4,994)
2024	-	(2,926)	(2,926)
2025	-	408	408
2026	-	226	226
<b>Totals</b>	<b>\$ 6,766,172</b>	<b>\$ 63</b>	<b>\$ 6,766,235</b>

## Financial Section

**Actuarial Assumptions – OPERS** OPERS' total pension liability was determined by their actuaries in accordance with GASB Statement No. 67, as part of their annual actuarial valuation for each defined benefit retirement plan. Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts (e.g., salaries, credited service) and assumptions about the probability of occurrence of events far into the future (e.g., mortality, disabilities, retirements, employment termination). Actuarially determined amounts are subject to continual review and potential modifications, as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing benefit costs between the employers and plan members to that point. The projection of benefits for financial reporting purposes does not explicitly incorporate the potential effects of legal or contractual funding limitations.

Actuarial calculations reflect a long-term perspective. For a newly hired employee, actuarial calculations will take into account the employee's entire career with the employer and also take into consideration the benefits, if any, paid to the employee after termination of employment until the death of the employee and any applicable contingent annuitant. In many cases, actuarial calculations reflect several decades of service with the employer and the payment of benefits after termination.

Key methods and assumptions used in calculating the total pension liability in the latest actuarial valuation, prepared as of December 31, 2016, are presented below:

### Key Methods and Assumptions Used in Valuation of Total Pension Liability

Actuarial Information	Traditional Pension Plan	Combined Plan
Valuation Date	December 31, 2016	December 31, 2016
Experience Study	5-Year Period Ended Dec. 31, 2015	5-Year Period Ended Dec. 31, 2015
Actuarial Cost Method	Individual entry age	Individual entry age
Actuarial Assumptions		
Investment Rate of Return	7.50%	7.50%
Wage Inflation	3.25%	3.25%
Projected Salary Increases	3.25% - 10.75% (includes wage inflation at 3.25%)	3.25% - 8.25% (includes wage inflation at 3.25%)
Cost-of-living Adjustments	Pre-1/7/2013 Retirees: 3.00% Simple Post-1/7/2013 Retirees: 3.00% Simple through 2018 then 2.15% Simple	Pre-1/7/2013 Retirees: 3.00% Simple Post-1/7/2013 Retirees: 3.00% Simple through 2018 then 2.15% Simple

Mortality rates are based on the RP-2014 Healthy Annuitant mortality table. For males, Healthy Annuitant Mortality tables were used, adjusted for mortality improvement back to the observation period base of 2006 and then established the base year as 2015. For females, Health Annuitant Mortality tables were used, adjusted for mortality improvements back to the observation period base year of 2006 and then established the base year as 2010. The mortality rates used in evaluating disability allowances were based on RP-2014 Disabled mortality tables, adjusted for mortality improvement back to the observation base year of 2006 and then established the base year as 2015 for males and 2010 for females. Mortality rates for a particular calendar year for both healthy and disabled retiree mortality tables are determined by applying the MP-2015 mortality improvement scale to the above described table.

**Discount Rate – OPERS** The discount rate used to measure the total pension liability was 7.5% for both the Traditional Pension Plan and the Combined Plan. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and those of the contributing employers are made at the contractually required rates, as actuarially determined. 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 for both the Traditional Pension Plan and the Combined Plan was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of SERS' Proportionate Share of the Net Pension Liability to Changes in the Discount Rate** The following table presents SERS' proportionate share of the net pension liability calculated using the current period discount rate assumption of 7.5%, as well as what SERS' proportionate share of the net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower (6.5%) or one-percentage-point higher (8.5%) than the current rate:

SERS' proportionate share of the Net Pension Liability/(Asset)	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
Traditional Plan	\$33,170,488	\$21,712,365	\$12,164,042
Combined Plan	9,110	(126,764)	(232,314)

The following table displays OPERS' Board-approved asset allocation policy of the Defined Benefit portfolio for 2016 and the long-term expected real rates of return.

Asset Class	Target Allocation for 2016	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Fixed Income	23.00%	2.75%
Domestic Equities	20.70	6.34
Real Estate	10.00	4.75
Private Equity	10.00	8.97
International Equities	18.30	7.95
Other Investments	18.00	4.92
<b>TOTAL</b>	<b>100.00%</b>	<b>5.66%</b>

The long-term expected rate of return on defined benefit investment assets was determined using a building-block method in which best-estimate ranges of expected future real rates of return 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, adjusted for inflation.

OPERS manages investments in four investment portfolios: the Defined Benefit portfolio, the 401(h) Health Care portfolio, the 115 Health Care Trust portfolio, and the Defined Contribution portfolio. The Defined Benefit portfolio includes the investment assets of the Traditional Pension Plan, the defined benefit component of the Combined Plan, and the annuitized accounts of the Member-Directed Plan. Within the Defined Benefit portfolio, contributions into the plans are all recorded at the same time, and benefit payments all occur on the first of the month. Accordingly, the money-weighted rate of return is considered to be the same for all plans within the portfolio. The money-weighted rate of return, net of investment expense, for the Defined Benefit portfolio is 8.3% for 2016.

**10. Compensated Absences**

As of June 30, 2017, and 2016, \$2,855,735, and \$2,545,485, respectively, were accrued for unused vacation and sick leave for SERS' employees. Employees who retire or resign are entitled to full compensation for all earned unused vacation. Unused sick leave pay is forfeited upon termination. However, employees who retire or become disabled after five years of service are entitled to receive payment for a percentage of unused sick leave. If an employee dies after five years of service, the beneficiaries are entitled to receive a percentage of the unused sick leave payment.

**11. Self-insured Health Care for Employees of SERS**

SERS is self-insured for employee benefits for dental, medical, and hospitalization. A third-party administrator manages the program. SERS holds a stop-loss policy of \$225,000 per employee per year. SERS also accrues incurred claims from the current fiscal year, that have not yet been billed in the current fiscal year. The amount accrued in FY2016 was \$120,000, and the amount accrued in FY2017 was \$225,000.

**12. Federal Income Tax Status**

The SERS Pension Trust Fund is a qualified plan under Internal Revenue Code (IRC) Section 401(a) and is therefore exempt from federal income taxes. The Medicare B Fund is established pursuant to IRC Section 401(h). The Death Benefit Fund is an insurance fund and is in compliance with IRC Section 101(a). The QEBA Fund is a qualified entity, created in accordance with IRC Section 415(b). The Health Care Fund is structured to meet the requirements of IRC Section 105(e).

**13. Risk Management**

SERS is exposed to various risks of loss, including theft or destruction of assets, general liability, employee injuries, and legal challenges to fiduciary decisions. SERS self-insures some risks through deductibles and retention, and purchases insurance for the remainder. For the past four years, there has been no reduction in coverage, and no claims have exceeded purchased limits.

**14. Contingent Liabilities**

Deutsche Bank Trust Company Americas, et al. v. Huntington National Bank, et. al. – On June 3, 2011, SERS was named as a defendant in an action brought by Deutsche Bank. Deutsche Bank claims that SERS and other shareholders benefited from the 2007 leveraged buyout of the Tribune Company while creditors such as Deutsche were harmed and that the leveraged buyout helped cause the Tribune's bankruptcy in 2008. Deutsche has asked for SERS and other shareholders to divulge money received from the leveraged buyout. On December 19, 2011, the United States Judicial Panel on Multidistrict Litigation transferred this action and others like it around the country to the United States District Court, Southern District of New York, for coordinated or consolidated pretrial proceedings. On November 6, 2012, SERS and other defendants filed a Motion to Dismiss the individual creditor actions. On September 23, 2013, the Court granted defendants' Motion to Dismiss the individual creditor actions. On September 30, 2013 the plaintiffs appealed the Court's decision to the United States Court of

Appeals for the Second Circuit. On March 24, 2016, the Second Circuit Court of Appeals affirmed the District Court's earlier decision to dismiss individual creditor actions. On September 9, 2016, plaintiffs in the individual creditor actions that were dismissed by the Second Circuit filed their Petition for a Writ of Certiorari with the U.S. Supreme Court seeking review of the Second Circuit's decision. Previously pending in the District Court was a Motion to Dismiss intentional fraudulent conveyance claims brought by the Litigation Trustee on behalf of the bankruptcy estate for the Tribune Company, known as the FitzSimons case. However, on January 6, 2017, the District Court granted defendants' Motion to Dismiss the Litigation Trustee's claims in FitzSimons. While the final outcome of this litigation cannot be determined at this time, management is of the opinion that the liability, if any, for these legal actions will not have a material adverse effect on SERS' financial position.

### 15. Net Other Postemployment Benefits (OPEB) Liability and Actuarial Information

**Plan administration** School Employees Retirement System of Ohio (SERS) administers School Employees Retirement System of Ohio Health Care Plan – a cost-sharing, multiple-employer, defined benefit OPEB plan that provides various levels of health care to retired, disabled and beneficiaries, as well as their dependents, of non-teaching personnel of 1,046 Ohio's schools, the University of Akron, ten community colleges, and four technical colleges. The Board of SERS governs the plan under Section 3309.375 of the Ohio Revised Code. The nine member Board consists of four elected employee members, two elected retiree members, and three members appointed by the governor, treasurer of state, and the legislature with an expertise in investments.

**Plan membership** At June 30, 2017, SERS' Health Care Plans membership consisted of the following:

Currently Receiving Benefits	
Retirees	32,085
Disability	3,208
Beneficiaries	8,565
Inactive Members Entitled to But Not Yet Receiving Benefits	4,860
Active members	<u>157,981</u>
Total	<u>206,699</u>

**Benefits provided** SERS' Health Care Plan provides healthcare benefits to eligible individuals receiving retirement, disability, and survivor benefits, and to their eligible dependents. Members who retire after June 1, 1986, need 10 years of service credit, exclusive of most types of purchased credit, to qualify to participate in SERS' health care coverage. The following types of credit purchased after January 29, 1981, do not count toward health care coverage eligibility: military, federal, out-of-state, municipal, private school, exempted, and early retirement incentive credit. In addition to age and service retirees, disability benefit recipients and beneficiaries who are receiving monthly benefits due to the death of a member or retiree, are eligible for

SERS' health care coverage. Most retirees and dependents choosing SERS' health care coverage are over the age of 65 and therefore enrolled in a fully insured Medicare Advantage plan; however, SERS maintains a traditional, self-insured preferred provider organization for its non-Medicare retiree population. For both groups, SERS offers a self-insured prescription drug program. Health care is a benefit that is permitted, not mandated, by statute.

**Contributions** The Health Care Plan is financed through a combination of employer contributions, recipient premiums, investment returns, and any funds received on behalf of SERS' participation in Medicare programs. The System's goal is to maintain a health care reserve account with a 20-year solvency period in order to ensure that fluctuations in the cost of health care do not cause an interruption in the program. However, during any period in which the 20-year solvency period is not achieved, the System shall manage the Health Care Fund on a pay-as-you-go basis. Funding by employer contributions for FY2017 was at 0% of the 14% contributions due to a change in Pension funding policy in June 2015. The Board seeks to maintain a funded ratio of at least 90% for basic benefits. If the basic benefit funded ratio is less than 70%, the entire 14% of the employers' contributions will be allocated to basic benefits. If the funded ratio is at least 70% but less than 80%, the minimum portion of the employers' contribution allocated to basic benefits is 13.50% of payroll; the remaining .50% may be allocated to the Health Care Fund at the Board's discretion. If the funded ratio is at least 80% but less than 90%, at least 13.25% of the employers' contribution will be allocated to basic benefits with the remain.75% being allocated to the Health Care Fund at the Board's discretion. If the funded ratio is 90% or greater, the Health Care Fund may receive any portion of the employers' contribution that is not needed to fund basic benefits. Therefore, in FY2017, all contributions reported in the Change in Plan Net Position, are a result of the health care surcharge. This surcharge is to compensate for low-wage salaries, levied against employers, and exclusively for funding health care coverage. The surcharge minimum salary was \$23,500 for FY2017. A surcharge is payable for any annual payroll salaries falling below the minimum salary threshold; however, the surcharge amount is capped at 2.0% of each employer's payroll and 1.5% of statewide reported payroll.

**Investment policy** The Health Care Plan follows the same investment policy as the Pension Plan, as defined in the Statement of Investment Policy.

**Discount rate (SEIR)** The discount rate used to measure the total OPEB liability at June 30, 2017 was 3.63%. The discount rate used to measure total OPEB liability prior to June 30, 2017 was 2.98%. The projection of cash flows used to determine the discount rate assumed that contributions will be made from members and the System at the state statute contribution rate of 2.00% of projected covered employee payroll each year, which includes a 1.50% payroll surcharge and .50% of contributions from the basic benefits plan. Based on these assumptions, the OPEB plan's fiduciary net position was projected to become insufficient to make future benefit payments during the fiscal year ending June 30, 2025. Therefore, the long-term expected rate of

return on OPEB plan assets was used to present value the projected benefit payments through the fiscal year ending June 30, 2024 and the Fidelity General Obligation 20-year Municipal Bond Index rate of 3.56%, as of June 30, 2017 (i.e. municipal bond rate), was used to present value the projected benefit payments for the remaining years in the projection. The total present value of projected benefit payments from all years was then used to determine the single rate of return that was used as the discount rate.

**Rate of return** The long-term expected rate of return on plan assets is reviewed as part of the actuarial five-year experience study. The most recent study covers fiscal years 2010 through 2015, and was adopted by the Board on April 21, 2016. Several factors are considered in evaluating the long-term rate of return assumption including long-term historical data, estimates inherent in current market data, and a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return were developed by the investment consultant for each major asset class. These ranges were combined to produce the long-term expected rate of return, 7.50%, by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The capital market assumptions developed by the investment consultant are intended for use over a 10-year horizon and may not be useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The assumption is intended to be a long-term assumption and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

**Periods of projected benefit payments** The projection of future benefit payments for all current plan members was until the benefit payments ran out.

**Assumed asset allocation** The target asset allocation and best estimates of arithmetic real rates of return for each major asset class, as used in the June 30, 2015 five-year experience study, are summarized as follows:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Cash	1.00%	0.50%
US Equity	22.50	4.75
International Equity	22.50	7.00
Fixed Income	19.00	1.50
Private Equity	10.00	8.00
Real Assets	15.00	5.00
Multi-Asset Strategies	10.00	3.00

**Net OPEB liability of SERS** The components of the net OPEB liability of SERS at June 30, 2017, were as follows:

Total OPEB liability	\$ 3,065,846,821
Plan fiduciary net position	<u>382,109,560</u>
SERS' net OPEB liability	<u>\$ 2,683,737,261</u>
Plan fiduciary net position as a Percentage of the total OPEB liability	12.46%

**Actuarial Assumptions** The total OPEB liability was determined by an actuarial valuation as of June 30, 2017. The actuarial assumptions used in the valuation are based on results from the most recent actuarial experience study, which covered the five-year period ending June 30, 2015. The experience study report is dated April 2016. The total OPEB liability used the following assumptions and other inputs:

Investment rate of return*	7.50%
*Includes price inflation at	3.00%
Wage increases	3.50% - 18.20%
Municipal bond index rate	
Prior measurement date	2.92%
Measurement date	3.56%
Year FNP is projected to be depleted	2026
Single equivalent interest rate, net of plan investment expense, including price inflation	
Prior measurement date	2.98%
Measurement date	3.63%
Medical Trend Assumption	
Pre-Medicare	7.50% - 5.00%
Medicare	5.50% - 5.00%
Mortality	RP-2014 Blue Collar Mortality Table with fully generational projection and Scale BB, 120% of male rates and 110% of female rates. RP-2000 Disabled Mortality Table with 90% for male rates and 100% for female rates set back five years.

**Sensitivity of the net OPEB liability to changes in the discount rate and health care cost trend rate** The following table presents the net OPEB liability of SERS, what SERS' net OPEB liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.63%) and higher (4.63%) than the current discount rate (3.63%).

Net OPEB Liability		
1% Decrease (2.63%)	Discount Rate (3.63%)	1% Increase (4.63%)
\$ 3,240,954,465	\$ 2,683,737,261	\$ 2,242,278,957

The following table presents the OPEB liability of SERS, what SERS' net OPEB liability would be based on health care cost trend rates that are 1 percent lower (6.5 percent decreasing to 4.0 percent) and 1 percent higher (8.5 percent decreasing to 6.0 percent) than the current rate.

Net OPEB Liability		
1% Decrease (6.5% decreasing to 4.0%)	Health Care Cost Trend Rates (7.5% decreasing to 5.0%)	1% Increase (8.5% decreasing to 6.0%)
\$ 2,177,651,679	\$ 2,683,737,261	\$ 3,353,550,196

**16. Recently Issued Accounting Pronouncements**

The GASB issued Statement No. 87, *Leases*. The requirements for this Statement are effective for reporting periods beginning after December 15, 2019. This Statement's objective is to improve

## Financial Section

accounting and financial reporting for leases by governments. The payments for short-term leasing of equipment should be recognized as outflows of resources based on the provisions of the lease contract. The requirement of this Statement by SERS is still being determined by management.

The GASB issued Statement No. 85, *Omnibus 2017*. This Statement addresses practice issues that have been identified while implementing certain prior GASB Statements. Topics included are: fair value measurement and application, timing of the measurement of pension and other postemployment benefits (OPEB) liabilities and expenditures recognized in financial statements prepared using the current financial resources measurement focus, presenting payroll-related measures in required supplementary information for purposes of reporting by OPEB plans and employers that provide OPEB, classifying employer-paid member contributions for OPEB, and account and financial reporting for OPEB provided through certain multiple-employer defined benefit OPEB plans. The requirements of this Statement have been reflected in this report.

The GASB issued Statement No. 84, *Fiduciary Activities*. The requirements for this Statement are effective for reporting periods beginning after December 15, 2018. The focus of this Statement is on identifying fiduciary activities of all state and local governments. Activity meeting the criteria set forth in the Statement should be reported in a fiduciary fund in the basic financial statements. There are four fiduciary funds that should be reported, if applicable: pension trust funds, investment trust funds, private-purpose trust funds, and custodial funds. SERS will determine the impact, if any, on its financial reporting in the upcoming months.

The GASB issued Statement No. 82, *Pension Issues—an amendment of GASB Statements No. 67, No. 68, and No. 73*. The requirements of this Statement are effective for reporting periods beginning after June 15, 2016, except for the requirements of paragraph 7 in a circumstance in which an employer's pension liability is measured as of a date other than the employer's most recent fiscal year-end. In that circumstance, the requirements of paragraph 7 are effective for that employer in the first reporting period in which the measurement date of the pension liability is on or after June 15, 2017. The provisions of GASB Statement No. 82 were implemented last fiscal year.

The GASB issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. This Statement replaces the requirements of Statement No. 43 *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The requirements of this Statement are effective for financial statements for fiscal years beginning after June 15, 2016, and have been included this fiscal year. For defined benefit Other Postemployment Benefit (OPEB) plans, it identifies the methods and assumptions that should be used to project benefit payments and discounts. Statement No. 74 requires more extensive note disclosure and Required Supplementary Information.

The GASB also issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The requirements of this Statement are effective for financial statements for fiscal years beginning after June 15, 2017. It establishes new accounting and financial reporting requirements for governments whose employees are provided with OPEB. Management has not yet determined the impact of the adoption of this standard.

## Required Supplementary Pension Information

<b>SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY<sup>(1)</sup></b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b>Total pension liability</b>				
Service Cost	\$ 335,918,449	\$ 344,059,634	\$ 338,060,547	\$ 332,975,336
Interest	1,436,626,290	1,385,878,598	1,341,777,662	1,296,763,757
Benefit changes	(998,484,758)	-	-	-
Difference between expected and actual experience	275,031,424	50,307,199	78,749,615	53,951,305
Changes of assumptions	-	668,216,579	-	-
Benefit payments	(1,170,689,006)	(1,110,694,355)	(1,076,498,383)	(993,355,839)
Refunds of contributions	(60,692,833)	(70,340,495)	(60,635,651)	(55,668,466)
<b>Net change in total pension liability</b>	<b>(182,290,434)</b>	<b>1,267,427,160</b>	<b>621,453,790</b>	<b>634,666,093</b>
<b>Total pension liability – beginning</b>	<b>19,770,708,121</b>	<b>18,503,280,961</b>	<b>17,881,827,171</b>	<b>17,247,161,078</b>
<b>Total pension liability – ending (a)</b>	<b>\$19,588,417,687</b>	<b>\$19,770,708,121</b>	<b>\$18,503,280,961</b>	<b>\$17,881,827,171</b>
<b>Plan net position</b>				
Contributions – employer	\$ 467,796,738	\$ 436,421,681	\$ 395,804,105	\$405,029,627
Contributions – member	336,627,658	314,325,716	303,866,076	295,690,550
Net investment income	1,613,368,560	106,543,126	441,455,552	1,888,288,396
Benefit payments	(1,170,689,006)	(1,110,694,355)	(1,076,498,383)	(993,355,839)
Administrative expense	(24,403,350)	(21,808,880)	(19,305,477)	(19,582,190)
Refunds of contributions	(60,692,833)	(70,340,495)	(60,635,651)	(55,668,466)
Other	-	-	1,874,997	-
<b>Net change in plan net position</b>	<b>1,162,007,767</b>	<b>(345,553,207)</b>	<b>(13,438,781)</b>	<b>1,520,402,078</b>
<b>Plan net position – beginning</b>	<b>12,451,630,823</b>	<b>12,797,184,030</b>	<b>12,810,622,811*</b>	<b>11,300,482,029</b>
<b>Plan net position – ending (b)</b>	<b>13,613,638,590</b>	<b>12,451,630,823</b>	<b>12,797,184,030</b>	<b>12,820,884,107*</b>
<b>Net pension liability – ending (a) – (b)</b>	<b>\$ 5,974,779,097</b>	<b>\$ 7,319,077,298</b>	<b>\$ 5,706,096,931</b>	<b>\$ 5,060,943,064</b>

<b>SCHEDULE OF THE NET PENSION LIABILITY<sup>(1)</sup></b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Total pension liability	\$ 19,588,417,687	\$ 19,770,708,121	\$ 18,503,280,961	\$ 17,881,827,171
Plan net position	13,613,638,590	12,451,630,823	12,797,184,030	12,820,884,107
<b>Net pension liability</b>	<b>\$ 5,974,779,097</b>	<b>\$ 7,319,077,298</b>	<b>\$ 5,706,096,931</b>	<b>\$ 5,060,943,064</b>
Ratio of plan net position to total pension liability	69.50%	62.98%	69.16%	71.70%
Covered-employee payroll	\$ 3,302,805,662	\$ 2,932,236,551	\$ 2,845,443,802	\$ 2,922,291,681
Net pension liability as a percentage of covered-employee payroll	180.90%	249.61%	200.53%	173.18%

<sup>(1)</sup>The effort and cost to re-create financial statement information for the previous six years was not practical. Information was prepared prospectively from June 30, 2014 for GASB 67 purposes. Additional years will be displayed as they become available.

\*Net Position was restated due to the implementation of GASB 68 during FY2015.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS**

	Actuarially calculated employer contribution	Actual employer contributions	Annual contribution deficiency (excess)	Covered-employee payroll	Actual contributions as a percentage of covered-employee payroll
2017	\$467,796,738	\$467,796,738	\$ -	\$3,302,805,662	14.16%
2016	436,421,681	436,421,681	-	2,932,236,551	14.88
2015	397,679,102	397,679,102	-	2,845,443,802	13.98
2014	402,029,627	402,029,627	-	2,922,291,681	13.86
2013	402,154,124	402,154,124	-	2,905,737,890	13.84
2012	399,722,069	399,722,069	-	2,971,911,294	13.45
2011	379,299,222	379,299,222	-	3,017,495,800	12.57
2010	402,047,392	402,047,392	-	2,969,330,812	13.54
2009	291,069,103	291,069,103	-	2,958,019,339	9.84
2008	260,669,755	260,669,755	-	2,654,478,157	9.82

**SCHEDULE OF INVESTMENT RETURNS<sup>(1)</sup>**

Year ended June 30	2017	2016	2015	2014
Annual money weighted rate of return, net of investment expense	13.27%	0.81%	3.45%	17.21%

<sup>(1)</sup>The effort and cost to re-create financial statement information for the previous six years was not practical. Information was prepared prospectively from June 30, 2014 for GASB 67 purposes. Additional years will be displayed as they become available.

**Notes to Required Supplementary Pension Information  
June 30, 2017**

**1. Schedule of Changes in the Employer Net Pension Liability**

The total pension liability contained in this schedule was provided by the System's actuary, Cavanaugh Macdonald Consulting, LLC. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Retirement System.

**2. Schedule of Employer Contributions**

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

**3. Actuarial Assumptions**

The information presented in the required supplementary schedules was used in the actuarial valuation for purposes of calculating the actuarially determined contribution rate. The assumptions and methods used for this actuarial valuation were recommended by the actuary and adopted by the Board.



Required Supplementary Health Care Information

SCHEDULE OF CHANGES IN THE NET OPEB LIABILITY <sup>(1)</sup>	
2017	
Total OPEB liability	
Service Cost	\$ 183,787,494
Interest	94,687,883
Benefit changes	-
Difference between expected and actual experience	-
Changes of assumptions	(346,945,601)
Benefit payments*	(86,257,389)
Net change in total OPEB liability	(154,727,613)
Total OPEB liability - beginning	3,220,574,434
Total OPEB liability - ending (a)	\$ 3,065,846,821
Plan net position	
Contributions - employer	\$ 65,013,891
Contributions - member	-
Net investment income	35,730,747
Benefit payments*	(86,257,389)
Administrative expense	(2,582,204)
Other	-
Net change in plan net position	11,905,045
Plan net position - beginning	370,204,515
Plan net position - ending (b)	382,109,560
Net OPEB liability - ending (a) - (b)	\$ 2,683,737,261

\*Benefit payments are net of retiree contributions

<sup>(1)</sup>Schedule will be for 10 years, as they become available.

SCHEDULE OF THE NET OPEB LIABILITY <sup>(1)</sup>	
2017	
Total OPEB liability	\$ 3,065,846,821
Plan net position	382,109,560
Net OPEB liability	\$ 2,683,737,261
Ratio of plan net position to total OPEB liability	12.46%
Covered-employee payroll	\$ 3,303,055,969
Net OPEB liability as a percentage of covered-employee payroll	81.25%

<sup>(1)</sup>Schedule will be for 10 years, as they become available.

SCHEDULE OF EMPLOYER CONTRIBUTIONS - OPEB (\$ in thousands)										
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Actuarially determined employer contribution	\$178,035	\$161,566	\$164,182	\$190,390	\$171,402	\$155,858	\$169,146	\$315,535	\$373,789	\$307,874
Actual employer contributions	65,014	77,349	88,990	75,297	45,489	56,476	86,908	84,557	186,916	180,347
Annual contribution deficiency (excess)	\$113,021	\$84,217	\$75,192	\$115,093	\$125,913	\$99,382	\$82,238	\$230,978	\$186,873	\$127,527
Covered-employee payroll	\$3,303,056	\$2,932,237	\$2,845,444	\$2,759,282	\$2,746,828	\$2,788,154	\$2,852,379	\$2,842,660	\$2,787,391	\$2,651,801
Actual contributions as a percentage of covered-employee payroll	1.97%	2.64%	3.13%	2.73%	1.66%	2.03%	3.05%	2.97%	6.71%	6.80%

SCHEDULE OF INVESTMENT RETURNS - OPEB <sup>(1)</sup>	
Year ended June 30	2017
Annual money weighted rate of return, net of investment expense	11.59%

<sup>(1)</sup>Schedule will be for 10 years, as they become available.

### Notes to Required Supplementary Health Care Information

#### Changes of Benefit and Funding Terms

There have been no changes to the benefit provisions, in regards to the Schedule of Employer Contributions.

#### Changes in Actuarial Assumptions from 2016

1. Assumed rate of inflation was reduced from 3.25% to 3.00%.
2. Payroll Growth Assumption was reduced from 4.00% to 3.50%.
3. Assumed real wage growth was reduced from 0.75% to 0.50%.
4. Rates of withdrawal, retirement, and disability were updated to reflect recent experience.
5. Mortality among active members was updated to the following:  
RP-2014 Blue Collar Mortality Table with fully generational projection and a five-year age set-back for both males and females.
6. Mortality among service retired members, and beneficiaries was updated to the following:  
RP-2014 Blue Collar Mortality Table with fully generational projection with Scale BB, 120% of male rates, and 110% of female rates.
7. Mortality among disabled members was updated to the following:  
RP-2000 Disabled Mortality Table, 90% for male rates and 100% for female rates, set back five years is used for the period after disability retirement.

#### Additional Actuarial Information

The system is funded with fixed contribution rates for the state and with varying contributions for employees based on their job and personal elections. The Actuarially Determined Contributions in the Schedule of Employer Contributions – OPEB are calculated as of the beginning of the fiscal year in which contributions are reported.

The following actuarial methods and assumptions (from the June 30, 2016 actuarial valuation) were used to determine the Actuarially Determined Contribution reported for FY2017 in the Schedule of Employer Contributions – OPEB:

Actuarial cost method:	Entry age normal
Amortization method:	Level percent of payroll, open
Remaining amortization period:	30 years
Asset valuation method:	Market value of assets
Price inflation:	3.00 percent
Salary increase, including price inflation:	3.50% - 18.20%
Actuarial assumptions:	Investment rate of return <sup>^</sup> 5.25% compounded annually
Medical trend assumptions:	Pre-Medicare - 7.50% initially, decreasing to 5.00% by 2022 Medicare - 5.50% initially, decreasing to 5.00% by 2022

<sup>^</sup> Includes price inflation at 3.00%

## OPERS related Required Supplementary Pension Information

<b>Schedule of SERS' Proportionate Share of the Net Pension Liability</b>			
<b>Ohio Public Employees Retirement Plan - Traditional Pension Plan</b>			
<b>Last 10 Fiscal Years*</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
SERS' proportion of the net pension liability (asset)	0.0956142%	0.0937745%	0.0925739%
SERS' proportionate share of the net pension liability (asset)	\$ 21,712,365	\$ 16,242,931	\$ 11,165,446
SERS' covered-employee payroll	12,360,000	11,671,192	11,349,639
SERS' proportionate share of the net pension liability (asset) as a % of its covered-employee payroll	176%	139%	98%
Plan fiduciary net position as a % of the total pension liability	77.25%	81.08%	86.45%

\*The amounts presented were determined as of 12/31 of the prior calendar year. GASB 68 was implemented in 2015. Additional years will be added to the schedule as they become available.

<b>Schedule of SERS' Proportionate Share of the Net Pension Liability</b>			
<b>Ohio Public Employees Retirement Plan - Combined Pension Plan</b>			
<b>Last 10 Fiscal Years*</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
SERS' proportion of the net pension liability (asset)	0.2277590%	0.2364605%	0.2391363%
SERS' proportionate share of the net pension liability (asset)	\$ (126,764)	\$ (115,067)	\$ (92,073)
SERS' covered-employee payroll	886,563	860,526	842,570
SERS' proportionate share of the net pension liability (asset) as a % of its covered-employee payroll	(14%)	(11%)	(11%)
Plan fiduciary net position as a % of the total pension liability	116.55%	116.90%	114.83%

\*The amounts presented were determined as of 12/31 of the prior calendar year. GASB 68 was implemented in 2015. Additional years will be added to the schedule as they become available.

<b>Schedule of Contributions</b>			
<b>Ohio Public Employees Retirement Plan - Traditional Pension Plan</b>			
<b>Last 10 Fiscal Years*</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
Contractually required contribution	\$ 1,483,226	\$ 1,400,542	\$ 1,361,957
Contributions in relation to the contractually required contribution	1,483,226	1,400,542	1,361,957
Contribution deficiency (excess)	-	-	-
SERS' covered employee payroll	\$ 12,360,000	\$ 11,671,192	\$ 11,349,639
Contributions as a % of covered-employee payroll	12%	12%	12%

\*The amounts presented were determined as of 12/31 of the prior calendar year. GASB 68 was implemented in 2015. Additional years will be added to the schedule as they become available.

<b>Schedule of Contributions</b>			
<b>Ohio Public Employees Retirement Plan - Combined Pension Plan</b>			
<b>Last 10 Fiscal Years*</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
Contractually required contribution	\$ 106,388	\$ 103,263	\$ 104,896
Contributions in relation to the contractually required contribution	106,388	103,263	104,896
Contribution deficiency (excess)	-	-	-
SERS' covered employee payroll	\$ 886,563	\$ 860,526	\$ 842,570
Contributions as a % of covered-employee payroll	12%	12%	12%

\*The amounts presented were determined as of 12/31 of the prior calendar year. GASB 68 was implemented in 2015. Additional years will be added to the schedule as they become available.

**Supplementary Information**  
**Schedule of Administrative Expenses**  
**for the year ended June 30, 2017**

	General Expenses	Investment Related Expenses	Total
<b>Personnel Services</b>			
Salaries	\$ 10,924,522	\$ 2,769,558	\$ 13,694,080
Retirement Contributions	4,907,663	348,100	5,255,763
Insurance	2,762,134	289,776	3,051,910
Total Personnel Services	18,594,319	3,407,434	22,001,753
<b>Professional Services</b>			
Actuarial Advisors	307,141	-	307,141
Audit Services	768,569	-	768,569
Custodial Banking	127,745	435,416	563,161
Investment Related	-	3,024,367	3,024,367
Medical	40,000	-	40,000
Technical	565,849	57,223	623,072
Total Professional Services	1,809,304	3,517,006	5,326,310
<b>Communications</b>			
Postage	570,646	-	570,646
Telecommunications Services	172,536	-	172,536
Member / Employer Education	63,750	-	63,750
Printing and Publication	118,532	-	118,532
Total Communications	925,464	-	925,464
<b>Other Services</b>			
Computer Support Services	1,104,788	-	1,104,788
Office Equipment and Supplies	195,209	347	195,556
Training	273,446	16,126	289,572
Transportation and Travel	157,677	93,107	250,784
Memberships and Subscriptions	83,935	58,907	142,842
Property and Fiduciary Insurance	389,532	-	389,532
Facilities Expense	1,537,925	-	1,537,925
Maintenance	74,945	-	74,945
Staff Support	127,617	-	127,617
Ohio Retirement Study Council	18,171	-	18,171
Miscellaneous	40,350	-	40,350
Total Other Services	4,003,595	168,487	4,172,082
Total Administrative Expenses before Depreciation	25,332,682	7,092,927	32,425,609
<b>Depreciation</b>			
Furniture & Equipment	320,704	-	320,704
Building	1,335,186	-	1,335,186
Total Depreciation	1,655,890	-	1,655,890
Total Administrative Expenses	\$ 26,988,572	\$ 7,092,927	\$ 34,081,499

See accompanying independent auditor's report.

## Supplementary Information

### Schedule of Investment Expenses for the year ended June 30, 2017

Description of Expenses	Net Assets Under Management	Direct Fees
US Equity	\$ 3,049,772,758	\$ 8,477,808
Non-US Equity	3,398,255,619	12,187,372
Global Private Equity	1,331,560,902	17,666,335
Global Fixed Income	2,010,352,446	4,246,948
Multi-Asset Strategies	1,270,060,288	17,542,843
Global Real Assets	2,040,139,870	20,354,474
Opportunistic Investments	321,712,483	3,689,060
Cash Equivalents	280,899,616	1,636,317
<b>Total Investment Management Fees</b>		<b>\$ 85,801,157</b>
Custody Service Fees		435,416
Master Recordkeeper Fees		1,444,614
Investment Consulting and Performance/Analytics Fees		1,507,637
Investment Administrative Expenses		3,705,260
<b>Total Other Investment Expenses</b>		<b>7,092,927</b>
<b>Total Investment Expenses</b>		<b>\$ 92,894,084</b>

### Schedule of Payments to Consultants

SERS paid the following non-investment related consulting fees in FY2017:

Actuarial Advisors	\$ 307,141
Audit Services	768,569
Legal Counsel	158,093
Medical Consultant	40,000
Information Technology Consultants	104,489
Health Care Consultants	97,860
Other Consultants	333,151
<b>Total</b>	<b>\$1,809,303</b>

See accompanying independent auditor's report.

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### *SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO*

300 E. BROAD ST., SUITE 100 • COLUMBUS, OHIO 43215-3746 • 614-222-5853  
Toll-Free-866-280-7377 • www.ohsers.org

RICHARD STENSRUD  
*Executive Director*

HELEN M. NINOS  
*Deputy Executive Director*

December 15, 2017

Retirement Board, Members, Retirees, and Beneficiaries of the Retirement System:

On behalf of the SERS Investment Department, I respectfully submit the Investment Section of the Comprehensive Annual Financial Report for the year ended June 30, 2017. Information in this section was compiled by SERS' Investment and Finance Staff, and BNY Mellon Global Risk Solutions. Investment results are based upon a time-weighted rate of return methodology, and assets are shown at fair value.

SERS' portfolio generated strong performance in FY2017 in both absolute and relative terms. The Total Fund return of 13.20% (net) for FY2017 exceeded the policy benchmark by 1.66% and the 7.50% actuarial rate. All asset classes generated positive net returns with the Opportunistic Investment Strategy recording the highest return at 20.30%, followed by Global Equities at 19.91%. Investment performance has steadily improved over the past five years with implementation of the Investment Strategic Plan adopted in 2012. The fund posted five year annualized net returns of 9.56% exceeding the policy benchmark by 0.82% and the actuarial rate. SERS' five year gross return ranks in the top decile of the public fund peer universe. While returns over the past five years have been exceptional, staff expects returns to moderate going forward as markets are fully valued and the economy is entering a late cycle phase.

Wilshire Associates, Inc. was hired as a new general investment consultant effective July 2016. Staff and Wilshire conducted an Asset Liability Study from September 2016 through May 2017 with discussions on the economic outlook, expected returns and risk, and presented various asset mix options to the Board in April. The Board approved Staff's recommendation to retain the current asset allocation policy.

In FY2017, Staff continued to implement the Strategic Investment Plan. Significant progress was made in terms of improving the portfolio structures within asset classes to optimize risk and return, rationalizing manager line-ups and reducing fees. These initiatives have resulted in excess returns over the benchmark as noted above. Details about each portfolio are included on the following pages.

I wish to thank the Investment staff for their dedication and accomplishments this year, and I appreciate the support of the Board and the Executive team. We look forward to working with the Board and the Executive team in the coming year to serve our members with excellence.

Respectfully,

Respectfully,

Farouki Majeed  
*Chief Investment Officer*



## Investment Report

Chapter 3309 of the Ohio Revised Code and the Board-adopted Investment Policy govern investment activity at the School Employees Retirement System of Ohio (SERS). The Board is responsible for managing the assets of the Fund effectively, prudently and for the exclusive benefit of SERS' members and beneficiaries.

### INVESTMENT POLICY

The Board approves the Statement of Investment Policy. The purpose of the policy is to set forth SERS' investment philosophy and objectives. The policy establishes investment policies and describes the organization and division of responsibilities necessary to implement the Board's philosophy and objectives prudently; and establishes a framework for making investment decisions, monitoring investment activity and promotes effective communication between the Board, Staff and other involved parties.

### INVESTMENT OBJECTIVES

The primary objective of the investment portfolio is to achieve investment returns exceeding the return of our Policy Benchmark within prudent risk parameters. Over the long term, it is expected that investment returns also should meet or exceed the Board approved actuarial assumed rate of 7.50%.

### INVESTMENT STRATEGIES

**Asset Allocation** The most recent adjustment was made during FY2013 to reduce multi-asset strategies from 15% to 10% with a corresponding increase in real assets. No changes to the asset allocation were made in FY2017. On June 30, 2017, SERS' asset allocation and its corresponding benchmarks were as follows:

<b>Asset Class</b>	<b>Policy</b>	<b>Benchmark</b>
Global Equities	45%	50% Russell 3000 Index; 50% MSCI ACWI ex-US Index (net dividends)
Global Private Equity	10%	Burgiss All Private Equity Benchmark (BAPE) (one quarter in arrears)
Global Fixed Income	19%	Bloomberg Barclays Capital US Aggregate Bond Index
Global Real Assets	15%	NCREIF Property Index (one quarter in arrears)
Cash Equivalents	1%	Citigroup 30-day T-Bill Index
<b>Strategy</b>		<b>Benchmark</b>
Multi-Asset Strategies	10%	HFRI Fund of Funds Composite Index plus 1.0%
Opportunistic Investments	0%	Total Fund Benchmark Return

**Diversification** Broad diversification within an investment portfolio is used to control the level of risk and volatility within the portfolio over the long term. SERS has adopted a broadly diversified asset allocation policy, and the strategies used within each asset class also have been diversified.

Besides the broad diversification of assets and strategies within SERS' portfolio, SERS also employs a diverse group of investment managers with the goal of outperforming the respective benchmark while managing relative risks.

SERS' Multi-Asset Strategies consultant, Aksia LLC, assists the Staff with the construction and diversification of SERS' Multi-Asset Strategies portfolio and the selection of multi-asset strategies managers. Wilshire Associates, Inc., SERS' general investment consultant, assists the Board on matters of investment policy and asset allocation recommendations. Wilshire also reports to the Board on quarterly performance reviews of the Fund and each portfolio.

**Proxy Voting** In 2012, the Board adopted SERS' Corporate Governance Principles. The Board authorizes the Proxy Review Committee, which consists of staff members from Executive and Investments, to vote proxies according to SERS Proxy Voting Guidelines. This committee implements a process for voting proxies as described in the Proxy Voting Policy and Procedures document. Staff hires a proxy voting advisor, Institutional Shareholder Services (ISS), to vote proxies according to SERS' custom vote policy and provide advice on corporate governance-related matters.

**Sustainability and Corporate Governance** Good governance of markets and entities comprising the markets improves outcomes for investors. SERS' Board and Staff will exercise corporate ownership responsibly and with the best fiduciary interest of members and stakeholders. SERS' Board and Staff must be attentive to important environmental, social and governance issues that affect markets and promote its interests in a responsible manner in the best fiduciary interest of members and stakeholders.

### Global Equities

FY2017 was a good year for global equities with all broad indexes making strong advances. Markets outside of the US led the way on the strength of improving economic conditions, strengthening currencies, and waning political risks. Though the US market slightly lagged its international counterparts, it continued upward making this eight-year rally one of the longest on record. Driven largely by positive economic growth and favorable corporate earnings, the Russell 3000 Index was up nearly 19% for the year. US large cap stocks outpaced small cap stocks. The resurgence of US large cap growth stocks over the year caused large cap value to lag the broader market while small cap growth stocks slightly trailed value stocks. The rebound in international markets over the previous FY was notable. Both Non-US developed markets and emerging markets performed well registering annual returns of 20% and 24%, respectively. Though a weakening US dollar provided a tailwind for Non-US equity participants over the last half of the year, returns were largely driven by positive economic data, improvements in earnings, and an overall strengthening global economy. Value outperformed growth in developed markets outside of the US while growth stock outperformed value stocks in emerging markets. A similar disparity occurred along market capitalization as large cap stocks underperformed small cap stocks in the developed markets while large cap stocks significantly outperformed small cap stocks in emerging markets.

### Global Private Equity

Calendar year 2016 was similar to the past several years in the private equity markets. The industry continued to be characterized by higher valuations for investment opportunities, a large appetite for private equity from limited partners, robust fund raising environment and strong cash flow as distributions outpaced capital calls for the sixth straight year. The main difference between 2015 and 2016 in the private equity markets was the modest decrease in exit activity. Exits slowed from more than 1,600 company exits totaling more than \$400 billion in 2015 to just over 1,000 company exits totaling close to \$330 billion in 2016. The steady flow of distributions returning capital to limited partners resulted in another solid year for fundraising as investors searched for opportunities to redeploy capital. A total of 830 private equity funds raised \$347 billion in 2016 driving the level of dry powder, capital available for investments, up to \$820 billion. Although 2016 was again a great year to be a seller, asset valuations continued to rise which in turn increased purchase multiples on private equity investment targets. However, the combination of the solid exit activity and fundraising figures mentioned above resulted in a steady level of investment activity across the asset class with private equity firms completing 3,900 purchases of \$319 billion.

### Global Fixed Income

Fixed income outperformed the benchmark during FY2017 primarily due to over-weighting corporates and maintaining a short duration stance as interest rates rose during the fiscal year. The Federal Reserve raised interest rates during the fiscal year with two 25 basis point increases in December and March increasing rates to 0.75% - 1.00%. Thus, US Treasuries lost 2.32% for the fiscal year, reflecting higher rates. The high yield index returned 12.70%, emerging market debt local currency posted a 3.76% return, and US investment grade corporates returned 2.28%.

### Multi-Asset Strategies

Multi-Asset Strategies portfolio had a stronger return in FY2017, compared to the prior three years. Event driven strategies led returns in FY2017 as credit and equity markets provided a positive backdrop. Restructurings in the energy sector and the pro-growth and de-regulations policies prioritized by the new administration also began to impact US markets. Equity long/short strategies were also strong with directional, fundamental value, and healthcare strategies contributing the biggest gains. Relative value strategies have steadily added value benefiting from long/short credit and capital structure/fixed income arbitrage strategies. Finally, macro strategies were mixed with themes like Brexit, the developed markets rate sell-off in the fall, long USD, and the post-US election move higher in equities adding and detracting from returns.

### Global Real Assets

During the fiscal year, market conditions and fundamentals were favorable for both commercial real estate and infrastructure assets. Interest rates and vacancy rates remained low, rent and net operating income growth remained healthy, yet moderated, and construction levels remained reasonable in most markets. After six consecutive years of double digit returns for the NCREIF Property Index, FY2017 real estate returns moderated to long-term average levels of 7% - 9%, with expectations that returns going forward will be at the bottom of that range, if not lower, due to high valuations. Infrastructure assets continued to produce returns in excess of 10% for the fiscal year with long-term visibility into the assets' net operation income. Cash yield continues to be the focus for the asset class, which produced a one-year income return in excess of 4% net of fees.

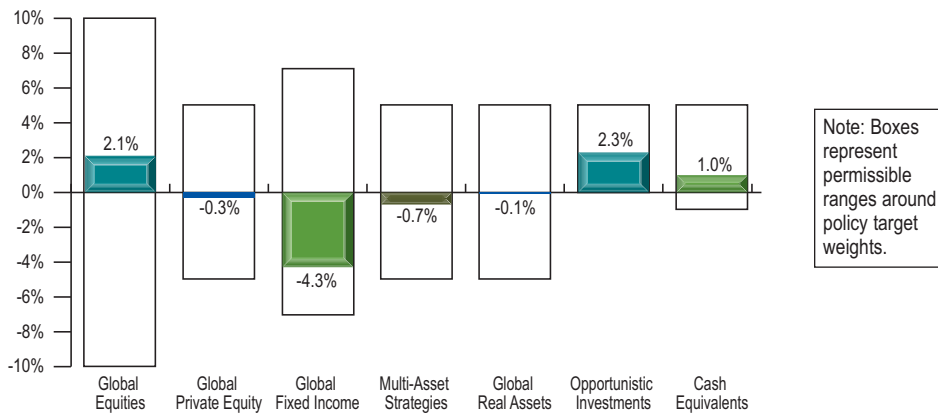
### Opportunistic Investments

The opportunistic portfolio generated strong returns in FY2017 as energy and credit markets rebounded. The opportunistic portfolio is comprised of non-traditional investment opportunities which do not fit neatly within SERS' other asset classes. Opportunistic investments are defined as tactical or non-traditional investment opportunities. Such investments may involve capitalizing on short-term market dislocations or other unique situations or innovative strategies including tactical allocation. The opportunistic portfolio has a 0.0% policy target allocation, giving Staff flexibility to invest only when market conditions present attractive opportunities. SERS made three opportunistic investments in FY2017 with commitments totaling over \$150 million, including follow-on commitments with two existing opportunistic managers and one a new manager to SERS.

### Investment Summary as of June 30, 2017

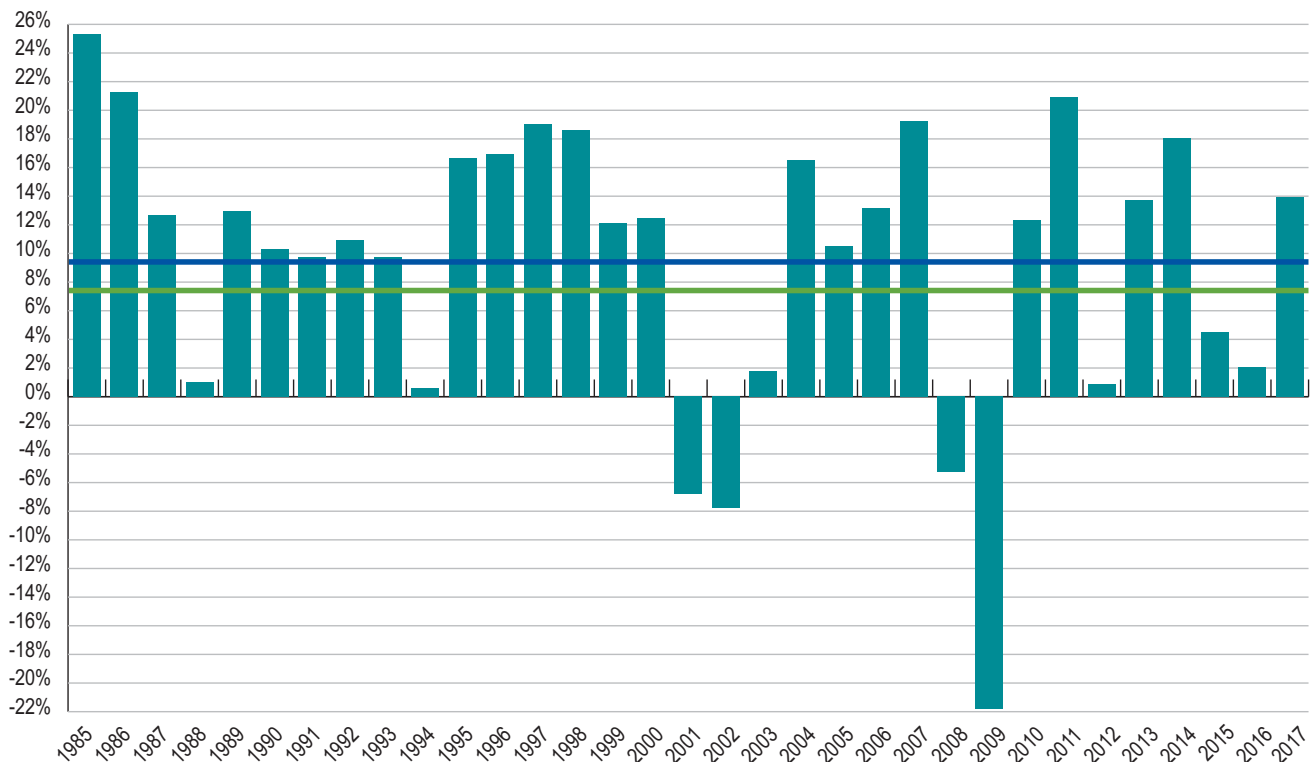
	Fair Value	% of Fair Value	Policy	Range
Global Equities	\$ 6,448,028,378	47.1%	45.0%	35% - 55%
Global Private Equity	1,331,560,902	9.7	10.0	5 - 15
Global Fixed Income	2,010,352,446	14.7	19.0	12 - 26
Multi-Asset Strategies	1,270,060,288	9.3	10.0	5 - 15
Global Real Assets	2,040,139,870	14.9	15.0	10 - 20
Opportunistic Investments	321,712,483	2.3	0.0	0 - 5
Cash Equivalents	280,899,616	2.0	1.0	0 - 5
<b>Total Portfolio</b>	<b>\$ 13,702,753,983</b>	<b>100.0%</b>	<b>100.0%</b>	

### Asset Allocation vs. Policy



### SERS Total Investment Return (Gross of Fees)

■ SERS Total Investment Return  
■ 32-Year Annualized Return 9.10%  
■ Current Actuarial Assumption 7.50%



## Investment Section

### Schedule of Investment Results for the years ended June 30 (Gross of Fees)

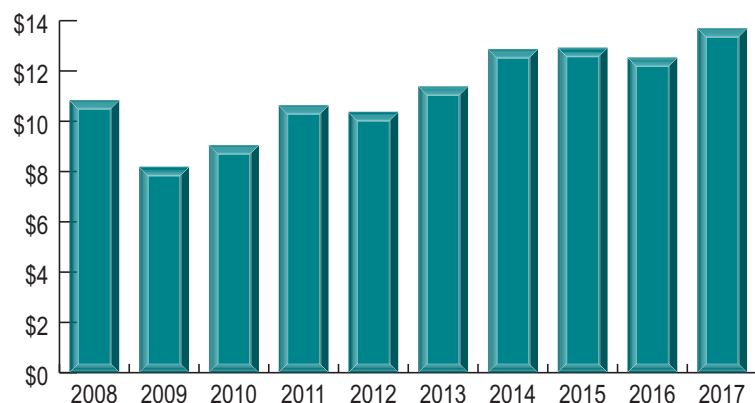
		2017	2016	2015	Annualized Rates of Return		
					3 Years	5 Years	10 Years
<b>Global Equities</b>							
SERS		20.3%	(3.1)%	1.4%	5.7%	11.9%	4.7%
Custom Global Equities Benchmark	(1)*	19.6	(4.2)	0.9	5.0	11.1	4.3
<b>Global Private Equity</b>							
SERS	(2)*	18.4	12.9	20.5	17.2	18.1	13.1
Custom Global Private Equity Benchmark	(3)*	11.7	4.9	7.4	9.0	13.1	9.1
<b>Global Fixed Income</b>							
SERS		2.1	5.4	1.0	2.8	3.5	5.7
Barclays Capital US Aggregate Bond Index		(0.3)	6.0	1.9	2.5	2.2	4.5
<b>Multi-Asset Strategies</b>							
SERS	(4)*	10.8	(3.5)	3.7	3.5	6.6	n/a
Custom Multi-Asset Strategies Benchmark	(5)*	7.3	(4.4)	4.8	2.5	4.6	n/a
<b>Global Real Assets</b>							
SERS	(6)*	8.9	13.5	13.3	11.9	12.4	4.0
Custom Global Real Assets Benchmark	(7)*	7.3	11.8	12.7	10.6	10.7	6.7
<b>Opportunistic Investments</b>							
SERS	(8)*	21.6	(7.7)	9.0	7.0	n/a	n/a
Policy Benchmark	(9)*	11.5	0.9	3.9	5.5	n/a	n/a
<b>Cash Equivalents</b>							
SERS		(0.1)	4.7	0.3	1.6	1.0	1.3
Citigroup 30 Day Treasury Bill Index		0.4	0.1	0.0	0.2	0.1	0.4
<b>Total Fund (Gross of Fees)</b>							
SERS		13.9	2.0	4.5	6.7	10.3	5.2
Policy Benchmark	(9)*	11.5	0.9	3.9	5.5	8.7	4.9
<b>Total Fund (Net of Fees)</b>							
SERS		13.2	1.4	3.9	6.0	9.6	4.5
Policy Benchmark	(9)*	11.5	0.9	3.9	5.5	8.7	4.9

Source: BNY Mellon Global Risk Solutions

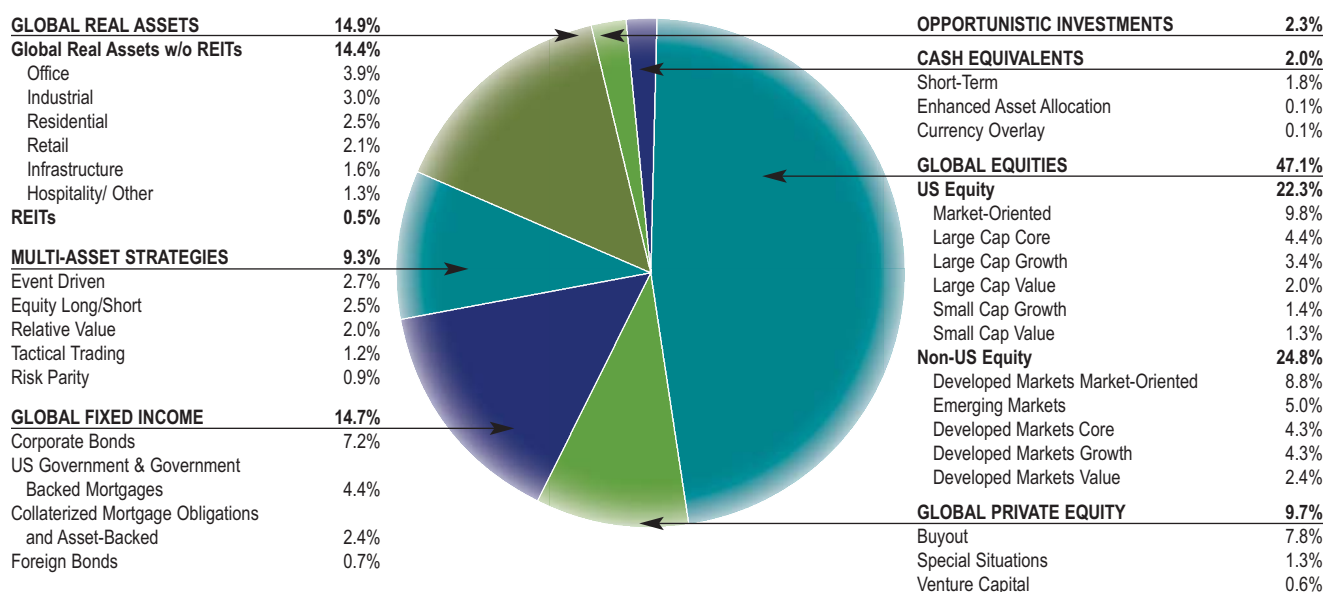
Investment results provided by BNY Mellon Global Risk Solutions are based upon a time-weighted rate of return methodology. Market value adjustments made to global private equity, global real assets, opportunistic investments and multi-asset strategies as of June 30 will be reflected in the investment returns in the next financial statement.

\*See notes to table on page 57.

### Total Investment Fund at Fair Value (\$ in billions)



## SERS Detailed Asset Allocation



## Largest Individual Global Equities Holdings as of June 30, 2017

Description	Country	Shares	Market Price	Fair Value
1 Microsoft Corp.	United States	649,012	\$ 68.93	\$ 44,736,397
2 Apple, Inc.	United States	290,503	144.02	41,838,242
3 Taiwan Semiconductor Manufacturing Co.	Taiwan	1,058,290	34.96	36,997,818
4 Samsung Electronics	South Korea	17,101	2,077.52	35,526,694
5 Pepsico, Inc.	United States	276,983	115.49	31,988,767
6 Johnson & Johnson	United States	232,472	132.29	30,753,721
7 Facebook, Inc.	United States	188,651	150.98	28,482,528
8 Alphabet, Inc. Class A	United States	28,981	929.68	26,943,056
9 Bank of America Corp.	United States	1,012,494	24.26	24,563,104
10 Visa, Inc.	United States	258,866	93.78	24,276,453

All monetary values stated in US dollars.

A complete listing of holdings is available upon request.

## Largest Individual Global Fixed Income Holdings as of June 30, 2017

Description	Rating	Par Value	Market Price	Fair Value
1 US Treasury Bond 2.875% 08/15/2045	AA+	\$ 22,760,000	\$ 1.006	\$ 22,887,228
2 US Treasury Bond 3.75% 11/15/2043	AA+	13,330,000	1.176	15,669,548
3 US Treasury Note 2.0% 04/30/2024	AA+	13,452,000	0.993	13,351,648
4 US Treasury Bond 3.0% 11/15/2045	AA+	12,815,000	1.030	13,204,960
5 US Treasury Note 1.750% 11/30/2021	AA+	12,765,000	0.997	12,731,556
6 US Treasury Note 2.25% 11/15/2025	AA+	12,200,000	1.000	12,202,806
7 FNMA TBA 3.5% 07/01/2047	AA+	10,000,000	1.027	10,270,700
8 US Treasury Bond 2.875% 11/15/2046	AA+	9,856,000	1.006	9,910,307
9 FNMA Pool #0MA2909 3.5% 02/01/2037	AA+	8,681,171	1.037	9,005,847
10 US Treasury Note 1.0% 09/15/2018	AA+	8,800,000	0.996	8,767,000

All monetary values are stated in US dollars.

A complete listing of holdings is available upon request.

## Investment Section

### Investment Consultants and Investment Managers as of June 30, 2017

#### Investment Consultants

Aksia LLC  
Wilshire Associates, Inc.

#### Investment Managers - US Equity

AllianceBernstein, LP  
Bridgeway Capital Management, Inc.  
Brown Capital Management, Inc.  
Coho Partners Ltd.  
Donald Smith & Co.  
First Eagle Investment Management, LLC  
Jackson Square Partners  
Martingale Asset Management, LP  
Neumeier Poma Investment Counsel, LLC  
State Street Global Advisors

#### Investment Managers - Non-US Equity

Arrowstreet Capital, LP  
Axiom International Investors, LLC  
City of London Investment Management Co. Ltd.  
Dimensional Fund Advisors  
Genesis Asset Managers  
GlobeFlex Capital, LP  
Highclere International Investors  
LSV Asset Management  
State Street Global Advisors  
Walter Scott & Partners Ltd.

#### Investment Manager - Futures

Russell Implementation Services, Inc.

#### Investment Managers - Global Private Equity

Bridgepoint Capital Ltd.  
Charterhouse Capital Partners  
Cinven Capital Management Ltd.  
Coller Investment Management Ltd.  
Evergreen Pacific Partners  
FdG Associates, LLC  
Ford Ultimate Management II, LLC  
Fort Washington Capital Partners Group  
Fox Paine and Company, LLC  
Francisco Partners  
Freeman Spogli & Co.  
Goldman Sachs Asset Management, LP  
Graham Partners  
J.P. Morgan Investment Management, Inc.  
Kohlberg & Co.  
Leonard Green & Partners  
Levine Leichtman Capital Partners, Inc.  
Linsalata Capital Partners, LLC

Mason Wells, Inc.  
Monomoy Capital Partners  
NGP Energy Capital Management, LLC  
Oak Hill Capital Partners  
Oaktree Capital Management, LP  
Odyssey Investment Partners  
Primus Venture Partners  
Quantum Energy Partners  
Silver Lake Partners  
Swander Pace Capital Partners  
Thomas H. Lee Partners  
Transportation Resource Partners  
Warburg Pincus

#### Investment Managers - Global Fixed Income

C.S. McKee, LP  
Dodge & Cox  
Goldman Sachs Asset Management, LP  
J.P. Morgan Investment Management, Inc.  
Johnson Investment Counsel, Inc.  
Loomis, Sayles & Co.  
Stone Harbor Investment Partners, LP  
Western Asset Management Co.

#### Investment Managers - Multi-Asset Strategies

Angelo, Gordon & Co.  
Archer Capital Management  
Aristeia Capital, LLC  
Bain Capital, LP  
Bridgewater Associates, Inc.  
Caspian Select Credit International, Ltd.  
D.E. Shaw & Co., LLC  
Ellis Lake Capital, LLC  
Eminence Capital, LLC  
GoldenTree Asset Management, LP  
GSA Capital Partners, LLP  
Invesco National Trust Co.  
King Street Capital Management, LLC  
Marathon Asset Management, LLC  
Nephila Capital Ltd.  
Oceanwood Capital Management, LLP  
OxAm Quant Fund (Services) Ltd.  
Pharo Global Advisors Ltd.  
Redwood Capital Management, LLC  
Regiment Capital Management  
Rockhampton  
Scopia Capital Management, LP  
Stark Offshore Management, LLC  
Stone Milliner Asset Management, LLP  
Viking Global Investors, LP  
Visium Asset Management, LP

#### Investment Managers - Global Real Assets

Almanac Realty Investors, LLC  
AMP Capital  
Beacon Capital Partners, LLC  
BlackRock Institutional Trust Company, N.A.  
CB Richard Ellis Investors, LLC  
Clarion Partners, LLC  
Colony Capital, LLC  
Deutsche Asset & Wealth Management  
Fillmore Capital Partners, LLC  
J.P. Morgan Investment Management, Inc.  
Industry Fund Management Pty, Ltd.  
LA Financial Management, LLC  
Madison Marquette Property Investments, LLC  
Mesa West Capital, LLC  
PGIM Real Estate  
Rockspring Property Investment Managers  
The Carlyle Group  
UBS Realty Investors, LLC

#### Investment Managers - Opportunistic Investments

Barings Global Advisers, Ltd.  
Blackstone Group LLC  
BlueBay Asset Management, LLP  
GoldenTree Asset Management, LP  
HPS Investment Partners, LLC  
LBC Credit Partners  
Oceanwood Capital Management, LLP  
Pacific Investment Management Co.  
Western Asset Management Co. LLC

#### Currency Overlay

BNP Paribas Asset Management USA, Inc.  
J.P. Morgan Investment Management, Inc.

#### Securities Lending Agent

Goldman Sachs Agency Lending

#### Custodians

Citibank, N.A.  
The Bank of New York Mellon  
Huntington National Bank

#### Master Recordkeeper

BNY Mellon Asset Servicing

#### Investment Analytics

BNY Mellon Global Risk Solutions

## Summary Schedule of Brokers' Fees for US Equity Transactions for the Year Ended June 30, 2017

Broker Name	Fees Paid	# of Shares Traded	Avg. Commission per Share
UBS Securities, LLC	\$ 143,271	6,780,829	\$ 0.021
Goldman Sachs & Co.	126,203	7,577,955	0.017
Merrill Lynch, Pierce, Fenner & Smith, Inc.	76,007	4,004,085	0.019
J.P. Morgan Securities, LLC	60,998	6,457,059	0.009
SG Americas Securities, LLC	51,691	3,815,490	0.014
Euroclear Bank SA/NV	47,877	3,071,320	0.016
Pershing, LLC	46,645	3,281,221	0.014
Cantor, Fitzgerald & Co.	43,090	2,148,451	0.020
Sanford C. Bernstein & Co., LLC	39,483	34,152,313	0.001
National Financial Services, LLC	36,515	1,025,525	0.036
Deutsche Bank Securities, Inc.	34,956	1,473,193	0.024
Loop Capital Markets, LLC	33,302	2,158,102	0.015
Morgan Stanley & Co., Inc.	29,738	886,969	0.034
Jefferies, LLC	27,359	995,109	0.027
ITG, Inc.	26,780	4,540,286	0.006
Barclays Capital, Inc.	26,339	830,344	0.032
Stifel, Nicolaus & Co., Inc.	25,406	762,421	0.033
Citigroup Global Markets, Inc.	22,343	2,210,215	0.010
FBR Capital Markets & Co.	19,911	871,525	0.023
Credit Suisse Securities, LLC	19,865	595,903	0.033
Sidoti & Co., LLC	19,122	943,050	0.020
HSBC Securities, Inc.	18,759	7,543,592	0.002
KCG Americas, LLC	17,948	2,450,700	0.007
Dinosaur Group Holdings, LLC	14,868	2,679,093	0.006
Raymond James & Associates, Inc.	12,437	343,423	0.036
Abel Noser Corp.	11,705	379,398	0.031
Instinet, LLC	11,394	2,002,822	0.006
RBC Capital Markets, LLC	11,356	287,444	0.040
Robert W. Baird & Co., Inc.	11,197	309,466	0.036
Bank of America National Trust & Savings	11,029	1,086,861	0.010
Oppenheimer & Co., Inc.	10,887	462,232	0.024
Credit Agricole Securities, Inc.	10,451	508,700	0.021
William Blair & Co., LLC	9,995	262,814	0.038
ISI Group, LLC	9,000	300,000	0.030
Penserra Securities, LLC	8,326	1,860,517	0.004
Weeden & Co., LP	8,157	1,429,130	0.006
Needham & Co., LLC	7,952	204,505	0.039
Charles Schwab & Co., Inc.	7,840	655,225	0.012
State Street Global Markets, LLC	7,737	3,217,739	0.002
Pavilion Global Markets, Ltd.	7,733	1,722,293	0.004
Scotia Capital, Inc.	7,551	188,763	0.040
Dowling & Partners Securities, LLC	7,350	245,000	0.030
Piper Jaffray & Co.	7,230	180,750	0.040
Wells Fargo Securities, LLC	6,900	165,310	0.042
NBCN, Inc.	6,660	539,050	0.012
D. A. Davidson & Co.	6,338	157,975	0.040
Convergex Execution Solutions, LLC	6,286	810,279	0.008
B.Riley & Co., LLC	6,070	151,750	0.040
Calyon Securities, Inc.	6,034	137,000	0.044
Liquidnet, Inc.	5,945	883,098	0.007
Brokers with less than \$5,945 (51)	60,816	6,088,067	0.010
<b>Total US</b>	<b>\$ 1,292,852</b>	<b>125,834,361</b>	<b>\$ 0.010</b>

## Investment Section

### Summary Schedule of Brokers' Fees for Non-US Equity Transactions for the Year Ended June 30, 2017

Broker Name	Fees Paid	# of Shares Traded	Avg. Commission per Share
Instinet, LLC	\$ 222,833	77,555,755	\$ 0.003
UBS Securities, LLC	106,350	215,912,858	0.000
ITG, Inc.	103,607	43,172,565	0.002
J.P. Morgan Securities, LLC	93,199	124,548,632	0.001
Goldman Sachs & Co.	92,749	24,214,383	0.004
HSBC Securities, Inc.	80,728	165,545,905	0.000
Citigroup Global Markets, Inc.	59,218	22,466,798	0.003
SG Securities, LP	49,966	22,804,048	0.002
Merrill Lynch Professional Clearing Corp.	49,570	9,268,399	0.005
Sanford C. Bernstein & Co., LLC	41,579	137,830,559	0.000
Jefferies, LLC	36,076	9,624,607	0.004
Convergex Execution Solutions, LLC	33,104	8,592,697	0.004
Morgan Stanley & Co., Inc.	29,797	8,697,179	0.003
CSLA Americas, LLC	26,332	8,504,267	0.003
Credit Agricole Securities, Inc.	23,666	9,228,754	0.003
First Rand Bank Co.	15,355	1,893,350	0.008
Barclays Capital, Inc.	15,206	1,537,773	0.010
Macquarie Capital, Inc.	15,095	3,607,958	0.004
Daiwa Capital Markets, Inc.	12,848	2,945,598	0.004
North South Capital, LLC	12,225	1,151,062	0.011
Winterflood Securities, Inc.	11,365	2,730,427	0.004
Merrill Lynch, Pierce, Fenner & Smith, Inc.	10,147	9,511,559	0.001
Pavilion Global Markets, Ltd.	10,117	3,711,988	0.003
Deutsche Bank Securities, Inc.	8,900	2,131,706	0.004
Kepler Capital Markets, Inc.	8,514	133,329	0.064
Cantor, Fitzgerald & Co.	8,498	3,171,341	0.003
Nomura Securities International, Inc.	8,444	521,733	0.016
Credit Suisse Securities, LLC	8,249	2,618,083	0.003
DBS Vickers Securities, Inc.	8,205	1,924,200	0.004
BNP Paribas Investment Services, LLC	7,041	2,864,088	0.002
Bradesco S/A Ctvn	6,823	2,301,410	0.003
Oesterreichische Kontrollbank AG	6,754	74,382,797	0.000
Sinopac Securities Corp.	6,743	7,812,032	0.001
Samsung Securities, Inc.	6,429	324,169	0.020
SMBC Nikko Securities America, Inc.	6,366	106,300	0.060
UBS Financial Services, Inc.	5,822	11,463,426	0.001
XP Securities, LLC	5,506	1,455,900	0.004
ICICI Securities, Inc.	5,193	1,637,910	0.003
Liberum Capital, Inc.	4,040	471,867	0.009
Canaccord Genuity, Inc.	3,969	1,611,177	0.002
Societe Generale Securities Services	3,937	279,421	0.014
NH Investment & Securities Co., Ltd.	3,274	232,492	0.014
Socgen-Crosby Securities, Inc.	3,209	752,520	0.004
SG Americas Securities, LLC	2,918	1,465,128	0.002
Tera Menkul Degerler A.S.	2,331	1,348,057	0.002
Numis Securities, Inc.	2,094	970,941	0.002
ITAU International Securities, Inc.	2,080	155,600	0.013
CSC Securities Ltd.	2,053	643,100	0.003
Garantia, Inc.	1,880	696,225	0.003
SG Warburg & Co., Inc.	1,711	116,872	0.015
Brokers with less than \$1,711 (32)	17,867	3,977,495	0.004
	\$ 1,309,982	1,040,626,440	\$ 0.001



## Reconciliation to Statement of Fiduciary Net Position

Asset Class/Strategy	Fair Value	% of Total Fair Value
Global Equities	\$ 6,448,028,378	47.1%
Global Private Equity	1,331,560,902	9.7%
Global Fixed Income	2,010,352,446	14.7%
Multi-Asset Strategies	1,270,060,288	9.3%
Global Real Assets	2,040,139,870	14.9%
Opportunistic Investments	321,712,483	2.3%
Cash Equivalents	280,899,616	2.0%
Net Portfolio Value	\$ 13,702,753,984	100.0%
Investments receivable, securities sold	(157,146,314)	
Investments payable, securities purchased	243,029,043	
Cash and cash equivalents	(516,654,741)	
Investments per Statement of Fiduciary Net Position	\$ 13,271,981,970	

## Investment Results

## NOTES TO INVESTMENT RESULTS TABLE ON PAGE 52:

- (1) Custom Global Equities Benchmark:
- a) Effective January 1, 2014
    - 50.0% Russell 3000 Index
    - 50.0% MSCI ACWI ex-US (net dividends) Index
  - b) Effective July 1, 2013
    - 50.0% Russell 3000 Index
    - 50.0% MSCI ACWI ex-US (net dividends) Index (developed markets 50% hedged)
  - c) Prior to July 1, 2013
    - 50.0% Russell 3000 Index
    - 50.0% MSCI ACWI ex-US (gross dividends) Index (developed markets 50% hedged)
- (2) Global Private Equity returns are reported one quarter in arrears.
- (3) Custom Global Private Equity Benchmark:
- a) Effective January 1, 2014 Burgiss All Private Equity Benchmark (BAPE) (one quarter in arrears)
  - b) Prior to January 1, 2014 S&P 500 Index plus 3%
- (4) Prior to July 1, 2013 Multi-Asset Strategies was known as Hedge Funds
- (5) Custom Multi-Asset Strategies Benchmark:
- a) Effective July 1, 2013 HFRI Fund of Funds Composite Index + 1.0%
  - b) Effective July 1, 2010 HFRI Fund of Funds Composite Index
  - c) Effective June 1, 2008 (inception of the strategy) HFRI fund Weighted Index
- (6) Global Real Asset partnership returns are reported one quarter in arrears. Public real asset returns are reported in the current quarter.
- (7) Custom Global Real Assets Benchmark:
- a) Effective July 1, 2010 NCREIF Property Index (one quarter in arrears)
  - b) Prior to July 1, 2010
    - 80.0% NCREIF Property Index (one quarter in arrears)
    - 20.0% FTSE EPRA/NAREIT Developed Index
- (8) Opportunistic Investments inception date occurred in June 2013
- (9) SERS Policy Benchmark weightings for the past 10 years:
- a) Effective January 1, 2016
    - 22.5% Russell 3000 Index
    - 22.5% MSCI ACWI ex-US (net dividends) Index
    - 19.0% Barclays Capital US Aggregate Bond Index
    - 19.0% NCREIF Property Index (one quarter in arrears)
    - 15.0% NCREIF Property Index (one quarter in arrears)
    - 10.0% Burgiss All Private Equity Benchmark (BAPE) (one quarter in arrears)
    - 10.0% HFRI Fund of Funds Composite Index + 1.0%
    - 1.0% Citigroup 30 Day T-Bill Index
    - 19.0% Barclays Capital US Aggregate Bond Index
    - 12.0% NCREIF Property Index (one quarter in arrears)
    - 10.0% SERS Custom Private Equity Benchmark
    - 13.0% HFRI Fund of Funds Composite Index + 1.0%
    - 1.0% Citigroup 30 Day T-Bill Index
    - 19.0% Barclays Capital US Aggregate Bond Index
    - 12.0% NCREIF Property Index (one quarter in arrears)
    - 10.0% SERS Custom Private Equity Benchmark
    - 15.0% HFRI Fund of Funds Composite Index
    - 1.0% Citigroup 30 Day T-Bill Index
    - 24.0% Barclays Aggregate Index
    - 10.0% SERS Custom Real Estate Benchmark
    - 10.0% SERS Custom Private Equity Benchmark
    - 1.0% Citigroup 30 Day T-Bill Index
    - 24.0% Lehman Brothers Aggregate Index (In 2009 renamed as Barclays Aggregate Index)
    - 10.0% SERS Custom Real Estate Benchmark
    - 7.0% SERS Custom Private Equity Benchmark
    - 1.0% Citigroup 30 Day T-Bill Index
    - 29.0% Russell 3000 Index
    - 29.0% MSCI ACWI ex-US Index (developed markets 50% hedged)
    - 24.0% Lehman Brothers Aggregate Index (In 2009 renamed as Barclays Aggregate Index)
    - 10.0% SERS Custom Real Estate Benchmark
    - 3.0% SERS Custom Private Equity Benchmark
    - 2.0% Citigroup 30 Day T-Bill Index
    - 27.5% Russell 3000 Index
    - 27.5% MSCI ACWI ex-US Index (developed markets 50% hedged)
    - 24.0% Barclays Aggregate Index
    - 10.0% SERS Custom Real Estate Benchmark
    - 10.0% SERS Custom Private Equity Benchmark
    - 1.0% Citigroup 30 Day T-Bill Index
    - 29.0% Russell 3000 Index
    - 29.0% MSCI ACWI ex-US Index (developed markets 50% hedged)
    - 24.0% Lehman Brothers Aggregate Index (In 2009 renamed as Barclays Aggregate Index)
    - 10.0% SERS Custom Real Estate Benchmark
    - 7.0% SERS Custom Private Equity Benchmark
    - 1.0% Citigroup 30 Day T-Bill Index
    - 46.0% Russell 3000 Index
    - 16.0% MSCI ACWI ex-US Index (developed markets 50% hedged)
    - 23.0% Lehman Brothers Aggregate Index (In 2009 renamed as Barclays Aggregate Index)
    - 10.0% SERS Custom Real Estate Benchmark
    - 3.0% SERS Custom Private Equity Benchmark
    - 2.0% Citigroup 30 Day T-Bill Index

### Statement of Investment Policy (effective September 17, 2015)

#### I. Purpose of Statement of Investment Policy

The purpose of this Statement of Investment Policy (SIP) is to set forth the investment philosophy and objectives of the Retirement Board (Board) for the School Employees Retirement System of Ohio (SERS).

This SIP:

- A. incorporates and is subject to all restrictions and obligations set forth in Chapter 3309 of the Ohio Revised Code;
- B. establishes investment policies and describes the organization and division of responsibilities necessary to implement the Board's philosophy and objectives prudently; and
- C. establishes a framework for making investment decisions, and monitoring investment activity, and promotes effective communication between the Board, Staff, and other involved parties.

This SIP is subject to change at any time by the Board. The Board will review the SIP and revise it periodically to assure it continues to reflect the investment philosophy, objectives and strategies of the Board.

#### II. Investment Philosophy

The Board recognizes the need to manage SERS assets prudently (the Total Fund) to meet its statutory and fiduciary obligations and to achieve or exceed its objectives. The Board's investment philosophy is grounded in fundamental, prudent investment principles, incorporating modern portfolio theory, risk management and portfolio management practices. These principles are incorporated in the "Investment Beliefs" below. The Board believes it can provide consistent, long-term performance at appropriate levels of risk. By delineating responsibilities and defining policy objectives, this SIP reflects the Board's investment philosophy and governance.

SERS Investment Beliefs:

##### Financial Markets

- A. Capital markets are not perfectly efficient. Inefficiencies create opportunities that skilled investors could exploit to generate excess returns. Investment Staff will prudently attempt to add value by exploiting such inefficiencies across different assets selectively, although it is not easily achieved.
- B. Markets generally afford higher prospective returns for riskier assets, such as equity or credit risk premiums over the long term. Anomalies could occur in intermittent periods on account of shifting valuations. When valuations are elevated returns tend to be lower.

##### Investment Process

- C. Strategic asset allocation is the key determinant of risk and return and represents the Board's tolerance for risk in achieving funding goals. It is important to diversify across risk factors and return sources and to be explicit about the role of asset classes.
- D. Risk is the likelihood of loss or less than expected outcomes and is not fully captured by a single metric such as volatility. Risk has many dimensions, subjective and objective, which must be comprehensively assessed and managed in the investment process.
- E. Long-term horizon is an advantage as it enables SERS to tolerate volatility, capture illiquidity and other risk premia, and take advantage of trends and opportunities.
- F. Costs matter. Managing fees and transaction costs adds value to the Fund. Costs must be judged relative to expected value added.

##### Organizational Skills and Design

- G. Investment success is dependent on good governance, decision process, skill and judgment. Having an experienced and talented staff with appropriate decision authority is an advantage. SERS' Board will delegate authority as appropriate to staff to facilitate execution of the investment process, but retain policy and oversight powers.
- H. Explicit investment objectives, guidelines and collaborative teamwork among staff as well as external partners is essential for success.

##### Sustainability and Corporate Governance

- I. Good governance of markets and entities comprising the markets improves outcomes for investors. SERS Board and Staff will exercise corporate ownership responsibly and with the best fiduciary interest of members and stakeholders.
- J. SERS Board and Staff must be attentive to important environmental, social and governance issues that affect markets and promote its interests in a responsible manner in the best fiduciary interest of members and stakeholders.

#### III. Investment Objectives

The Investment Objectives of SERS are:

- A. to assure that SERS provides statutorily-mandated retirement benefits;

- B. to earn a net-of-fees total return that equals or exceeds over the long term the Actuarial Assumed Rate approved by the Board; and
- C. to enhance risk-adjusted investment returns of the Total Fund in a prudent and cost-effective manner.

#### IV. Risk Management

- A. The Board evaluates risk in terms of the probability of not earning the actuarial assumed rate over the long-term. Diversification across asset classes, within asset classes and across investment styles, sectors and securities will be employed to manage overall portfolio risk and volatility.
- B. SERS utilizes a risk budgeting approach in management of volatility risk of investment portfolios. Active risk of the Total Fund, asset class and individual portfolios and their respective risk contribution to total risk are important factors in the management of the capital allocations to individual asset classes and portfolios. The Total Fund shall be managed within a forecast active risk (tracking error) range of 0% to 3.0% relative to the policy benchmark and within the asset allocation range specified elsewhere in this SIP. Active risk is determined by asset allocation deviations and active security selection decisions as well as underlying market volatility. In times of high market volatility the active risk may exceed 3%. In any event if the active risk exceeds 3% staff will discuss this with the Board and present appropriate recommendations. The realized tracking error is also expected to be below 3% over rolling three year periods. Individual asset classes will be managed within the tracking error range specified in the respective asset class implementation guideline. Private asset classes (Private Equity and Real Asset) are excluded at this point from tracking error guidelines.
- C. Other risks, including but not limited to those such as interest rate risk, credit risk, and liquidity risk, will be managed and carefully monitored by Investment Managers and Investment Staff.

#### V. Implementation Approach

- A. The Board reserves certain responsibilities for itself, while delegating other responsibilities to the Executive Director, the Chief Investment Officer, the Investment Committee, Investment Staff, Investment Managers, Investment Consultants, the Investment Compliance and Governance Officer and other Investment Service Providers. These responsibilities are described in this SIP.
- B. In fulfilling its fiduciary duties the Board utilizes a competent and qualified Staff to implement the investment program and to manage daily operations.
- C. The Board utilizes Investment Managers or Funds selected by Staff to invest most assets of the Total Fund. The Board recognizes that costs associated with external Investment Managers and Funds are typically higher than costs associated with internal management. However, the Board believes external Investment Managers that act as fiduciaries possess specialized investment expertise and economies of scale, and can generate higher returns on a net-of-fee basis.
- D. The Board requires regular reporting on the Total Fund's investment program to ensure compliance with its SIP.

#### VI. Investment Organization and Responsibilities

##### A. Responsibilities of the **Board**

The Board as a fiduciary is responsible for ensuring that Total Fund assets are managed prudently and effectively, in compliance with applicable laws and with this SIP, for the exclusive benefit of participants and beneficiaries.

Responsibilities of the Board include:

1. establishing controls and systems to ensure that Total Fund fiduciaries comply with applicable laws;
2. establishing asset allocation and investment policies for SERS assets;
3. appointing and discharging the Executive Director and Board Investment consultants;
4. confirming or rejecting the Executive Director's proposed appointment of a Chief Investment Officer for SERS;
5. designating the individual as Chief Investment Officer of SERS for purposes of R.C. 3309.043, and then notifying the Ohio Department of Commerce, Division of Securities in writing of the designation as required by the Ohio Revised Code;
6. monitoring and reviewing investment performance and policy compliance;
7. requesting, receiving and reviewing reports from Investment Staff, Board consultants and other entities, if applicable;
8. approving an Annual Investment Plan;
9. approving Statement of Investment Policy and changes thereto; and
10. conducting an annual evaluation of the performance of the Board's Investment Consultant.

##### B. Responsibilities of **Staff**

Staff will administer Total Fund assets as fiduciaries in accordance with applicable federal and state laws and regulations, and in accordance with this SIP, ethics laws, codes of professional conduct (in particular, the CFA Code of Ethics and Standards of Professional

## Investment Section

Conduct), and other applicable codes and/or regulations. Staff will establish plans, policies and procedures to carry out these duties.

1. The **Executive Director** is responsible for:
  - a. ensuring that reports of the Total Fund's investment performance are presented on a timely basis;
  - b. retaining vendors, consultants and advisors as necessary to assist Staff, and assist the Board in the retention of Investment consultants;
  - c. appointing, discharging and retaining the Chief Investment Officer, and Investment Staff;
  - d. overseeing the investment function,
  - e. executing investment documents when necessary,
  - f. Conducting a fiduciary audit of investment operations at least on a seven- to ten-year cycle unless circumstances require an audit to be conducted sooner, and
  - g. Conducting a peer group benchmarking of SERS investment costs performed by an independent entity every two- to three-years.
2. The **Chief Investment Officer** is responsible for:
  - a. overseeing the Investment Program and keeping the Executive Director advised;
  - b. conducting periodic asset liability studies with the assistance of investment consultants and recommending asset allocation targets and ranges.
  - c. reviewing the SIP on an annual basis and recommending changes as needed for approval by the Board.
  - d. preparing and presenting the Annual Investment Plan to the Board for approval;
  - e. implementing the Annual Investment Plan;
  - f. investigating, researching and recommending new and emerging investment concepts and strategies, and implementing appropriate strategies in accordance with approved policies and procedures;
  - g. informing Investment Managers, Investment Consultants and others providing investment services to SERS about the requirements of applicable laws and Board policies, and monitoring their compliance with said laws and policies;
  - h. adjusting allocations to Asset Classes, Investment Managers and Funds as needed, subject to any approved allocation ranges;
  - i. approving implementation guidelines for each asset class to establish allocation ranges for sub-strategies, risk parameters and risk limits and providing such guidelines to the Board.
  - j. appointing and discharging Investment Managers and approving investments in or redemptions from Funds subject to conditions and guidelines in Section VII.;
  - k. activating previously approved Backup Investment Managers;
  - l. executing investment documents;
  - m. approving Investment Manager guidelines, changes and additions;
  - n. supervising Investment Staff;
  - o. monitoring and evaluating the effectiveness of executed securities transactions and reporting annually to the Board regarding the performance of agents who execute securities transactions on behalf of SERS; and
  - p. regularly reporting the status of the Total Fund and its multi-period performance to the Board relative to benchmarks and on market conditions. Performance will be calculated on a gross-of-fees and net-of-fees basis.
3. The **Investment Committee** is responsible for:
  - a. ensuring that a procedure is in place defining the Committee's structure and establishing rules for reviewing and approving investments;
  - b. reviewing Investment Manager and Fund due diligence; and
  - c. approving or discharging Investment Managers or Funds.
4. The **Investment Staff** is responsible for:
  - a. regularly reporting the status of the respective asset classes and Total Fund and its multi-period performance to the Chief Investment Officer;

- b. periodically meeting and speaking with existing or potential Investment Managers to review and assess the quality of their investments and management of assets;
- c. performing ongoing due diligence to evaluate and monitor Investment Manager capabilities relative to managing Total Fund assets;
- d. recommending to the Chief Investment Officer implementation guidelines for the respective asset classes to establish allocation ranges for sub-strategies, risk parameters and risk limits; and managing the portfolio to the approved implementation guidelines.
- e. recommending to the Chief Investment Officer any additions or withdrawals from Investment Manager accounts or Funds, or rebalancing of asset class allocations;
- f. recommending to the Chief Investment Officer and the Investment Committee the appointment or discharge of Investment Managers and investments in or redemptions from Funds;
- g. investing assets of the cash equivalents portfolio;
- h. investigating and researching new and emerging investment concepts and strategies, and recommending those strategies to the Chief Investment Officer;
- i. preparing periodic reports for the Chief Investment Officer on the performance of agents who execute securities transactions on behalf of SERS; and
- j. maintaining a list of Ohio-qualified Investment Managers and their investment products.

#### C. Responsibilities of *Investment Service Providers*

Investment Service Providers who do business or seek to do business with SERS will act in the best interest of SERS when providing services to SERS or the Total Fund. Investment Service Providers will:

1. comply with all applicable federal and state laws and regulations, with this SIP, and with all applicable professional codes and regulations;
2. have established ethics and conflict of interest policies and procedures, and proper internal compliance controls in place as needed;
3. at the earliest opportunity disclose to Investment Staff any actual or potential conflict of interest ;
4. as permitted by law disclose any investigation of, or litigation involving, its operations to Investment Staff ; and
5. provide annual or other periodic disclosures as required.

The Chief Investment Officer will adopt procedures as appropriate to implement this section.

#### D. Responsibilities of *Investment Managers*

Investment Managers and Investment Staff managing assets internally are responsible as fiduciaries for investing prudently the Total Fund assets. In addition to those applicable responsibilities described in VI.B., Investment Managers and internal staff members will:

1. manage assets within their control in compliance with all applicable federal and state laws and regulations, including but not limited to applicable ethics requirements, this SIP, contractual obligations, and applicable professional codes of conduct;
2. inform the Chief Investment Officer and Investment Staff of any substantial changes in investment strategy, portfolio structure, asset value, and of any organizational changes, including that of ownership, affiliation, organizational structure, financial condition, or changes in professional personnel staffing in the investment management organization;
3. present in-depth reports to Investment Staff;
4. recommend to Investment Staff changes to investment guidelines the Investment Manager believes would enhance investment performance on a risk adjusted basis; and
5. select such agents for the execution of transactions, at such prices, and at such commission rates as in the good faith judgment of the Investment Manager will be in the best interest of the Total Fund, taking into consideration in the selection of such agents not only the available prices and rates of brokerage commissions, but also other factors relevant to the transaction.

#### E. Responsibilities of *Investment Consultants*

Investment Consultants will:

1. provide services as fiduciaries and in accordance with all applicable federal and state laws and regulations, including but not limited to applicable ethics requirements; in accordance with this SIP; and with all applicable professional codes and/or regulations;
2. provide independent and unbiased research, information and advice to the Board and Staff;

3. assist in the development and amendment of this SIP;
4. assist in the development of investment guidelines as may be requested by Staff;
5. assist in the development of strategic asset allocation targets and ranges;
6. assist in the development of performance measurement standards;
7. monitor and evaluate Investment Manager and Fund performance as appropriate on an ongoing basis;
8. recommend to Staff the retention or discharge of Investment Managers and investment in or redemption from Funds;
9. collaborate with Investment Staff on the due diligence of potential Investment Managers and Funds, and existing Investment Managers and Funds, as requested by Staff;
10. assist in the development of criteria for and procedures to be utilized in the selection of Investment Managers and Funds;
11. provide research, information and advice on investment topics and strategies considered relevant by the Investment Consultant, or when requested by the Board or Investment Staff;
12. provide those services delineated in the Advisory or Consultant Agreement;
13. provide any other advice or services that the Board, Executive Director or Chief Investment Officer determines are necessary, useful or appropriate to fulfill the objectives of this SIP; and
14. regularly report the status of the Total Fund and its multi-period performance to the Board. Performance will be calculated on a net-of-fee basis.

#### F. Responsibilities of the **Investment Compliance and Governance Officer**

The Investment Compliance and Governance Officer is responsible for:

1. monitoring and reporting compliance with this SIP and Board Resolutions;
2. ensuring that investment management agreements and related contracts comply with the SIP;
3. ensuring that Investment Service Providers and Investment Managers comply with Sections VI.C. and D., herein;
4. identifying and, in concert with Investment Staff, resolving compliance violations by Investment Managers and Investment Staff relative to their respective investment guidelines. Staff will ensure that those accounts with guideline violations are efficiently and effectively brought back into compliance;
5. promptly voting proxies and related actions in accordance with Board approved procedures, and maintaining detailed records of proxy votes and related actions for the Proxy Review Committee; and
6. reporting proxy voting activity to the Board on a quarterly basis and highlighting any emerging issues related to this activity.

### VII. Conditions and Guidelines for Making Investments

#### A. Conditions

1. In cooperation with legal counsel, Staff will endeavor to ensure that the legal structure of each investment limits potential losses to no more than the amount invested;
2. Investments will be of institutional quality;
3. Investments will require the approval of the Chief Investment Officer and the Investment Committee;
4. Investment documents must be approved by SERS' Legal Department and the Investment Compliance and Governance Officer;
5. The Investment Committee will develop and implement definitive procedures for approving investments in accordance with this SIP
6. The Chief Investment Officer or the Executive Director must sign the necessary investment documents when making investments.

#### B. Guidelines

1. Selected Investment Managers and Funds will have proven track records in the strategy;
2. Monthly reporting by the Fund or Investment Manager is preferred, but there shall be quarterly reporting at a minimum;
3. The liquidity of an investment will be prudent, both for the strategy and for the Total Fund;
4. The amount invested with an Investment Manager or in a Fund will be prudent for the strategy;
5. Investment limits established by Board resolution remain in effect unless modified or eliminated by the Board.

## VIII. Implementation Strategies

### A. Asset Allocation

The Board will conduct an asset and liability study every three- to five-years or sooner, if necessary, in order to establish allocation targets and ranges for asset classes within distinct capital markets. Staff, with the assistance of consultants, will review annually the market outlook and expected returns for asset classes with the Board. If there are significant changes in return assumptions, Staff will conduct an interim review of the Asset Allocation Policy.

In order to identify the investment horizon of SERS and its cash flow requirements, liability considerations will include but not be limited to current and expected future values of the benefits, contributions and total assets.

After giving due consideration to an asset and liability study conducted by the Investment Consultant, which study meets the requirements of this SIP, the Board hereby recognizes and reaffirms the following asset allocation for SERS:

<u>ASSET CLASS</u>	<u>TARGET</u>	<u>RANGE</u>
<b>Equity</b>	<b>55%</b>	<b>45% - 65%</b>
Global Equities	45%	35% - 55%
Global Private Equity	10%	5% - 15%
<b>Income</b>	<b>35%</b>	<b>30% - 40%</b>
Global Bonds	19%	12% - 26%
Global Real Assets	15%	10% - 20%
Cash Equivalents	1%	0% - 5%
<b><u>STRATEGY</u></b>		
Multi-Asset Strategies	10%	5% - 15%
Opportunistic Investments	0%	0 - 5%
<b>Total</b>		<b>100%</b>

### B. Derivatives

The Board authorizes the use of derivatives in the Total Fund and authorizes the Chief Investment Officer, with the advice and assistance of the Investment Consultant, to develop and implement derivatives strategies as needed. The Chief Investment Officer will adopt a derivatives policy setting forth general guidelines for the use of derivatives.

### C. Leverage

The Board authorizes the use of leverage in the Total Fund and authorizes the Chief Investment Officer, with the advice and assistance of the Investment Consultant, to develop and implement certain leverage strategies. The Chief Investment Officer will adopt a leverage policy setting forth general guidelines for the use of leverage.

### D. Rebalancing

The Chief Investment Officer will adopt a rebalancing strategy for the Total Fund which ensures adherence to the asset allocation strategy in Section VIII.A. The strategy may delegate certain authority to Investment Staff.

### E. Currency Hedging

The Board authorizes currency hedging in the Total Fund and authorizes the Chief Investment Officer, with the advice and assistance of the Investment Consultant, to develop and implement currency hedging strategies as needed.

### F. Transition Management

The Board authorizes the Executive Director and the Chief Investment Officer to hire Transition Managers as needed.

### G. Proxy Voting

The Board authorizes the Proxy Review Committee, which consists of staff members from Executive and Investments, to vote proxies of common stock owned by SERS and to hire proxy services as required to implement this strategy. The Proxy Review Committee will adopt and implement a process for voting proxies as described in the Proxy Voting Procedures document.

### H. Securities Lending

The Board authorizes Investment Staff to develop and implement a securities lending program which may involve the appointment or discharge of third party securities lending agents by the Executive Director or the Chief Investment Officer. The Board recognizes that while the practice of securities lending can generate meaningful income for the Total Fund, it is not without investment risk. To mitigate investment risk the securities lending program will focus on intrinsic value lending and use conservative collateral reinvestment guidelines similar to current SEC 2a-7 guidelines. If Staff determines the risk/reward relationship of the program is no longer advantageous for the Total Fund, the program will be discontinued.

## Investment Section

### I. Opportunistic Investments

The Board authorizes Investment Staff to invest up to 5% of Total Assets in Opportunistic Investment Strategies. These investments will comply with the Opportunistic Investment Policy approved by the Board.

### J. Investment Managers and Funds

The Board authorizes the Chief Investment Officer and the Investment Committee to approve and discharge Investment Managers, Funds and Backup Investment Managers based upon recommendations of Investment Staff or Investment Consultants, as may be appropriate, and discussions with Managers. Allocations to approved Investment Managers and Funds will be determined or adjusted by the Chief Investment Officer in accordance Section VI.B.2.f. Allocations and adjustments are subject to any maximum allocation amounts established by the Board.

Investment Managers will adhere to investment guidelines established by Investment Staff, as well as all applicable laws and policies. The Chief Investment Officer is authorized to establish and amend investment guidelines as needed.

It is a goal of the Board to increase the utilization of Ohio-qualified Investment Managers when an Ohio-qualified Investment Manager offers quality, services and safety comparable to other Investment Managers available to the Board, and the use of such Investment Manager is consistent with the Board's fiduciary duties.

The Board will require that a list of Ohio-qualified Investment Managers and their investment products be maintained, and that public notice be given to Ohio-qualified Investment Managers of Investment Manager searches and search criteria. Staff will report to the Board annually on the utilization of Ohio-qualified managers and efforts to increase utilization.

SERS will give equal consideration to minority owned and controlled firms, and firms owned and controlled by women.

### K. Collective Investment Funds

To the extent SERS' assets are invested in a group trust described in IRS Revenue Ruling 81-100, the instruments governing such trusts, as they may be amended from time to time, are hereby incorporated by reference and made part of the SIP as if fully set forth herein.

### L. Approved Brokers

Brokers (or broker/dealers) who may provide execution of securities transactions for SERS will be evaluated on the basis of financial soundness, underwriting capabilities, research services, execution costs, and any other capabilities necessary in the execution of such transactions. Investment Managers which use such brokers will use their good faith judgment to ensure that said brokers will perform in the best interest of the Total Fund.

It is a goal of the Board to increase its utilization of Ohio-qualified brokers for the execution of domestic equity and domestic fixed income trades when an Ohio-qualified broker offers quality, services, and safety comparable to other brokers available to the Board or its Investment Managers, and the use of such broker is consistent with the Board's fiduciary duties.

SERS will give equal consideration to minority owned and controlled firms, and firms owned and controlled by women.

### M. Soft Dollars

SERS allows investment managers to enter into limited soft dollar trading arrangements as governed by the "safe harbor" provision of Section 28(e) of the Securities and Exchange Act of 1934, and guided by the CFA Institute Soft Dollar Standards. SERS does not support any new soft dollar arrangements outside of these noted provisions.

### N. Securities Litigation

SERS will follow the securities litigation policy and procedures as approved by the Board in setting out a course of action that best represents the interests of SERS' participants and beneficiaries.

### O. Other

The strategies listed herein are not meant to constrain the Chief Investment Officer from managing the Investment Program in a prudent manner. The Chief Investment Officer may develop additional investment strategies as needed and will discuss such additional strategies with the Board prior to implementation.

## IX. Performance

### A. Performance Measurement Standard

Performance evaluation for the Total Fund will focus on total return, on an accrual accounting basis, including realized and unrealized capital gains and losses, and income. Valuations are to be made at least on a quarterly basis, and period returns are to be geometrically linked. Private market asset returns may be reported one quarter in arrears. Cash and cash equivalents will be included in the portfolio's return. Performance will be calculated on a gross-of-fee and net-of-fee basis.

### B. Performance Benchmark – Total Fund

Performance of the Total Fund relative to benchmarks will be examined monthly, and will be reported for multiple time periods as needed. The Board's Investment Consultant will calculate and report performance net-of-fees on a quarterly basis.



The performance benchmark for the Total Fund will be the target-weighted average of the performance benchmark for each asset class and strategy grouping as stated in Section VIII. A.

In the event of a significant change in policy targets, the Board may approve interim targets for a period to move progressively toward the final target; interim targets may be used for the purpose of calculating the Total Fund policy benchmark in the interim period.

#### C. Performance Benchmarks – Asset Classes and Strategies

The long-term performance benchmark for each asset class is shown below. Performance benchmarks are determined as appropriate for SERS in cooperation with SERS' Investment Consultant. For purposes of this section, long-term refers to rolling three- to five-year periods. Performance in each asset class should meet or exceed the Benchmark measure.

<b>Asset Class</b>	<b>Benchmark Measure</b>
Global Equities	50% Russell 3000 Index; 50% MSCI ACWI ex-US Index (net dividends)
Global Private Equity	Burgiss All Private Equity Benchmark (BAPE)(one quarter in arrears)
Global Fixed Income	Barclays Capital US Aggregate Bond Index
Global Real Assets	NCREIF Property Index (one quarter in arrears)
Cash Equivalents	Citigroup 30-day T-Bill Index
Strategy	Benchmark Measure
Multi-Asset Strategies	HFRI Fund of Funds Composite Index plus 1.0%
Opportunistic Investments	Total Fund Benchmark Return

#### D. Performance Benchmarks – Individual Investment Managers

Investment Staff will establish performance benchmarks for each Investment Manager based on its respective style.

### X. Review and Evaluation

The Board will review and evaluate periodic reports on the investment performance of Total Fund assets. Greater emphasis will be placed on three- to five-year results. The intended frequency for review and evaluation, subject to change by the Board, is as follows:

- A. Monthly – Investment Report including Total Fund market value, asset allocation, performance of the Total Fund and each asset class, and the Total Fund's compliance with this SIP.
- B. Quarterly – Summary Investment Report presented by the Investment Consultant, including highlights and commentary about market conditions, investment performance, asset composition and characteristics for each asset class, and relevant manager level information.

This policy supersedes the policy adopted August 2, 1985 and all revised policies dated 6/18/15; 12/18/14; 05/01/14; 01/01/14; 07/01/13; 1/19/12; 7/21/11; 7/01/10; 2/01/09; 8/01/08; 2/21/08; 10/01/07; 10/20/05; 9/15/00; 10/23/98; 6/19/98; 12/12/97; 7/25/97; 3/21/97; 12/20/96; 11/22/96; 6/21/96; 4/25/96; 9/15/95; 7/28/95; 6/16/95; 3/17/95; 1/20/95; 10/21/94; 5/20/94; 3/06/92; 4/07/89; 9/04/87; 1/09/87.

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## Cavanaugh Macdonald

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November 17, 2017

Board of Trustees  
School Employees Retirement System of Ohio  
300 East Broad Street, Suite 100  
Columbus, OH 43215-3746

Dear Board Members:

The basic financial objective of the School Employees Retirement System of Ohio (SERS) is to establish and receive contributions which, when expressed in terms of percents of active member payroll, will remain approximately level from generation to generation of members, and which, when combined with present assets and future investment returns, will be sufficient to meet the present and future financial obligations of SERS.

In order to measure progress toward this fundamental objective, SERS has an actuarial valuation performed each year. The valuation (i) measures present financial position, and (ii) establishes contribution rates that provide for the current cost and level percent of payroll amortization of the unfunded actuarial accrued liability over a reasonable period. The valuation performed as of June 30, 2017 indicates that a contribution rate of 10.84% of payroll for 157,981 school employees meets the basic financial objective over a 27 year period.

The statutory employer contribution is 14.00% of payroll. The funding policy establishes ranges of the funded ratio for basic benefits that restrict the allocation of employer contributions to the Health Care Fund. The funded ratio is equal to the actuarial value of assets divided by the actuarial accrued liability of promised benefits. The Board seeks to maintain a funded ratio of at least 90% for basic benefits. If the basic benefit funded ratio is less than 70%, the entire 14.00% of the employers' contribution shall be allocated to basic benefits. If the funded ratio is at least 70% but less than 80%, the minimum portion of the employers' contribution allocated to basic benefits is 13.50% of payroll, with the remainder (if any) allocated to the Health Care Fund. If the funded ratio is at least 80% but less than 90%, at least 13.25% of the employers' contribution shall be allocated to basic benefits, with the remainder (if any) allocated to the Health Care Fund. If the funded ratio is 90% or greater, the Health Care Fund may receive any portion of the employers' contribution that is not needed to fund basic benefits. The new funding policy is intended to accelerate the pace at which SERS' basic benefits will achieve a funded ratio equal to 90%.

The funded ratio for basic benefits is 70.01%. Since the funded ratio is at least 70% but less than 80%, at least 13.50% of the employer's 14.00% of payroll contribution must be allocated toward basic benefits. The Board may allocate up to 0.50% of the employer's contribution to the Health Care fund. Any portion of the 0.50% employer's contribution which is not allocated to the Health Care Fund will be allocated toward basic benefits.

The actuarial valuation of the pension benefits, the post-retirement death benefit, and the Medicare Part B reimbursement are based upon two factors. The first is financial and participant data as of the valuation date and the second is economic and demographic assumptions.

The valuation is based upon data concerning active, inactive and retiree members along with pertinent financial information. The data was furnished by the SERS staff and has been certified by the System's auditor. While not verifying the data at the source, we performed tests for consistency and reasonableness.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144  
Phone (678) 388-1700 • Fax (678) 388-1730  
[www.CavMacConsulting.com](http://www.CavMacConsulting.com)  
Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE



Board of Trustees  
November 17, 2017  
Page 2

Economic assumptions address future rates of investment return and inflation; and demographic assumptions relate to future rates of retirement, turnover, death and disability among SERS members and their beneficiaries. We review the data for internal and year-to-year consistency as well as general reasonableness prior to its use in the actuarial valuations. It is also summarized and tabulated for the purpose of analyzing trends. The assumptions were adopted by the Board of Trustees and were based upon actual experience of SERS during the 2011-2015 fiscal years. Assets are valued according to a method that fully recognizes expected investment returns and averages unanticipated market return over a four-year period. The assumptions and methods used for financial reporting purposes meet the parameters set by the Actuarial Standards of Practice (ASOPs).

The financial condition of health care is different and is being significantly affected by the provisions of Act 290 of 1988 and Act 270 of 2001. Act 290 established a health care surcharge, a program to determine a minimum annual pay for use in calculating employer contribution dollars. Act 270 placed limits on the amount of health care surcharge that can be assessed to each employer and in total.

On the basis of projections of health care fund activity and the surcharge limit established by Act 270, the allocated contributions are insufficient in the long-term to provide for a 20-year solvency period for the health care fund. This result is based on the projected claims and premium contributions for the next twenty years, as is described in the Statement of Funding Policy adopted by the Board. Since total claims are projected to exceed total contributions in future years, it is currently anticipated that future fund amounts will be depleted in 2033.

The current benefit structure is outlined in the Plan summary. Since the previous valuation, the enactment of HB 49 changes the cost-of-living adjustment from a fixed 3.00% to a cost-of-living adjustment that is indexed to CPI-W not greater than 2.5% with a floor of 0% beginning January 1, 2018. In addition, with the authority granted the Board under HB 49, The Board has enacted a three-year COLA suspension for benefit recipients in calendar years 2018, 2019, and 2020.

We provided information used in the schedules of Actuarial Accrued Liabilities, Active Member Valuation Data, Retirees and Beneficiaries Added To and Removed From Rolls, Analysis of Financial Experience, the Schedule of Funding Progress, and the Schedule of Employer Contributions in the Financial Section.

The main purpose of the Basic Benefits Valuation is to determine the System's funded status and the actuarially determined employer contribution rate as of June 30, 2017 necessary to satisfy the funding objectives of the Board. The Basic Benefit Valuation indicates the School Employees Retirement System of Ohio is expected to continue in sound condition in accordance with actuarial principles of level percent of payroll financing provided all actuarial assumptions for future experience are met. Should future adverse experience develop, SERS may find it necessary to seek benefit reductions and/or contribution rate increases from employers, members, or both. Upcoming detailed projection analyses will provide a more complete indication concerning the future actuarial condition of the System.

Sincerely,

Todd B. Green ASA, FCA, MAAA  
Principal and Consulting Actuary

Alisa Bennett, FSA, EA, FCA, MAAA  
Principal and Consulting Actuary

John Garrett, ASA, FCA, MAAA  
Principal and Consulting Actuary

**PENSION**  
**Summary of Actuarial Assumptions and Methods**

The SERS Retirement Board adopted the following actuarial assumptions and methods April 21, 2016, on the recommendation of its actuary. These assumptions were based on an analysis of plan experience for the five-year period July 1, 2010 through June 30, 2015, and were adopted for use in the valuation as of June 30, 2017.

**Funding Method** Basic benefits are determined using the entry age normal actuarial cost method. Under this cost method, projected service retirement, termination, disability, and death benefits are determined for all active members. Cost factors, which are developed to produce level annual costs in each year from the age at hire (entry age) to the assumed retirement age, are applied to the projected benefits to determine the “normal cost.” The normal cost is the portion of the total cost of the plan allocated to the current year. The normal cost for contribution refunds is assumed to end in the last year of the assumed eligibility, and is spread over all years of service.

The “actuarial accrued liability” for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for retirees currently receiving benefits, for active members beyond the assumed retirement age, and for inactive members entitled to future benefits, is equal to the present value of the benefits expected to be paid.

The dollar amount of the total actuarial accrued liability in excess of the value of the plan net position is called the “unfunded actuarial accrued liability.” Funding requirements under the entry age actuarial cost method are determined by adding the normal cost and the cost to amortize the unfunded liability.

Actuarial assumptions are used to determine the projected benefits and cost factors. The effect of differences between these assumptions and the actual experience of the plan is calculated each year when the annual actuarial valuation is performed. These differences produce either actuarial gains or losses that result in an adjustment of the unfunded liability.

**Funding Policy** The Board adopted a new funding policy on June 18, 2015, effective with the June 30, 2015 valuation. The funding policy established ranges of the funded ratio for basic benefits that restrict the allocation of employer contributions to the Health Care Fund. The Board seeks to maintain a funded ratio of at least 90% for basic benefits. If the basic benefit funded ratio is less than 70%, the entire 14% of the employers’ contributions shall be allocated to basic benefits. If the funded ratio is at least 70% but less than 80%, the minimum portion of the employers’ contribution allocated to basic benefits is 13.50% of payroll; the remainder may be allocated to the Health Care Fund at the Board’s discretion. If the funded ratio is at least 80% but less than 90%, at least 13.25% of the employers’ contribution shall be allocated to basic benefits; the remainder may be allocated to the

Health Care Fund at the Board’s discretion. If the funded ratio is 90% or greater, the Health Care Fund may receive any portion of the employers’ contribution that is not needed to fund basic benefits.

**Contributions** During FY2017, active members and their employers were required to contribute 10% and 14%, respectively, of active member payroll. The Board allocates the employer contribution rate of 14% among basic benefits (pension, Medicare B, and death benefit) and health care in accordance with its funding policy. For the year ended June 30, 2017, the policy required the determination of a rate for basic benefits to cover normal cost and to amortize the unfunded actuarial accrued liabilities over a 27-year period.

Pension Trust Fund	13.20%
Death Benefit Fund	.05
Medicare B Fund	.75
Health Care Fund	<u>-</u>
	14.00%

The Ohio Revised Code (ORC) also provides for an employer contribution surcharge as an additional source of funding for health care. The surcharge is equal to 14% of the difference between a minimum pay amount and the member’s pay, if below that minimum, it is pro-rated for partial service credit. For FY2017, the minimum pay amount was established at \$23,500. The employer surcharge cap is applied at 2.0% of each employer’s payroll and at 1.5% of total payroll statewide.

**Asset Valuation Method** Differences between assumed and actual experience (actuarial gains and losses) become part of unfunded actuarial accrued liabilities. When these differences between assumed and actual experience have been observed to be sizeable and persistent, a change is made to the actuarial assumptions.

SERS’ Board adopted a method of valuing investment assets that recognizes a “smoothed” market value of those assets. The smoothed value of assets recognizes the difference between actual and expected performance for each year in equal amounts over a four-year period.

**Economic Assumptions** The following economic assumptions were used in the actuarial valuation as of June 30, 2017:

- **Investment Return** Net after all SERS’ expenses, the return on investments is compounded annually at 7.50%.
- **Inflation Rate** The inflation assumption is 3.00% per year. The real rate of return is the portion of total investment return, which is more than the inflation rate. Considering inflation recognition of 3.00%, the 7.50% investment return rate translates to an assumed real rate of return of 4.5%.
- **Benefit increases** Cost-of-living adjustments of 2.5% per year after retirement are assumed.

- **Payroll Growth** Salary increases attributable to payroll growth of 3.50% are projected and compounded annually. Additional projected salary increases ranging from 0.0% to 14.2% per year are attributable to seniority and merit. Pay increase assumptions for individual active members are shown for service durations in the table below.

Years of Service	Merit & Seniority	Salary Inflation	Total
0	14.20%	3.50%	18.20%
1	5.55	3.50	9.25
2	3.14	3.50	6.75
3	2.17	3.50	5.75
4	1.45	3.50	5.00
5	1.20	3.50	4.75
6	0.97	3.50	4.50
7	0.72	3.50	4.25
8	0.48	3.50	4.00
9	0.24	3.50	3.75
10 & over	0.00	3.50	3.50

- **Death after Retirement** The RP-2014 Blue Collar Mortality Table with fully generational projection and Scale BB, 120% of male rates and 110% of female rates is used to evaluate allowances to be paid. The RP-2000 Disabled Mortality Table with 90% for male rates and 100% for female rates set back five years is used for the period after disability retirement. These assumptions are used to measure the probabilities of each benefit payment being made after retirement.
- **Marriage Assumption** Based on prior experience, it is assumed that 80% of retirees are married, with the husband three years older than his wife.

**Non-Economic Assumptions**

- **Retirements** Representative values of the assumed annual rates of service retirement are:

Age	Annual Rates of Retirement							
	Eligible prior to 8/1/17				Eligible on or after 8/1/17			
	Reduced	Reduced (55/25)	First Eligible Unreduced	Subsequent Unreduced	Reduced	Reduced (55/25)	First Eligible Unreduced	Subsequent Unreduced
50			27%	19%				
55		10%	27	19				
60	11%	14	27	19		14%	30%	19%
65			25	19	11%	14	30	19
70			20	22			30	22
75			100	100			100	100

- **Death-in-Service and Disability Benefits** Separation from active service other than retirement or termination of employment assumed rates are:

Age	Annual Rates of			
	Death*		Disability	
	Male	Female	Male	Female
20	.022%	.013%	.020%	.010%
25	.053	.018	.038	.010
30	.063	.019	.068	.026
35	.059	.024	.122	.055
40	.068	.032	.212	.102
45	.081	.044	.311	.170
50	.126	.074	.411	.300
55	.218	.124	.530	.450
60	.361	.188	.590	.450
65	.607	.274	.550	.300
70	1.071	.415	.300	.200
74	1.570	.629	.300	.200

\*Pre-retirement mortality is based on the RP-2014 Blue Collar Mortality Table with fully generational projection and a five year set-back for both males and females. The above rates represent the base rates used.

## Actuarial Section

### Actuarial Accrued Liabilities

Accrued liabilities are the present value of plan promises to pay benefits in the future, based upon service already rendered. A liability has been established or accrued because the service has been performed, but the resulting monthly cash benefit may not be payable until years in the future. Accrued liabilities are the result of complex mathematical calculations performed by the plan's actuaries. The results of the computed actuarial accrued liabilities, using the entry age normal actuarial cost method, are disclosed in the following schedule.

ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2017				
Present value of:	Pension Benefits	Medicare Part B	Post-Retirement Death Benefit	Total Basic Benefits
Future benefits to present retirees and survivors	\$ 11,201,278,846	\$ 236,968,254	\$ 29,379,973	\$ 11,467,627,073
Benefits and refunds to present inactive members	488,987,265	13,765,799	787,118	503,540,182
Allowances to present active members				
Service	7,130,211,575	136,024,952	7,445,236	7,273,681,763
Disability	236,588,232	3,835,426	440,642	240,864,300
Survivor benefits	126,423,295	2,176,643	-	128,599,938
Withdrawal	(35,210,321)	9,057,393	257,359	(25,895,569)
Total Active AAL	7,458,012,781	151,094,414	8,143,237	7,617,250,432
Total AAL	\$ 19,148,278,892	\$ 401,828,467	\$ 38,310,328	\$ 19,588,417,687

### Active Member Valuation Data

Actuarial Valuation as of June 30	Number of Active Members	Annual Payroll (millions)	Average Annual Salary	% Increase in Average Salary
2017	157,981*	\$3,303	\$20,906	(11.2)%
2016	124,540	2,932	23,545	1.7%
2015	122,855	2,845	23,161	1.8
2014	121,251	2,759	22,757	0.8
2013	121,642	2,747	22,581	(1.3)
2012	121,811	2,788	22,889	0.6
2011	125,337	2,852	22,758	0.9
2010	126,015	2,843	22,558	1.5
2009	125,465	2,787	22,216	4.2
2008	124,370	2,652	21,322	0.8

\*The active member headcount at June 30, 2017, reflects an increase of 32,641 members who have been re-categorized from inactive to active status. This group earned 0.25 or less of a year of service during fiscal year ended 2017. The average annual earnings of these members is \$7,518.

### Pension Retirees and Beneficiaries Added to and Removed from Rolls

Year	Added to Rolls		Removed from Rolls		Rolls at End of Year		Percent increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
2017	5,499	\$70,973,748	2,622	(\$7,420,188)	76,157	\$1,162,015,515	7.2%	\$14,680
2016	4,388	66,860,652	2,480	3,607,967	76,280	1,083,621,579	6.2	14,206
2015	4,909	70,608,680	3,142	8,777,486	74,372	1,020,368,894	6.5	13,720
2014	4,144	61,331,002	2,310	1,060,903	72,605	958,537,700	6.7	13,202
2013	4,197	62,841,820	2,464	2,650,786	70,771	898,267,601	7.2	12,693
2012	4,137	61,519,329	2,320	1,353,680	69,038	838,076,567	7.7	12,139
2011	3,472	49,577,804	2,378	1,526,603	67,221	777,910,918	6.6	11,572
2010	2,694	37,351,889	2,324	1,331,166	66,127	729,859,717	5.2	11,037
2009	3,103	41,970,065	2,164	504,642	65,727	693,838,994	6.4	10,552
2008	3,448	46,243,749	2,159	1,256,318	64,818	652,373,571	7.4	10,065

### Medicare B Retirees and Beneficiaries Added to and Removed from Rolls<sup>(1)</sup>

Year	Added to Rolls		Removed from Rolls		Rolls at End of Year		Percent Decrease in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
2017	1,853	\$1,011,738	3,278	\$1,789,788	44,741	\$24,428,586	(3.09)%	\$546
2016	2,006	1,095,276	2,459	1,342,614	46,166	25,206,636	(0.97)	546
2015	1,853	1,011,738	2,532	1,382,472	46,619	25,453,974	(1.44)	546
2014	2,225	1,214,850	2,303	1,257,438	47,298	25,824,708	(0.16)	546
2013	2,569	1,402,674	2,824	1,541,904	47,376	25,867,296	(0.54)	546

<sup>(1)</sup> The effort and cost to re-create financial statement information for the previous five years was not practical. Additional years will be displayed as they become available.



## Short-Term Solvency Test

SERS' financing objective is to pay for pension benefits through contributions that remain approximately level from year to year as a percent of member payroll.

If the contributions are level in concept and soundly executed, SERS will pay all promised benefits when due, which is the ultimate test of financial soundness. Testing for level contribution rates is the long-term test.

A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the present assets (cash and investments) are compared with:

1. Active member contributions on deposit.
2. The liabilities for future benefits to present retired lives.
3. The liabilities for service already rendered by active members.

Under the level percent of payroll financing, liabilities for active member contributions on deposit and the liabilities for future benefits to present retirees and beneficiaries will be fully covered by present assets except in rare circumstances. In addition, liabilities for active member benefits earned or to be earned in the future will be partially covered by the remainder of present assets. Generally, because SERS has been using level cost financing, the funded portion of active member benefits will increase over time.

### Solvency Test (\$ in millions)

Valuation as of June 30	Aggregate Accrued Liabilities For			Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Asset		
	(1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Financed Portion)		(1)	(2)	(3)
<b>PENSION</b>							
2017	\$3,010	\$11,690	\$4,449	\$13,537	100%	90%	0%
2016	2,914	11,689	4,728	13,015	100	86	0
2015	2,979	11,046	4,062	12,446	100	86	0
2014	2,892	10,437	4,128	11,882	100	86	0
2013	2,860	9,796	4,196	10,988	100	83	0
2012	2,826	9,190	4,322	10,266	100	81	0
2011	2,749	8,525	4,636	10,378	100	90	0
2010	2,569	7,850	4,404	10,766	100	100	8
2009	2,470	7,496	4,224	9,704	100	97	0
2008*	2,294	7,079	4,334	11,241	100	100	43
<b>MEDICARE B</b>							
2017	\$ 0	\$ 251	\$ 151	\$ 153	100%	61%	0%
2016	0	251	151	142	100	57	0
2015	0	252	130	134	100	53	0
2014	0	259	131	128	100	49	0
2013	0	255	132	119	100	47	0
2012	0	251	132	113	100	45	0
2011	0	245	138	116	100	47	0
2010	0	239	128	122	100	51	0
2009	0	239	121	113	100	47	0
<b>DEATH BENEFIT</b>							
2017	\$ 0	\$ 30	\$ 8	\$ 23	100%	77%	0%
2016	0	30	8	22	100	73	0
2015	0	28	7	21	100	75	0
2014	0	27	8	21	100	76	0
2013	0	27	7	19	100	73	0
2012	0	26	8	18	100	70	0
2011	0	26	7	19	100	74	0
2010	0	25	7	21	100	84	0
2009	0	24	7	19	100	79	0

\*Solvency Test combined Pension, Death, and Medicare B benefits for valuations performed prior to 6/30/2009.

## Actuarial Section

### Analysis of Financial Experience

Gains and Losses in Accrued Liabilities Resulting from Differences Between Assumed Experience and Actual Experience in the Pension, Medicare B, and Death Benefit Funds (\$ in millions)

Type of Risk Area	2017				2016			
	Pension	Medicare B	Death Benefit	Total	Pension	Medicare B	Death Benefit	Total
<b>Age and Service Retirements</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$(211.0)	\$(0.5)	\$(0.3)	<b>\$(211.8)</b>	\$(141.6)	\$ 0.7	\$(0.1)	<b>\$(140.9)</b>
<b>Disability Retirements</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(37.0)	(0.7)	(0.1)	<b>(37.7)</b>	(49.9)	(0.6)	(0.1)	<b>(50.6)</b>
<b>Death-In-Service Benefits</b> If claims costs are less than assumed, there is a gain. If more claims, a loss.	(0.1)	(0.0)	0.0	<b>(0.6)</b>	(27.9)	(0.6)	(0.0)	<b>(28.5)</b>
<b>Pay Increases</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(69.2)	0.0	0.0	<b>(69.2)</b>	70.0	0.0	0.0	<b>70.0</b>
<b>Investment Return</b> If there is greater investment return than assumed, there is a gain. If less return, a loss.	(12.1)	0.1	0.0	<b>(12.0)</b>	49.6	0.9	0.1	<b>50.6</b>
<b>Withdrawal</b> If more liabilities are released by other separations from active membership than assumed, there is a gain. If smaller releases, a loss.	21.7	0.2	0.0	<b>21.9</b>	29.2	1.1	0.1	<b>30.4</b>
<b>New Members</b> Additional unfunded accrued liability will produce a loss.	(45.0)	(2.9)	(0.2)	<b>(48.1)</b>	(42.3)	(1.6)	(0.1)	<b>(44.0)</b>
<b>Death after Retirement</b> If retirees live longer than assumed, there is a loss. If not as long, a gain.	85.3	14.0	(2.1)	<b>97.3</b>	104.4	10.6	(1.2)	<b>113.9</b>
<b>Other</b> Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	(32.1)	1.8	3.6	<b>(26.8)</b>	(3.3)	1.0	1.6	<b>(0.6)</b>
<b>Non-Recurring Items</b> Adjustments for plan amendments, assumption changes, or method changes.	998.5	0.0	0.0	<b>998.5</b>	(643.5)	(22.4)	(2.3)	<b>(668.2)</b>
<b>Total Gain (Loss) During Year</b>	<b>\$ 698.7</b>	<b>\$ 11.9</b>	<b>\$ 0.9</b>	<b>\$ 711.5</b>	<b>\$(655.2)</b>	<b>\$(10.8)</b>	<b>\$(1.9)</b>	<b>\$(667.9)</b>

\*Breakdowns by fund for prior years are not available.

2015				2014				2013*	2012*	2011*	2010*	2009*	2008*
Pension	Medicare B	Death Benefit	Total	Pension	Medicare B	Death Benefit	Total						
\$(124.4)	\$ 1.5	\$(0.1)	<b>\$(123.0)</b>	\$(122.0)	\$(0.5)	\$(0.1)	<b>\$(122.6)</b>	\$(121.9)	\$(154.8)	\$(59.2)	\$(40.6)	\$(50.8)	\$(96.1)
(52.4)	(0.6)	(0.1)	<b>(53.1)</b>	(55.3)	(0.6)	(0.1)	<b>(56.0)</b>	(53.6)	(47.7)	(28.1)	(23.4)	(28.7)	(3.5)
0.0	0.0	0.0	<b>0.0</b>	0.1	0.0	0.0	<b>0.1</b>	0.0	(0.2)	(0.7)	(0.5)	(0.6)	(0.6)
53.3	0.0	0.0	<b>53.3</b>	103.4	0.0	0.0	<b>103.4</b>	219.2	178.7	198.4	182.5	107.5	95.8
60.6	1.3	0.2	<b>62.1</b>	398.0	4.5	0.8	<b>403.3</b>	241.0	(692.0)	(1,082.9)	390.5	(2,265.2)	(6.6)
63.2	1.7	0.2	<b>65.1</b>	43.0	5.1	0.2	<b>48.3</b>	61.1	46.5	15.4	11.0	(11.9)	8.1
(46.0)	(1.5)	(0.1)	<b>(47.7)</b>	(26.7)	(1.4)	(0.1)	<b>(28.2)</b>	(35.1)	(29.8)	(36.4)	(38.1)	(50.4)	(51.3)
39.0	16.9	(0.1)	<b>55.8</b>	2.5	0.5	0.1	<b>3.1</b>	2.9	51.9	(1.0)	46.5	51.8	72.4
(0.8)	0.4	0.3	<b>(0.2)</b>	(4.6)	2.3	0.2	<b>(2.1)</b>	1.9	(6.2)	(10.0)	(29.6)	200.1	81.2
0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>	27.8	194.7	(436.2)	0.0	0.0	0.0
<b>\$(7.6)</b>	<b>\$ 19.6</b>	<b>\$ 0.3</b>	<b>\$ 12.3</b>	<b>\$ 338.4</b>	<b>\$ 9.9</b>	<b>\$ 1.0</b>	<b>\$ 349.3</b>	<b>\$ 343.3</b>	<b>\$(458.9)</b>	<b>\$(1,440.7)</b>	<b>\$ 498.3</b>	<b>\$(2,048.2)</b>	<b>\$ 99.4</b>

## HEALTH CARE

### Summary of Actuarial Assumptions and Methods

Governmental Accounting Standards Board (GASB) Statements 43 and 45 require actuarial valuations of retiree medical and other post-employment benefit plans.

**Funding Method** The medical and drug benefits of the plan are included in the actuarially calculated contribution rates, which are developed using the entry age normal actuarial cost method with the normal cost rate determined as a level percentage of payroll. GASB requires the discount rate used to value a plan to be based on the likely return of the assets held in trust to pay benefits. The discount rate used in this valuation is 5.25%.

**Contributions** Gains and losses are reflected in the unfunded accrued liability that is amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase 3.50% annually. The assumptions recommended by the actuary are, in the aggregate, reasonably related to the experience under the plan and to reasonable expectations of anticipated experience under the plan. They also meet the parameters for the disclosures under GASB 43 and 45.

Year Ended June 30	Annual Required Contribution (ARC) (a)	Employer Contribution (b)	Retiree Drug Subsidy (RDS) & Other Contribution (c)	Total Contribution (d) = (b) + (c)	Percentage of ARC Contributed (d) / (a)
2017	\$178,034,717	\$47,672,886	\$17,341,005	\$65,013,891	36.5%
2016	161,566,234	44,855,441	32,493,250	77,348,691	47.9
2015	164,182,107	68,904,867	20,084,826	88,989,693	54.2
2014	190,390,431	46,097,206	29,200,200	75,297,406	39.5
2013	171,402,038	45,489,443	-	45,489,443	26.5
2012	155,857,785	56,476,230	-	56,476,230	36.2
2011	169,146,052	86,908,283	-	86,908,283	51.4
2010	315,535,278	60,142,014	24,414,855	84,556,869	26.8
2009	373,789,127	163,411,488	23,504,101	186,915,589	50.0
2008	307,874,094	158,393,761	21,953,659	180,347,420	58.6

**Asset Valuation Method** Fair Market Value

**Economic Assumptions** The following economic assumptions were used in the actuarial valuation as of June 30, 2017:

- **Investment Return** Net after all plan expenses, the return on investments is compounded annually at 5.25%.
- **Inflation Rate** The inflation assumption is 3.00% per year. The real rate of return is the portion of total investment return, which is more than the inflation rate. Considering inflation recognition of 3.00%, the 5.25% investment return rate translates to an assumed real rate of return of 2.25%.
- **Health Care Cost Trend Rates** Following is a chart detailing trend assumptions:

Calendar Year	Non-Medicare	Medicare
2017	7.50%	5.50%
2018	6.75	5.25
2019	6.25	5.00
2020	5.75	5.00
2021	5.25	5.00
2022 and beyond	5.00	5.00

**Non-Economic Assumptions**

- **Age-related morbidity** Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims is assumed to be:

Participant Age	Annual Increase	
	Medical	Prescription
41 - 45	2.50%	1.25%
46 - 50	2.60	1.30
51 - 55	3.20	1.60
56 - 60	3.40	1.70
61 - 65	3.70	1.85
66 - 70	3.20	1.60
71 - 75	2.40	1.20
76 - 80	1.80	0.90

- **Anticipated Plan Participation** 50% of male retirees will choose spousal coverage, while only 30% of female retirees will choose spousal coverage.

Years of Service at Retirement	Service Retiree Participation	Disabled Retiree Participation
10 - 14	25.0%	50.0%
15 - 19	45.0	70.0
20 - 24	70.0	75.0
25 - 29	75.0	75.0
30 - 34	80.0	80.0
35 and over	90.0	90.0

**Actuarial Accrued Liabilities**

The results of the computed actuarial accrued liabilities, using the entry age normal actuarial cost method, are disclosed in the following schedule:

HEALTH CARE FUND ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2017	
Present value of benefits payable on account of present retired members and beneficiaries	\$ 902,506,385
Present value of benefits payable on account of active members	2,359,428,384
Present value of benefits payable on account of deferred vested members	13,470,154
<b>Total liabilities</b>	<b>\$3,275,404,923</b>

## Actuarial Section

### Analysis of Financial Experience

**Gains and Losses in Accrued Liabilities Resulting from Differences  
Between Assumed Experience and Actual Experience in the Health Care Fund**  
(*\$ in millions*)

Type of Risk Area	2017	2016	2015	2014*
<b>Age and Service Retirements</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$(4.8)	\$(10.6)	\$2.8	\$2.7
<b>Disability Retirements</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(5.1)	2.8	2.6	3.8
<b>Death-In-Service Benefits</b> If claims costs are less than assumed, there is a gain. If more claims, a loss.	(2.4)	(1.0)	(0.7)	(1.5)
<b>Claims Increases</b> If there are smaller claims increases than assumed, there is a gain. If greater increases, a loss.	124.0	170.7	112.7	561.2
<b>Investment Return</b> If there is greater investment return than assumed, there is a gain. If less return, a loss.	14.3	(21.0)	(12.5)	29.2
<b>Withdrawal</b> If more liabilities are released by other separations from active membership than assumed, there is a gain. If smaller releases, a loss.	3.4	29.4	30.1	51.0
<b>Contribution Shortfall</b> If there are more contributions than the ARC, there is a gain. If less contributions, a loss.	(116.0)	(86.4)	(77.2)	(118.1)
<b>New Members</b> Additional unfunded accrued liability will produce a loss.	(39.0)	(24.7)	(18.2)	(31.4)
<b>Death after Retirement</b> If retirees live longer than assumed, there is a loss. If not as long, a gain.	18.4	12.2	14.3	24.3
<b>Other</b> Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	31.1	(2.9)	9.0	19.3
<b>Non-Recurring Items</b> Adjustments for plan amendments, assumption changes, or method changes.	0.0	(72.1)	0.0	(36.1)
<b>Total Gain (Loss) During Year</b>	<b>\$23.9</b>	<b>\$ (3.6)</b>	<b>\$ 62.9</b>	<b>\$504.4</b>

\*Breakdowns by fund for prior years are not available.

## Health Care Solvency Test

(\$ in millions)

The following table provides the Health Care solvency test for SERS members:

Valuation as of June 30	Aggregate Accrued Liabilities For			Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Assets		
	(1) Active Member Contributions	(2) Retired Members & Beneficiaries	(3) Active Members (Employer Finance Portion)		(1)	(2)	(3)
2017	\$0	\$ 916	\$1,480	\$382	100.0%	42.0%	0.0%
2016	0	918	1,489	370	100.0	40.3	0.0
2015	0	979	1,446	408	100.0	41.7	0.0
2014	0	968	1,508	414	100.0	42.8	0.0
2013	0	1,157	1,761	379	100.0	32.8	0.0
2012	0	1,074	1,617	355	100.0	33.1	0.0
2011	0	897	1,513	356	100.0	39.7	0.0
2010	0	970	1,399	325	100.0	33.5	0.0
2009	0	1,895	2,385	376	100.0	19.8	0.0
2008	0	2,148	2,711	393	100.0	18.3	0.0

## Health Care Retirees and Beneficiaries Added to and Removed from Rolls

Year Ended	Added to Rolls		Removed from Rolls <sup>(1)</sup>		Rolls at Year-End		% Increase in Projected Benefits	Average Projected Benefits
	Number	Projected Benefits	Number	Projected Benefits	Number	Projected Benefits		
2017	2,355	\$ 10,099,985	2,774	\$ 4,834,866	43,858	\$ 91,554,056	1.18%	\$ 2,088
2016	2,280	10,209,470	2,650	4,258,016	44,277	90,484,518	(0.41)	2,044
2015	2,329	8,897,861	2,932	4,682,901	44,107	90,855,858	4.42	2,060
2014	2,251	8,658,731	2,873	4,834,922	44,710	87,007,272	(13.44)	1,946
2013	2,110	8,977,566	3,217	4,370,993	45,332	100,514,730	10.81	2,217
2012	2,073	9,280,779	3,785	5,391,796	46,439	90,708,513	11.49	1,953
2011	1,842	6,078,819	4,296	6,244,776	48,151	81,358,997	(7.63)	1,690
2010	1,779	5,931,864	3,039	6,978,743	50,605	88,077,033	n/a	1,740
2009*								
2008*								

<sup>(1)</sup>The benefits removed from rolls do not include subsidies that were changed due to premium changes, plan election changes or reductions due to members obtaining Medicare eligibility.

\* The effort and cost to re-create financial statement information for the fiscal years prior to 6/30/2010 was not practical. Additional years will be displayed as they become available.

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# Statistical Section

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### Statistical Section

The objectives of the statistical section are to provide additional historical perspective, context, and relevant details to assist readers in using information in the financial statements, notes to the financial statements, and required supplementary information in order to understand and assess SERS' overall financial condition.

The schedules and graphs beginning on page 83 show financial trend information about the change in SERS' assets for the past 10 years. These schedules provide detailed information about the trends of key sources of asset additions and deductions, which assist in providing a context framing how SERS' financial position has changed over time. The financial trend schedules presented are:

- Net Position by Fund
- Total Net Position
- Changes in Net Position
- Benefit and Refund Deductions from Net Position by Type

The schedules on page 90 show demographic and economic information. This information is designed to assist in understanding the environment in which SERS operates. The demographic and economic information and the operating information presented include:

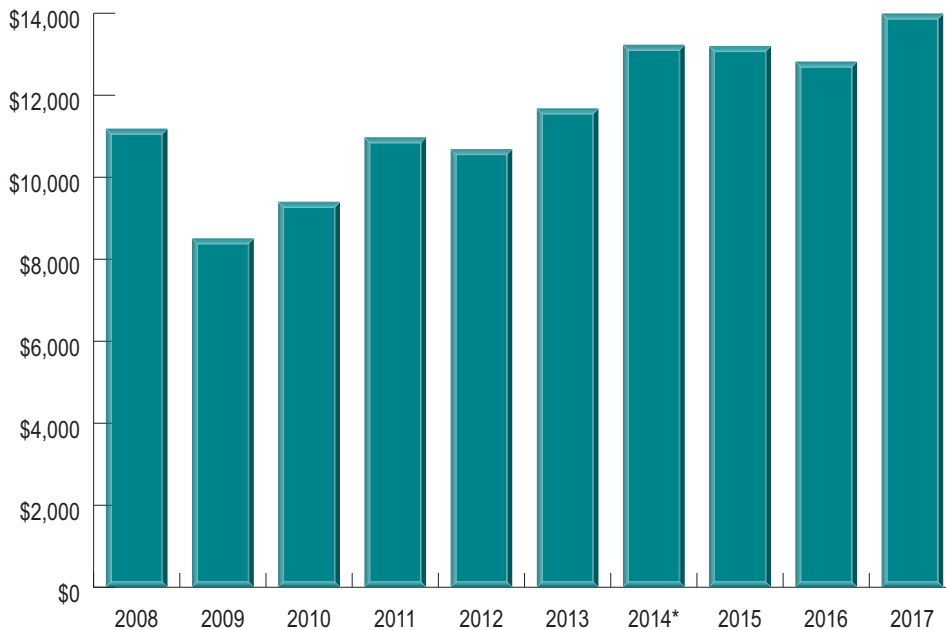
- Employee and Employer Contribution Rates
- Demographics of New Pension Benefit Recipients
- Demographics of Active and Retired Members Used for Valuation Purposes
- Retired Members by Type of Benefit
- Retirees, Spouses, and Dependents Receiving Health Care Coverage
- Principal Participating Employers
- Average Benefit Payments - New Retirees (Service Only)

### Net Position by Fund

Last 10 years

June 30	Pension Trust Fund	Medicare B Fund	Death Benefit Fund	QEBA Fund	Health Care Fund	Total Fund
2017	\$ 13,438,843,275	\$ 151,581,147	\$ 23,214,168	\$ 217,398	\$ 382,109,560	\$ 13,995,965,548
2016	12,296,016,233	134,623,247	20,991,343	223,565	370,204,515	12,822,058,903
2015	12,638,892,425	136,580,030	21,711,575	193,687	408,363,598	13,205,741,315
2014*	12,652,514,842	136,115,160	21,992,809	165,480	413,858,201	13,224,646,492
2013	11,160,574,582	120,363,782	19,543,665	144,750	379,181,026	11,679,807,805
2012	10,201,185,790	112,200,252	18,272,350	107,877	355,110,407	10,686,876,676
2011	10,483,076,014	116,849,347	19,249,940	102,596	355,705,744	10,974,983,641
2010	8,953,363,488	101,513,452	17,054,072	87,129	325,004,169	9,397,022,310
2009	8,024,889,206	93,243,651	15,974,467	74,585	376,459,222	8,510,641,131
2008	10,646,564,348	124,627,144	22,278,877	69,717	392,680,731	11,186,220,817

Total Net Position (\$ in millions)



\* Net Position was restated due to the implementation of GASB 68 during FY2015.

## Statistical Section

### Changes in Net Position

Last 10 fiscal years

ALL FUNDS COMBINED	2017	2016	2015	2014*
<b>ADDITIONS</b>				
Employer Contributions	\$ 515,834,904	\$ 481,635,982	\$ 466,904,369	\$ 451,402,553
Employee Contributions	336,627,658	314,325,716	303,866,076	295,690,550
Other Income	98,190,524	113,932,903	116,501,166	127,867,227
Total Investment Income (Loss), Net	1,649,100,073	108,787,810	452,598,520	1,939,269,151
<b>TOTAL ADDITIONS</b>	<b>2,599,753,159</b>	<b>1,018,682,411</b>	<b>1,339,870,131</b>	<b>2,814,229,481</b>
<b>DEDUCTIONS</b>				
Benefits	1,341,304,984	1,309,740,098	1,248,400,086	1,174,068,175
Refunds and Lump Sum Payments	60,692,833	70,340,495	60,635,651	55,668,466
Net Transfers to Other Ohio Systems	(3,139,875)	(2,272,514)	28,139,159	7,535,690
Administrative Expenses	26,988,572	24,556,744	21,600,412	32,118,463
<b>TOTAL DEDUCTIONS</b>	<b>1,425,846,514</b>	<b>1,402,364,823</b>	<b>1,358,775,308</b>	<b>1,269,390,794</b>
Net Increase (Decrease)	1,173,906,645	(383,682,412)	(18,905,177)	1,544,838,687
Net Position Held in Trust:				
Beginning of Year	12,822,058,903	13,205,741,315	13,224,646,492	11,679,807,805
<b>End of Year</b>	<b>\$ 13,995,965,548</b>	<b>\$ 12,822,058,903</b>	<b>\$ 13,205,741,315</b>	<b>\$ 13,224,646,492</b>

PENSION TRUST FUND	2017	2016	2015	2014*
<b>ADDITIONS</b>				
Employer Contributions	\$ 442,032,882	\$ 412,712,475	\$ 374,724,343	\$ 382,098,970
Employee Contributions	336,627,658	314,325,716	303,866,076	295,690,550
Other Income	-	-	-	-
Total Investment Income (Loss), Net	1,593,050,588	105,116,336	435,966,343	1,864,902,017
<b>TOTAL ADDITIONS</b>	<b>2,371,711,128</b>	<b>832,154,527</b>	<b>1,114,556,762</b>	<b>2,542,691,537</b>
<b>DEDUCTIONS</b>				
Pension Benefits	1,146,987,656	1,085,216,541	1,020,154,456	957,757,668
Refunds and Lump Sum Payments	60,692,833	70,340,495	60,635,651	55,668,466
Net Transfers to Other Ohio Systems	(3,139,875)	(2,272,514)	28,139,159	7,535,690
Administrative Expenses	24,343,472	21,746,197	19,249,913	29,789,453
<b>TOTAL DEDUCTIONS</b>	<b>1,228,884,086</b>	<b>1,175,030,719</b>	<b>1,128,179,179</b>	<b>1,050,751,277</b>
Net Increase (Decrease)	1,142,827,042	(342,876,192)	(13,622,417)	1,491,940,260
Net Position Held in Trust:				
Beginning of Year	12,296,016,233	12,638,892,425	12,652,514,842	11,160,574,582
<b>End of Year</b>	<b>\$ 13,438,843,275</b>	<b>\$ 12,296,016,233</b>	<b>\$ 12,638,892,425</b>	<b>\$ 12,652,514,842</b>

HEALTH CARE FUND	2017	2016	2015	2014*
<b>ADDITIONS</b>				
Employer Contributions	\$ 47,672,886	\$ 44,855,441	\$ 68,904,867	\$ 46,097,206
Other Income	98,190,524	113,932,903	116,501,166	127,867,227
Total Investment Income (Loss), Net	35,730,747	2,244,300	11,142,837	50,980,652
<b>TOTAL ADDITIONS</b>	<b>181,594,157</b>	<b>161,032,644</b>	<b>196,548,870</b>	<b>224,945,085</b>
<b>DEDUCTIONS</b>				
Health Care Expenses	167,106,908	196,445,600	199,750,908	187,994,468
Administrative Expenses	2,582,204	2,746,127	2,292,565	2,273,442
<b>TOTAL DEDUCTIONS</b>	<b>169,689,112</b>	<b>199,191,727</b>	<b>202,043,473</b>	<b>190,267,910</b>
Net Increase (Decrease)	11,905,045	(38,159,083)	(5,494,603)	34,677,175
Net Position Held in Trust:				
Beginning of Year	370,204,515	408,363,598	413,858,201	379,181,026
<b>End of Year</b>	<b>\$ 382,109,560</b>	<b>\$ 370,204,515</b>	<b>\$ 408,363,598</b>	<b>\$ 413,858,201</b>

\* Net Position was restated due to the implementation of GASB 68 during FY2015.

2013	2012	2011	2010	2009	2008
\$ 447,901,887	\$ 456,375,083	\$ 466,365,125	\$ 462,322,570	\$ 454,596,164	\$ 437,173,397
292,958,056	296,974,146	303,114,258	301,649,643	295,788,567	284,910,486
135,705,046	154,832,793	122,232,090	96,449,404	97,284,347	94,660,706
1,329,495,903	(37,922,409)	1,789,850,651	1,087,495,208	(2,526,406,966)	(759,805,340)
2,206,060,892	870,259,613	2,681,562,124	1,947,916,825	(1,678,737,888)	56,939,249
1,120,377,591	1,083,844,151	1,033,791,708	999,045,882	938,903,072	904,979,999
48,979,203	47,920,393	42,223,739	37,159,685	34,213,067	38,907,918
22,301,557	4,976,841	6,394,075	5,085,923	3,224,094	4,723,303
21,471,412	21,625,193	21,191,271	20,244,156	20,501,565	19,702,769
1,213,129,763	1,158,366,578	1,103,600,793	1,061,535,646	996,841,798	968,313,989
992,931,129	(288,106,965)	1,577,961,331	886,381,179	(2,675,579,686)	(911,374,740)
10,686,876,676	10,974,983,641	9,397,022,310	8,510,641,131	11,186,220,817	12,097,595,557
<b>\$ 11,679,807,805</b>	<b>\$ 10,686,876,676</b>	<b>\$ 10,974,983,641</b>	<b>\$ 9,397,022,310</b>	<b>\$ 8,510,641,131</b>	<b>\$ 11,186,220,817</b>

2013	2012	2011	2010	2009	2008
\$ 380,083,642	\$ 376,816,938	\$ 355,959,304	\$ 378,201,685	\$ 268,645,839	\$ 259,394,723
292,958,056	296,974,146	303,114,258	301,649,643	295,788,567	284,910,486
-	-	-	-	-	-
1,277,940,348	(38,010,415)	1,722,754,363	1,042,542,982	(2,434,825,781)	(731,527,482)
1,950,982,046	635,780,669	2,381,827,925	1,722,394,310	(1,870,391,375)	(187,222,273)
901,072,882	845,683,445	784,875,283	734,080,237	696,152,597	650,991,508
48,979,203	47,920,393	42,223,739	37,159,685	34,213,067	38,907,918
22,301,557	4,976,841	6,394,075	5,085,923	3,224,094	4,723,303
19,239,612	19,090,214	18,622,302	17,594,183	17,694,009	17,652,664
991,593,254	917,670,893	852,115,399	793,920,028	751,283,767	712,275,393
959,388,792	(281,890,224)	1,529,712,526	928,474,282	(2,621,675,142)	(899,497,666)
10,201,185,790	10,483,076,014	8,953,363,488	8,024,889,206	10,646,564,348	11,546,062,014
<b>\$ 11,160,574,582</b>	<b>\$ 10,201,185,790</b>	<b>\$ 10,483,076,014</b>	<b>\$ 8,953,363,488</b>	<b>\$ 8,024,889,206</b>	<b>\$ 10,646,564,348</b>

2013	2012	2011	2010	2009	2008
\$ 45,489,443	\$ 56,476,230	\$ 86,908,283	\$ 60,142,014	\$ 163,411,488	\$ 158,393,761
135,705,046	154,832,793	122,232,090	96,449,404	97,284,347	94,660,706
35,523,491	541,940	45,247,242	31,472,744	(58,751,419)	(18,289,836)
216,717,980	211,850,963	254,387,615	188,064,162	201,944,416	234,764,631
190,468,991	209,965,344	221,167,270	236,915,618	215,409,645	226,436,827
2,178,370	2,480,956	2,518,770	2,603,597	2,756,280	2,002,443
192,647,361	212,446,300	223,686,040	239,519,215	218,165,925	228,439,270
24,070,619	(595,337)	30,701,575	(51,455,053)	(16,221,509)	6,325,361
355,110,407	355,705,744	325,004,169	376,459,222	392,680,731	386,355,370
<b>\$ 379,181,026</b>	<b>\$ 355,110,407</b>	<b>\$ 355,705,744</b>	<b>\$ 325,004,169</b>	<b>\$ 376,459,222</b>	<b>\$ 392,680,731</b>

## Statistical Section

### Changes in Net Position (continued)

Last 10 fiscal years

MEDICARE B FUND	2017	2016	2015	2014*
<b>ADDITIONS</b>				
Employer Contributions	\$ 24,155,026	\$ 22,208,623	\$ 21,499,206	\$ 21,517,805
Other Income	-	-	-	-
Total Investment Income (Loss), Net	17,527,764	1,233,948	4,716,932	20,040,557
<b>TOTAL ADDITIONS</b>	<b>41,682,790</b>	<b>23,442,571</b>	<b>26,216,138</b>	<b>41,558,362</b>
<b>DEDUCTIONS</b>				
Pension Benefits	24,718,613	25,391,810	25,743,861	25,800,345
Administrative Expenses	6,277	7,544	7,407	6,639
<b>TOTAL DEDUCTIONS</b>	<b>24,724,890</b>	<b>25,399,354</b>	<b>25,751,268</b>	<b>25,806,984</b>
Net Increase (Decrease)	16,957,900	(1,956,783)	464,870	15,751,378
Net Position Held in Trust:				
Beginning of Year	134,623,247	136,580,030	136,115,160	120,363,782
<b>End of Year</b>	<b>\$ 151,581,147</b>	<b>\$ 134,623,247</b>	<b>\$ 136,580,030</b>	<b>\$ 136,115,160</b>

DEATH BENEFIT FUND	2017	2016	2015	2014*
<b>ADDITIONS</b>				
Employer Contributions	\$ 1,608,830	\$ 1,500,583	\$ 1,455,553	\$ 1,412,852
Other Income	-	-	-	-
Total Investment Income (Loss), Net	2,790,208	192,842	772,277	3,345,822
<b>TOTAL ADDITIONS</b>	<b>4,399,038</b>	<b>1,693,425</b>	<b>2,227,830</b>	<b>4,758,674</b>
<b>DEDUCTIONS</b>				
Death Benefits	2,122,612	2,358,518	2,460,907	2,262,136
Administrative Expenses	53,601	55,139	48,157	47,394
<b>TOTAL DEDUCTIONS</b>	<b>2,176,213</b>	<b>2,413,657</b>	<b>2,509,064</b>	<b>2,309,530</b>
Net Increase (Decrease)	2,222,825	(720,232)	(281,234)	2,449,144
Net Position Held in Trust:				
Beginning of Year	20,991,343	21,711,575	21,992,809	19,543,665
<b>End of Year</b>	<b>\$ 23,214,168</b>	<b>\$ 20,991,343</b>	<b>\$ 21,711,575</b>	<b>\$ 21,992,809</b>

QEBA FUND	2017	2016	2015	2014*
<b>ADDITIONS</b>				
Employer Contributions	\$ 365,280	\$ 358,860	\$ 320,400	\$ 275,720
Other Income	-	-	-	-
Total Investment Income (Loss), Net	766	384	131	103
<b>TOTAL ADDITIONS</b>	<b>366,046</b>	<b>359,244</b>	<b>320,531</b>	<b>275,823</b>
<b>DEDUCTIONS</b>				
Pension Benefits	369,195	327,629	289,954	253,558
Administrative Expenses	3,018	1,737	2,370	1,535
<b>TOTAL DEDUCTIONS</b>	<b>372,213</b>	<b>329,366</b>	<b>292,324</b>	<b>255,093</b>
Net Increase (Decrease)	(6,167)	29,878	28,207	20,730
Net Position Held in Trust:				
Beginning of Year	223,565	193,687	165,480	144,750
<b>End of Year</b>	<b>\$ 217,398</b>	<b>\$ 223,565</b>	<b>\$ 193,687</b>	<b>\$ 165,480</b>

\* Net Position was restated due to the implementation of GASB 68 during FY2015.

2013	2012	2011	2010	2009	2008
\$ 20,672,040	\$ 21,450,368	\$ 22,172,922	\$ 22,619,935	\$ 21,688,294	\$ 18,377,305
-	-	-	-	-	-
13,702,584	(378,593)	18,521,800	11,348,331	(27,612,707)	(8,388,671)
34,374,624	21,071,775	40,694,722	33,968,266	(5,924,413)	9,988,634
26,204,777	25,715,070	25,353,175	25,694,354	25,449,935	25,258,432
6,317	5,800	5,652	4,111	9,145	5,593
26,211,094	25,720,870	25,358,827	25,698,465	25,459,080	25,264,025
8,163,530	(4,649,095)	15,335,895	8,269,801	(31,383,493)	(15,275,391)
112,200,252	116,849,347	101,513,452	93,243,651	124,627,144	139,902,535
<b>\$ 120,363,782</b>	<b>\$ 112,200,252</b>	<b>\$ 116,849,347</b>	<b>\$ 101,513,452</b>	<b>\$ 93,243,651</b>	<b>\$ 124,627,144</b>

2013	2012	2011	2010	2009	2008
\$ 1,398,442	\$ 1,454,763	\$ 1,166,996	\$ 1,225,772	\$ 734,970	\$ 835,348
-	-	-	-	-	-
2,329,326	(75,490)	3,327,059	2,130,920	(5,218,168)	(1,600,480)
3,727,768	1,379,273	4,494,055	3,356,692	(4,483,198)	(765,132)
2,410,943	2,309,922	2,254,894	2,236,215	1,780,430	2,185,460
45,510	46,941	43,293	40,872	40,782	41,270
2,456,453	2,356,863	2,298,187	2,277,087	1,821,212	2,226,730
1,271,315	(977,590)	2,195,868	1,079,605	(6,304,410)	(2,991,862)
18,272,350	19,249,940	17,054,072	15,974,467	22,278,877	25,270,739
<b>\$ 19,543,665</b>	<b>\$ 18,272,350</b>	<b>\$ 19,249,940</b>	<b>\$ 17,054,072</b>	<b>\$ 15,974,467</b>	<b>\$ 22,278,877</b>

2013	2012	2011	2010	2009	2008
\$ 258,320	\$ 176,784	\$ 157,620	\$ 133,164	\$ 115,573	\$ 172,260
-	-	-	-	-	-
154	149	187	231	1,109	1,129
258,474	176,933	157,807	133,395	116,682	173,389
219,998	170,370	141,086	119,458	110,465	107,772
1,603	1,282	1,254	1,393	1,349	799
221,601	171,652	142,340	120,851	111,814	108,571
36,873	5,281	15,467	12,544	4,868	64,818
107,877	102,596	87,129	74,585	69,717	4,899
<b>\$ 144,750</b>	<b>\$ 107,877</b>	<b>\$ 102,596</b>	<b>\$ 87,129</b>	<b>\$ 74,585</b>	<b>\$ 69,717</b>

## Statistical Section

### Benefit and Refund Deductions from Net Position by Type

Last 10 fiscal years

<b>PENSION BENEFITS</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Service Retirement	\$1,012,404,884	\$ 952,950,117	\$ 891,831,626	\$ 834,865,512
Disability Retirement	96,312,675	94,595,437	91,265,121	87,804,462
Survivor Benefits	38,270,097	37,670,987	37,057,709	35,087,694
<b>Total Pension Benefits</b>	<b>\$1,146,987,656</b>	<b>\$1,085,216,541</b>	<b>\$1,020,154,456</b>	<b>\$ 957,757,668</b>
<b>Refunds</b>				
Separation	\$ 59,541,576	\$ 68,857,916	\$ 59,875,564	\$ 55,018,577
Beneficiaries	1,151,257	1,482,579	760,087	649,889
<b>Total Refunds</b>	<b>\$ 60,692,833</b>	<b>\$ 70,340,495</b>	<b>\$ 60,635,651</b>	<b>\$ 55,668,466</b>

<b>MEDICARE B REIMBURSEMENT</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Service Retirement	\$ 22,336,187	\$ 22,855,321	\$ 23,105,680	\$ 23,099,058
Disability Retirement	1,336,790	1,413,048	1,428,700	1,436,026
Survivor Benefits	1,045,636	1,123,441	1,209,481	1,265,261
<b>Total Medicare B Reimbursement</b>	<b>\$ 24,718,613</b>	<b>\$ 25,391,810</b>	<b>\$ 25,743,861</b>	<b>\$ 25,800,345</b>

<b>DEATH BENEFITS</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Service	\$ 1,939,771	\$ 2,133,523	\$ 2,256,060	\$ 2,052,993
Disability	182,841	224,995	204,847	209,143
<b>Total Death Benefits</b>	<b>\$ 2,122,612</b>	<b>\$ 2,358,518</b>	<b>\$ 2,460,907</b>	<b>\$ 2,262,136</b>

<b>HEALTH CARE EXPENSES</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Medical	\$ 87,845,475	\$ 108,821,435	\$ 117,389,938	\$ 109,622,130
Prescription	79,261,433	86,997,168	80,843,448	76,945,975
Other	-	626,997	1,517,522	1,426,363
<b>Total Health Care Expenses</b>	<b>\$ 167,106,908</b>	<b>\$ 196,445,600</b>	<b>\$ 199,750,908</b>	<b>\$ 187,994,468</b>



2013	2012	2011	2010	2009	2008
\$ 781,736,903	\$ 731,236,350	\$ 675,549,301	\$ 629,474,136	\$ 595,262,076	\$ 554,521,059
85,514,086	81,219,934	77,524,938	74,632,571	72,571,590	69,632,988
33,821,893	33,227,161	31,801,044	29,973,530	28,318,931	26,837,461
\$ 901,072,882	\$ 845,683,445	\$ 784,875,283	\$ 734,080,237	\$ 696,152,597	\$ 650,991,508
\$ 48,392,410	\$ 47,272,246	\$ 41,753,113	\$ 36,344,287	\$ 33,499,028	\$ 38,147,667
586,793	648,147	470,626	815,398	714,039	760,251
\$ 48,979,203	\$ 47,920,393	\$ 42,223,739	\$ 37,159,685	\$ 34,213,067	\$ 38,907,918

2013	2012	2011	2010	2009	2008
\$ 23,460,682	\$ 23,006,643	\$ 22,677,282	\$ 23,024,413	\$ 22,790,277	\$ 22,542,191
1,425,456	1,405,443	1,373,592	1,364,728	1,340,431	1,334,470
1,318,639	1,302,984	1,302,301	1,305,213	1,319,227	1,381,771
\$ 26,204,777	\$ 25,715,070	\$ 25,353,175	\$ 25,694,354	\$ 25,449,935	\$ 25,258,432

2013	2012	2011	2010	2009	2008
\$ 2,197,804	\$ 2,101,093	\$ 2,040,327	\$ 1,969,489	\$ 1,538,800	\$ 1,965,949
213,139	208,829	214,567	266,726	241,630	219,511
\$ 2,410,943	\$ 2,309,922	\$ 2,254,894	\$ 2,236,215	\$ 1,780,430	\$ 2,185,460

2013	2012	2011	2010	2009	2008
\$ 110,990,977	\$ 112,808,198	\$ 119,184,041	\$ 120,931,746	\$ 112,696,150	\$ 129,186,181
78,135,361	94,731,407	100,474,453	113,971,467	99,283,588	95,603,763
1,342,653	2,415,739	1,508,776	2,012,405	3,429,907	1,646,883
\$ 190,468,991	\$ 209,955,344	\$ 221,167,270	\$ 236,915,618	\$ 215,409,645	\$ 226,436,827

## Statistical Section

### Employee and Employer Contribution Rates

Last 10 fiscal years

Fiscal Year	Employee Rate	Employer Rate				
		Pension	Medicare B	Death Benefit	Health Care	Total
2017	10%	13.20%	0.75%	0.05%	0.00%	14%
2016	10	13.21	0.74	0.05	0.00	14
2015	10	12.39	0.74	0.05	0.82	14
2014	10	13.05	0.76	0.05	0.14	14
2013	10	13.05	0.74	0.05	0.16	14
2012	10	12.65	0.75	0.05	0.55	14
2011	10	11.77	0.76	0.04	1.43	14
2010	10	12.74	0.76	0.04	0.46	14
2009	10	9.06	0.75	0.03	4.16	14
2008	10	9.13	0.66	0.03	4.18	14

### Demographics of New Pension Benefit Recipients

Last 10 fiscal years

#### Average Service Benefit

Year Ended June 30	Service Credit	Monthly Amount	Age	Final Average Salary
2017	19.8	\$ 1,078	63.4	\$ 30,267
2016	21.4	1,224	63.4	31,785
2015	21.6	1,254	63.2	32,263
2014	21.7	1,228	63.4	31,617
2013	21.7	1,236	63.2	31,558
2012	22.9	1,246	63.6	31,600
2011	22.7	1,203	63.4	30,579
2010	23.5	1,159	64.0	29,644
2009	21.9	1,098	62.6	28,211
2008	22.2	1,095	62.5	27,815

#### Average Disability Benefit

Year Ended June 30	Service Credit	Monthly Amount	Age	Final Average Salary
2017	17.0	\$ 1,245	56.6	\$ 30,570
2016	16.5	1,296	55.9	31,118
2015	15.9	1,291	54.1	31,091
2014	15.8	1,250	54.5	29,965
2013	16.1	1,254	54.0	29,484
2012	16.0	1,249	54.9	29,071
2011	15.4	1,272	55.7	29,417
2010	18.0	1,258	55.4	29,055
2009	16.0	1,306	53.0	29,074
2008	15.0	1,269	53.0	28,538

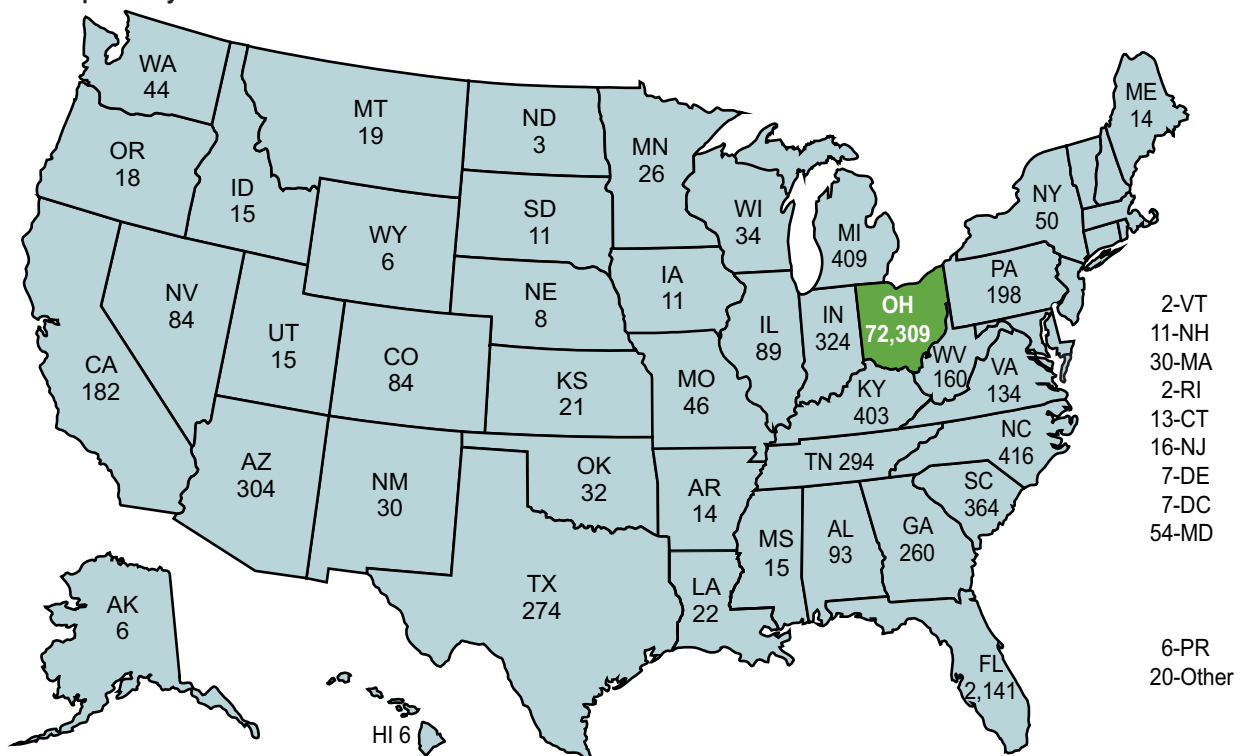
## Demographics of Active and Retired Members Used for Valuation Purposes

Fiscal Year 2017

	Active Members			Percentage of Distribution		
	Male	Female	Total	Male	Female	Total
Under 20	1,956	1,427	3,383	1%	1%	2%
20 to 29	9,416	11,862	21,278	6	8	14
30 to 39	8,382	15,697	24,079	5	10	15
40 to 49	10,428	25,932	36,360	7	16	23
50 to 54	6,040	16,758	22,798	4	11	15
55 to 59	6,036	17,691	23,727	4	11	15
60 to 64	4,694	11,197	15,891	3	7	10
65 to 69	2,420	4,461	6,881	2	3	5
70 and over	1,423	2,161	3,584	0	1	1
	50,795	107,186	157,981	32%	68%	100%

	All Benefit Recipients			Percentage of Distribution		
	Male	Female	Total	Male	Female	Total
Under 55	653	921	1,574	1%	1%	2%
55 to 59	1,337	1,964	3,301	2	2	4
60 to 64	3,032	7,930	10,962	4	10	14
65 to 69	4,225	11,358	15,583	5	15	20
70 to 74	3,838	10,641	14,479	5	13	18
75 to 79	3,218	9,243	12,461	4	12	16
80 to 84	2,462	7,516	9,978	3	9	12
85 to 89	1,591	5,329	6,920	2	7	9
90 to 94	683	2,777	3,460	1	3	4
95 to 99	131	859	990	0	1	1
100 and over	14	111	125	0	0	0
	21,184	58,649	79,833	27%	73%	100%

### All Benefit Recipients by State



## Statistical Section

### Retired Members by Type of Benefit

Amount of Monthly Benefit	Total	Service	Disability	Survivor
\$ 1 - \$ 250	11,092	10,197	80	815
251 - 500	11,560	10,014	397	1,149
501 - 750	10,948	9,441	668	839
751 - 1,000	9,394	7,937	880	577
1,001 - 1,500	13,662	11,757	1,408	497
1,501 - 2,000	8,261	7,177	889	195
over 2,000	14,266	12,857	1,183	226
	<b>79,183</b>	<b>69,380</b>	<b>5,505</b>	<b>4,298</b>

Average Monthly Benefit	\$1,232	\$1,464	\$742
Average Age	73.9	65.5	72.2

### Retirees, Spouses, and Dependents Receiving Health Care Coverage

Attained Age	Number of		Total Number
	Males	Females	
Under 30	150	152	302
30 - 39	6	5	11
40 - 49	26	40	66
50 - 59	745	939	1,684
60 - 64	1,311	2,380	3,691
65 - 69	2,024	4,811	6,835
70 - 74	2,126	5,414	7,540
75 - 79	2,408	5,679	8,087
80 - 84	2,075	4,901	6,976
85 - 89	1,272	3,606	4,878
90 - 94	555	2,220	2,775
95 - 99	133	752	885
100 and over	15	113	128
	<b>12,846</b>	<b>31,012</b>	<b>43,858</b>

## Principal Participating Employers

Current fiscal year and nine years ago

	Fiscal Year 2017			Fiscal Year 2008		
	Covered Employee Members	Rank	Percentage of Total System	Covered Employee Members	Rank	Percentage of Total System
Columbus City Schools	3,626	1	2.30%	3,624	1	2.91%
Cincinnati Public Schools	3,110	2	1.97	2,626	3	2.11
Cleveland Metropolitan School District	2,949	3	1.87	3,104	2	2.50
University of Akron	2,524	4	1.60	2,128	4	1.71
Akron Public Schools	1,861	5	1.18	1,650	6	1.33
Toledo City Schools	1,828	6	1.16	1,728	5	1.39
Educational Service Center Council of Governments	1,709	7	1.08	-	-	-
South-Western City Schools	1,380	8	0.87	1,210	8	0.97
Dayton City Schools	1,253	9	0.79	1,412	7	1.13
Olentangy Local Schools	1,235	10	0.78	-	-	-
Lakota Local Schools	-	-	-	1,101	9	0.89
Parma City Schools	-	-	-	1,053	10	0.85
All Other	136,506		86.40	104,734		84.21
<b>Total</b>	<b>157,981</b>		<b>100.00%</b>			<b>100.00%</b>

### In FY2017 "All Other" consisted of:

	Covered Employee Members	Number of School Districts
Local School Districts	50,907	371
City School Districts	56,390	184
Educational Service Centers	8,787	52
Exempted Village Districts	7,302	49
Higher Education	3,644	14
Vocational Schools	3,239	49
Community Schools	4,999	329
Other	1,238	18

## Statistical Section

### Average Benefit Payments - New Retirees (Service Only)

Last 10 fiscal years

Retirement Effective Dates	Years of Credited Service					
	5-9	10-14	15-19	20-24	25-29	30+
Period 7/1/16 to 6/30/17						
Average Monthly Benefit	\$ 212	\$ 488	\$ 767	\$ 1,044	\$ 1,487	\$ 2,439
Monthly Final Average Salary	1,532	2,084	2,360	2,498	2,937	3,654
Number of Retirees	715	847	951	948	692	857
Period 7/1/15 to 6/30/16						
Average Monthly Benefit	\$ 241	\$ 510	\$ 762	\$ 1,110	\$ 1,456	\$ 2,392
Monthly Final Average Salary	1,608	2,104	2,341	2,644	2,869	3,582
Number of Retirees	535	671	615	630	769	1,013
Period 7/1/14 to 6/30/15						
Average Monthly Benefit	\$ 247	\$ 511	\$ 804	\$ 1,123	\$ 1,459	\$ 2,404
Monthly Final Average Salary	1,587	2,157	2,479	2,675	2,875	3,576
Number of Retirees	515	636	535	505	764	994
Period 7/1/13 to 6/30/14						
Average Monthly Benefit	\$ 239	\$ 506	\$ 756	\$ 1,053	\$ 1,390	\$ 2,391
Monthly Final Average Salary	1,554	2,130	2,357	2,511	2,785	3,586
Number of Retirees	468	622	489	527	736	957
Period 7/1/12 to 6/30/13						
Average Monthly Benefit	\$ 227	\$ 483	\$ 732	\$ 1,086	\$ 1,403	\$ 2,815
Monthly Final Average Salary	1,540	2,069	2,270	2,585	2,830	3,224
Number of Retirees	483	639	437	538	744	965
Period 7/1/11 to 6/30/12						
Average Monthly Benefit	\$ 237	\$ 475	\$ 759	\$ 1,066	\$ 1,376	\$ 2,439
Monthly Final Average Salary	1,555	2,029	2,342	2,548	2,863	3,136
Number of Retirees	468	557	478	498	643	1,089
Period 7/1/10 to 6/30/11						
Average Monthly Benefit	\$ 211	\$ 456	\$ 706	\$ 1,018	\$ 1,354	\$ 2,490
Monthly Final Average Salary	1,462	1,998	2,168	2,455	2,782	3,255
Number of Retirees	493	473	315	375	540	901
Period 7/1/09 to 6/30/10						
Average Monthly Benefit	\$ 196	\$ 427	\$ 680	\$ 993	\$ 1,283	\$ 2,216
Monthly Final Average Salary	1,343	1,848	2,105	2,422	2,681	2,906
Number of Retirees	393	349	275	315	346	725
Period 7/1/08 to 6/30/09						
Average Monthly Benefit	\$ 204	\$ 419	\$ 681	\$ 938	\$ 1,250	\$ 2,178
Monthly Final Average Salary	1,402	1,802	2,115	2,264	2,504	2,765
Number of Retirees	364	341	379	492	528	732
Period 7/1/07 to 6/30/08						
Average Monthly Benefit	\$ 209	\$ 373	\$ 635	\$ 969	\$ 1,219	\$ 2,122
Monthly Final Average Salary	1,434	1,648	1,989	2,327	2,426	2,803
Number of Retirees	356	350	424	530	657	811



# Plan Summary

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### Plan Summary

Established by state law in 1937, SERS is a statewide defined benefit plan that provides retirement, disability, and survivor benefits to non-teaching employees of Ohio's public, vocational, technical, and community schools; community colleges; and the University of Akron.

The Retirement Board is responsible for the general administration and management of the Retirement System. The Board comprises nine members: four elected employee members; two elected retiree members; and three appointed investment expert members. One investment expert is appointed by the Governor, a second one by the State Treasurer, and the third one jointly by the Speaker of the House and President of the Senate of the General Assembly.

The day-to-day operations are administered by a professional staff led by the Executive Director.

The plan summary in effect at June 30, 2017, is described below. A pension reform bill was signed on September 26, 2012, with most provisions becoming effective January 7, 2013. The bill increased the current age and service credit requirements for retirement eligibility for members retiring after August 1, 2017.

#### COVERED EMPLOYEES

All non-teaching employees of Ohio's public, vocational, technical, and community schools; community colleges; and the University of Akron are required to be members unless their position permits exemption from membership, optional membership, or the position is excluded from membership.

#### Compulsory or Mandatory Coverage

Compulsory coverage is required for any employee who:

- Is employed in a position for which the person is not required to have a certificate or license issued pursuant to sections 3319.22 to 3319.31 of the Revised Code; or
- Performs a service common to the normal daily operation of an educational unit even though the person is employed and paid by one who has contracted with the school to perform the service.

#### Exemption from Coverage

The following individuals may choose exemption from coverage by filing a written application with the employer within the first month after being employed:

- A student who is not a member at the time of the student's employment and who is employed by the school, college, or university in which the student is enrolled and regularly attending classes;
- An emergency employee serving on a temporary basis in case of fire, snow, earthquake, flood, or other similar emergency; or
- An individual employed in a program established under the Federal Job Training Partnership Act.

#### Optional Coverage

A school or governing board member may choose to become a member by making application within thirty (30) days of taking office. A school board member is a member of a city, local, exempted village, or joint vocational school district board of education, and a governing board member is a member of an educational service center governing board.

#### Exclusion from Coverage

The following employees are excluded from SERS coverage:

- Any person having a license issued by the Ohio Department of Education (ODE) and employed in a public school in this state in an educational position, as determined by the ODE, under programs under federal law and financed in whole or in part from federal funds, but for which no licensure requirements for the position can be made under the provisions of such federal law;
- Any person who participates in an alternative retirement plan (ARP) established by a college or university; and
- University of Akron police officers who are covered by the Ohio Public Employees Retirement System (OPERS).
- Nonteaching University of Akron employees hired on or after September 28, 2016. These employees are covered by OPERS unless terminated and rehired within 1 year of September 28, 2016.
- Employees of community school operators who withhold Social Security taxes beginning with their first paycheck: whose initial employment with the community school operator is on or after July 1, 2016, or; who previously worked for a community school operator and returned to work for that same operator on or after July 1, 2016, provided the employee was not previously employed by the same operator at any time between July 1, 2015 to June 30, 2016 and whose date of reemployment is before July 1, 2017. The community school operator must have withheld social security taxes for employees on or before February 1, 2016 in order for employers to fall under this exemption.

#### CONTRIBUTIONS

The employee and employer are required to contribute a percentage of the employee's compensation to SERS to fund the benefits available. Employees contribute 10% of their gross compensation. Employers contribute 14% of the employee's compensation. Members are entitled to a return of their contributions if they meet eligibility requirements, either in the form of monthly benefits, or a single lump-sum payment after termination of employment.

#### SERVICE CREDIT

The amount of a member's service credit determines:

- Eligibility for retirement or disability benefits
- The amount of a benefit



- Eligibility for health care coverage and the amount of the health care premium

It also determines the eligibility of a member's dependents for survivor benefits, the amount of benefits, and availability of health care coverage.

Service credit is accrued through contributions during school employment, for other periods at no cost, and for other service that may be purchased.

### Contributing Service Credit

One year of service credit is granted upon completion of 120 or more days of paid school employment within a fiscal year (July 1 through the following June 30). Any portion of a day constitutes one full day. If service is less than 120 days, a fractional amount of service credit is prorated on the basis of a 180-day school year.

### Free Service Credit

Additional service credit up to three years is available at no cost for periods a member received Workers' Compensation. In addition, certain periods of military service may be available at no cost.

### Purchased Service Credit

The following additional service credit may be available for purchase:

- Previously refunded SERS service credit
- Employer authorized unpaid leaves of absence
- Any service after July 1, 1991, in a position for which SERS membership was compulsory, but for which a member was permitted to, and did, sign an exemption from membership form
- Any service before July 1, 1991, in a position for which SERS membership was optional, and a member did not choose to become a member
- Up to five years of service with public or private school, college, or university in another state, or operated by the federal government, which has been chartered or accredited by the proper government agency if the service in a comparable position in Ohio would have been covered by an Ohio state retirement system, or an Ohio municipal retirement system except the Cincinnati Retirement System
- Periods of military service
- Up to two years for periods when the member was required to resign because of pregnancy or adoption of a child
- School board member service prior to July 1, 1991
- Cincinnati Retirement System covered service
- Service covered by the Ohio Police & Fire Pension Fund or Ohio Highway Patrol Retirement System if not being used in a benefit under those systems

### Other Ohio State Retirement System Service Credit

If a member has been employed in a job covered by the State Teachers Retirement System of Ohio (STRS) or the Ohio Public Employees Retirement System (OPERS) as well as in a job covered by SERS, at retirement the member may receive a retirement benefit independently from each of the systems if eligible, or may combine the service credit and accounts in all the systems to receive one benefit. The system with the greatest service credit will be the system that will calculate and pay the benefit. While the salaries in one year will be added together, if the member has service credit in each system for the same year, the member cannot be credited with more than one year of service credit for each 12 months in a year.

### Early Retirement Incentive Program

An employer may establish an Early Retirement Incentive program (ERI), which would allow employees 57 years old to retire early. Under an ERI, an employer may purchase up to five years of service credit for its eligible employees. If an employer has an ERI, it notifies all eligible employees of the plan and its requirements.

## AGE AND SERVICE RETIREMENT

### Eligibility

A member who retires on or before August 1, 2017, from SERS may retire under the following age and service credit guidelines:

- Five (5) years of service credit and is at least 60 years old
- 25 years of service credit and is at least 55 years old
- 30 years of service credit irrespective of age

A member who becomes eligible for retirement after August 1, 2017, and who will not have at least 25 years of service credit as of August 1, 2017, may retire under the following age and service credit guidelines:

- 10 years of service credit and is at least 62 years old
- 25 years of service credit and is at least 60 years old
- 30 years of service credit and is at least 57 years old

### Calculating a Benefit

The calculation of a benefit is determined using the member's salary, service credit, and age.

The **salary** used is the Final Average Salary (FAS) which is the average of the three (3) highest years of salary. If a member has more than one covered job, the salaries will be combined.

The **service credit** used is the total service credit at the time of retirement.

The **age** used to calculate a benefit is the member's actual age at the time of retirement.

The formula used in calculating a benefit is as follows:

## Plan Summary

1. The value of a year of service credit is determined by multiplying the member's FAS by 2.2%, and by 2.5% for each year above 30 years of service credit. If the result is less than \$86.00, then \$86.00 is the value of each year.
2. The number of years of service credit is then multiplied by this value of each year. The result is the annual retirement benefit for a member with 30 years of credit or who is age 65 at the time of retirement.
3. If the member is under 65 or has less than 30 years of credit at the time of retirement, the annual benefit is reduced to cover a longer period of retirement.

### Payment Plans

At retirement, a member must choose a payment plan. There are three categories of plans. All plans pay a monthly benefit for the retiree's life. Under the first category, payments cease with the retiree's death; this is Plan B (Single Life Allowance). Another category provides a continuing benefit to a designated beneficiary after the retiree's death. The plans in this category are Plan A, C, D (Joint Life plans), and F (Multiple Beneficiaries plan). The third category provides payment to a designated beneficiary for a specified period of time if the retiree dies during the specified period; this is Plan E (Time Limited). Choosing a plan other than the Single Life Allowance will result in a reduced monthly benefit to the retiree depending on the retiree's age, the beneficiary's age, and the plan chosen.

### Partial Lump Sum Option Payment

In addition to selecting a payment plan, a member may take part of a benefit in a one-time partial lump sum option payment (PLOP), which will permanently reduce the lifetime monthly benefit.

### Reemployment

A retiree may be reemployed after retirement. A job in the private sector does not affect the retiree's benefit.

However, if the job is in a position covered by SERS, the State Teachers Retirement System of Ohio, the Ohio Public Employees Retirement System, the Ohio Police & Fire Pension Fund, or the Ohio Highway Patrol Retirement System, SERS must be notified. If the retiree returns to work in a job covered by any of these systems before the retiree has received a SERS benefit for two months, the retiree forfeits the benefit payment for each of the two months in which the retiree worked.

If the retiree returns to a SERS-covered position, then employee and employer contributions are required for the new position. The retiree accrues a new benefit in the form of an annuity based on the contributions paid by the retiree and the employer. This is separate from the original SERS benefit. There are no other benefits available, and the retiree does not accrue any additional service credit for the period of reemployment.

### DISABILITY BENEFITS

A member is entitled to a benefit under one of two disability plans. A member who became a member on or after July 29, 1992, is covered under the **new disability plan**. A member who became a member before July 29, 1992, is covered by the **old disability plan** unless they exercised a one-time election to switch to the new plan.

The following describes the common and different features of both plans.

#### Eligibility

Under both plans, a member is eligible for disability benefits if the member:

- Has at least five (5) years of total service credit;
- Files an application no later than two (2) years from the date that the contributing service stopped;
- Is permanently disabled, either physically or mentally, for work in a SERS-covered position as determined by a physician appointed by SERS;
- Became disabled after becoming a SERS member;
- Did not receive a refund of the member's contributions;
- Does not receive a service retirement benefit;
- Is not applying for a disability benefit based on a disabling condition that resulted from a felony the member was convicted of, pled guilty to, or was found not guilty of by reason of insanity.

Under the old disability plan, a member also must apply before turning 60 years old. Under the new disability plan a member may apply at any age.

All disability recipients are required to apply for Social Security disability benefits, if eligible.

#### Benefit Payment

##### Old Disability Plan

Under the old disability plan, an annual benefit is calculated by the following formula using total service credit and Final Average Salary (FAS):

1. The value of a year of service credit is determined by multiplying the member's FAS by 2.2%. If the result is less than \$86.00, then \$86.00 is the value of each year.
2. The number of years of service credit is then multiplied by this value of each year.

Service credit includes all service credit the member has at the time of the benefit effective date plus the number of years between the member's current age and age 60. The benefit cannot be less than 30% of FAS or more than 75%.

**New Disability Plan**

Under the new disability plan, the amount of an annual benefit is the greater of 45% of FAS, or total service credit at the time of the application multiplied by 2.2% of FAS. The following chart shows the approximate applicable percentage amounts under this plan:

Years of Service Credit	Percentage of the Member's FAS
5-21	45.0%
22	48.4
23	50.6
24	52.8
25	55.0
26	57.2
27	59.4
28 or more	60.0

**Termination of Benefits**

Under the **new disability plan**, benefits also will end after a specified number of months as shown:

Age at Effective Date	Period Benefits Payable
Younger than 60	Until age 65
60 or 61	60 months
62 or 63	48 months
64 or 65	36 months
66, 67, or 68	24 months
69 or older	12 months

At the end of the period, the member can apply for a service retirement benefit.

A disability benefit under either plan stops if any one of the following events occurs:

- A subsequent SERS medical re-examination finds that the member is no longer disabled from their SERS-covered position
- After 3 or 5 years, if receiving rehabilitation or treatment, a re-examination finds the member is capable of performing other job duties with pay at or above 75% of his or her annual compensation, for which he or she is qualified, and can reasonably be found.
- The member returns to a SERS-covered job
- The member's death
- The member requests that benefits end

**DEATH BENEFIT**

At death after retirement or receipt of a disability benefit, the retiree's beneficiary or disability benefit recipient's beneficiary is entitled to a one-time lump sum payment of \$1,000.

**SURVIVOR BENEFITS**

**Eligibility**

If a member dies while working, before the member begins receiving a monthly service retirement benefit, or while receiving a disability benefit, the member's qualified survivors are entitled to certain benefits.

A beneficiary qualifies for benefits in the following order:

1. Person designated in writing by the member on a form provided by SERS
2. If there is no designated beneficiary or the beneficiary died before the member, the statutory order of beneficiaries applies

The statutory order of succession is as follows, the member's:

1. Surviving spouse
2. Surviving children
3. Dependent parent who is age 65 or older
4. Surviving parents
5. Estate

The first qualifying beneficiary is entitled to a one-time, lump-sum payment of only the member's employee contributions to SERS, or monthly benefits if otherwise eligible. However, if the member is survived by children under age 19, only a monthly benefit is available to the qualifying survivors.

Monthly benefit payments are available if the member:

1. Had at least one and one-half (1½) years of contributing service credit;
2. Had at least one-quarter (¼) year of Ohio service credit earned within two and one-half (2½) years prior to death;
3. Was not receiving a service retirement benefit

The following survivors are eligible for monthly benefits:

1. Surviving spouse at age 62
2. Surviving spouse at any age if the member had 10 or more years of service credit; or if there are qualified children; or has been declared mentally or physically incompetent by a court
3. Children who have never married, are under 19, or have been declared mentally or physically incompetent by a court
4. Dependent parent age 65 or older

## Plan Summary

### Benefit Payments

The amount of the monthly benefit is determined under one of the following schedules, whichever pays the greater benefit:

	SCHEDULE I	SCHEDULE II
Number of Qualified Beneficiaries	Monthly Benefit Shall Not be Less than	As a Percent of the Member's Final Average Salary
1	\$ 96*	25%
2	186	40
3	236	50
4	236	55
5 or more	236	60

\*Not less than \$106 to spouse if the member had 10 or more years of service credit.

### SCHEDULE III

If the member had 20 or more years of service credit, the benefit will be calculated as follows:

Years of Service	As a Percent of the Member's Final Average Salary
20	29%
21	33
22	37
23	41
24	45
25	48
26	51
27	54
28	57
29 or more	60

### COST-OF-LIVING ADJUSTMENT

Currently one year after an effective benefit date, a benefit recipient is entitled to a three percent (3%) cost-of-living adjustment (COLA). This same COLA is added each year to the base benefit amount on the anniversary date of the benefit.

### HEALTH CARE

Currently, SERS offers medical and prescription health care coverage to qualifying benefit recipients. To the extent that resources permit, SERS intends to continue offering access to health care coverage. However, the Retirement System reserves the right to change or discontinue any plan or program at any time.

Currently a **service retiree** qualifies for health care coverage if the retiree has 10 years of qualified years of service credit at retirement. Qualifying service credit does not include:

- Military other than free or interrupted military service credit
- Other government and school service credit
- Exempted service credit
- Service credit purchased by an employer under an Early Retirement Incentive plan (ERI)

A beneficiary of a deceased service retiree who receives a monthly benefit qualifies for health care coverage if the retiree had qualified for such coverage.

**Disability benefit recipients** qualify for the SERS health care coverage upon receipt of a disability benefit.

**Survivor benefit recipients** qualify for health care coverage upon receipt of a survivor benefit.



RSM US LLP

**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**

The Retirement Board  
School Employees Retirement System of Ohio  
and The Honorable Dave Yost  
Columbus, Ohio

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 School Employees Retirement System of Ohio, which comprise the statement of net position as of June 30, 2017, and the related statement of changes in net position for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated December 29, 2017.

**Internal Control Over Financial Reporting**

In planning and performing our audit of the financial statements, we considered School Employees Retirement System of Ohio'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 opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of School Employees Retirement System of Ohio's internal control. Accordingly, we do not express an opinion on the effectiveness of School Employees Retirement System of Ohio'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 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 and therefore, material weaknesses or significant deficiencies may exist that were not identified. 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.

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**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 (Continued)**

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether School Employees Retirement System of Ohio's financial statements are free from 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.

*RSM US LLP*

Cleveland, Ohio  
December 29, 2017



# Dave Yost • Auditor of State

**SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO**

**FRANKLIN COUNTY**

**CLERK'S CERTIFICATION**

This is a true and correct copy of the report which is required to be filed in the Office of the Auditor of State pursuant to Section 117.26, Revised Code, and which is filed in Columbus, Ohio.

*Susan Babbitt*

**CLERK OF THE BUREAU**

**CERTIFIED  
JANUARY 25, 2018**