2021

STATE TEACHERS RETIREMENT SYSTEM OF OHIO

Annual Comprehensive Financial Report

Fiscal Years Ending June 30, 2021 and 2020

STRS OHIO

2021

STATE TEACHERS RETIREMENT SYSTEM OF OHIO

Annual Comprehensive Financial Report

Fiscal Years Ending June 30, 2021 and 2020

Prepared through the joint efforts of the STRS Ohio staff
275 E. Broad St., Columbus, OH 43215-3771 • 614.227.4090 • www.strsoh.org

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

State Teachers Retirement System of Ohio

For its Comprehensive Annual
Financial Report
For the Fiscal Year Ended

June 30, 2020

Christopher P. Morrill

Executive Director/CEO

TABLE OF CONTENTS

INTRODUCTION

FINANCIAL

INVESTMENTS

ACTUARIAL

STATISTICAL

Professional Consultants: Independent Public Accountants, Crowe, LLP, Columbus, Ohio; Investment Consultants, Callan Associates Inc., Chicago, and Cliffwater LLC, Marina del Ray, Calif.; Actuarial Consultants, Cheiron; and Performance Verification Consultants, ACA Group, Performance Services Division, New York. See Page 67 for a list of external managers.

Guiding the members of the Retirement Board is their collective belief that Ohio's public educators deserve comprehensive benefits and quality service from their retirement system during their careers and in retirement. The Retirement Board provides the direction, fiduciary oversight and policies that enable STRS Ohio to fulfill its mission of partnering with STRS Ohio members in helping to build retirement security.

The Retirement Board is composed of 11 members as follows: five elected contributing members; two elected retired members; an investment expert appointed by the governor; an investment expert appointed jointly by the speaker of the Ohio House of Representatives and the Ohio Senate president; an investment expert appointed by the treasurer of state; and the superintendent of public instruction or his designated investment expert. These individuals devote hundreds of volunteer hours in service to STRS Ohio and are compensated only for necessary expenses.

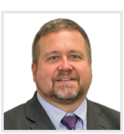
In April 2021, John Morrow, Deputy Executive Director — Investments and Chief Investment Officer, retired after 31 years with STRS Ohio. Matthew Worley was selected to replace Morrow.

In May 2021, Carol Correthers, an intervention specialist for emotionally disturbed students for Lorain City Schools, was reelected to a contributing member seat on the Retirement Board. Rudy H. Fichtenbaum, retired economics professor from Wright State University, was elected to a retiree seat on the board. The term for these seats runs from Sept. 1, 2021, to Aug. 31, 2025.

In June, Carol Correthers was elected as vice chair and Robert McFee assumed the responsibility of board chair, effective Sept. 1, 2021.

At the August 2021 board meeting, the board elected Rita Walters to fill the retiree seat previously held by Robert Stein. The term for this seat expires in 2022.

Rita J. Walters, Chair
Retired teacher member since 2017. Term extends through Aug. 31, 2022.

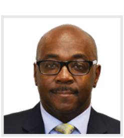


Robert McFee, Vice Chair
Contributing member since 2018. Willoughby-Eastlake City Schools, Lake County. Term extends through Aug. 31, 2022.

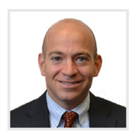
Carol Correthers
Contributing member since 2009. Lorain City Schools, Lorain County. Term extends through Aug. 31, 2025.

Paolo DeMaria
Superintendent of Public Instruction. Ex officio member of the board since 2016.

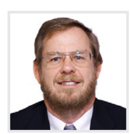
Claudia Herrington
Appointed jointly by the speaker of the house and the senate president in 2020. Term extends through Nov. 4, 2024.



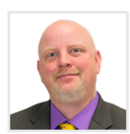
Arthur Lard
Contributing member since 2019. Portsmouth City Schools, Scioto County. Term extends through Aug. 31, 2023.



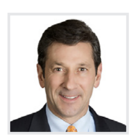
Yoel Mayerfeld
Appointed by the Treasurer of State in 2012. Term extends through Jan. 7, 2022.



Dale Price
Contributing member since 2010. Toledo Public Schools, Lucas County. Term extends through Aug. 31, 2024.

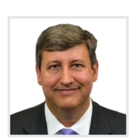


Jeffrey Rhodes
Contributing member since 2018. North Royalton City Schools, Cuyahoga County. Term extends through Aug. 31, 2022.



Wade Steen
Appointed by the governor of the state in 2016. Term extends through Sept. 27, 2024.

Robert Stein
Retired teacher member since 2009. Term ended June 2021 due to resignation.



William J. Neville, Executive Director
State Teachers Retirement System of Ohio

STRS Ohio Mission and Vision

The mission of STRS Ohio is to partner with our members in helping to build retirement security.

The vision of STRS Ohio is to be a leading retirement system by providing comprehensive retirement benefits and quality service to our members through exceptional financial performance, ethical business practices and responsible resource management.

STRS Ohio Guiding Principles

1. Make decisions that produce the greatest sustainable benefits for our members.
2. Attract, develop and retain highly competent and motivated associates who have authority commensurate with their responsibilities.
3. Continually improve through research, development, evaluation and risk management.
4. Build an organizational culture that fosters diversity and inclusion, and inspires a high level of professionalism and performance.

STRS Ohio Senior Staff Members

William J. Neville, Executive Director

Lynn A. Hoover, Deputy Executive Director — Finance and Chief Financial Officer

Gary M. Russell, Deputy Executive Director — Member Benefits and Chief Benefits Officer

Matthew E. Worley, Deputy Executive Director — Investments and Chief Investments Officer

Marla E. Bump, Director, Governmental Relations

Rhonda L. Hare, Retirement Board Liaison

Andrew J. Marfurt, Director, Human Resource Services

Gregory A. Taylor, Chief Information Officer

Nicholas J. Treneff, Director, Communication Services

Robert L. Vance, Chief Audit Executive, Internal Audit

Stacey L. Wideman, Chief Legal Officer

Dec. 10, 2021

Members of the State Teachers Retirement Board:

We are pleased to present the Annual Comprehensive Financial Report of the State Teachers Retirement System of Ohio for the fiscal year ended June 30, 2021. This report is intended to provide financial, investment, actuarial and statistical information in a single publication. STRS Ohio management is responsible for the accuracy of the data, as well as the completeness and fairness of the presentation.

STRS Ohio was established by law in 1919 — the first statewide, actuarially-based teacher retirement system in the United States. STRS Ohio is a cost-sharing, multiple-employer plan providing service retirement, disability and survivor benefits to teachers and faculty members of public boards of education, state-supported colleges and universities, and the state of Ohio and its political subdivisions. Optional health care coverage is available to eligible benefit recipients and their eligible dependents.

More analysis and information of the financial activities of STRS Ohio can be found in the Management's Discussion and Analysis section that begins on Page 10 of this report.

STATE TEACHERS RETIREMENT SYSTEM OF OHIO

275 East Broad Street
Columbus, OH 43215-3771
614-227-4090
www.strsoh.org

Major Initiatives

Studies to Provide STRS Ohio Guidance on Funding, Return Expectations, System Operations

STRS Ohio has begun several important studies and looks forward to the guidance these audits and studies will provide in the next year. Staff is working closely with the various consultants and independent reviewers to provide the information necessary to complete these reviews. Here is a brief description of the current and upcoming work:

- Pension and Health Care Valuation Reports — STRS Ohio's actuary consultant (Cheiron) annually provides a detailed look at the financial and actuarial health of the pension and health care funds at fiscal year end.
- Asset-Liability Study — This study is conducted by STRS Ohio's investment consultant at least every five years to help determine investment risk-return expectations. It will help the board choose the asset mix for the fund and will set a reasonable investment return expectation. The board's investment and actuarial consultants have said they expect lower than normal investment returns over the next 10 years. The study began this fall.
- Actuarial Experience Review — Conducted by the system's actuarial consultant at least every five years, the experience review looks at all economic and demographic assumptions the system uses and compares them to the system's actual experience over the past five years. Economic assumptions include the return on assets, inflation rate, the rate of active members' salary increases and payroll growth. Demographic assumptions include retirements, disability inceptions, withdrawals and mortality. The study helps the board decide the assumptions used to evaluate the funded status. The study began this fall.
- Fiduciary Audit — The Ohio Retirement Study Council (ORSC) selected Funston Advisory Services, an independent fiduciary auditor, to critically review and evaluate the organizational design, structure and practices of STRS Ohio overall and of our investment program. STRS Ohio's fiduciary audit began this fall.
- Actuarial Audit — The ORSC also selected Pension Trustee Advisors and KMS Actuaries to provide an independent review of the work of STRS Ohio's current and prior consulting actuaries (Cheiron and Segal). The audit began this fall.

Board Adopts Lower Actuarial Investment Return Assumption for June 30, 2021, Valuation

The Retirement Board's actuarial consultant, Cheiron, presented information in the spring regarding the economic assumptions the retirement system uses to measure the financial and actuarial health of the pension fund. Cheiron recommended that the board set its discount rate at no higher than 7.00% for the June 30, 2021, valuation and stressed the importance of using realistic assumptions, noting that unrealistic assumptions provide a false reading of the plan's health. The board's investment consultant, Callan LLC, expects lower than normal investment returns over the next decade.

The board voted to lower the actuarial investment return assumption to 7.00% from 7.45%, for the June 30, 2021, valuation and will continue to evaluate this rate during the upcoming five-year experience review. Cheiron shared that, like most mature plans, STRS Ohio has negative non-investment cash flow because the system pays out much more in benefits than it collects in contributions. This makes the plan more reliant on investment returns and underscores the need for realistic assumptions.

Benchmarking Report Shows STRS Ohio Ranks #1 in Service Level While Costs Show Downward Trend; Remote Working Helps Support Strategic Goals

CEM Benchmarking shared the results of its annual Pension Administration Benchmarking survey for fiscal year 2020 activity and STRS Ohio earned the highest service level score among all participating retirement systems. STRS Ohio has earned the top service level score in the CEM study in five of the past six years. The survey benchmarked 45 participating systems from the United States and Canada. STRS Ohio earned the highest overall service level score for the following areas of business: Call Center, pension payments, written pension estimates, member presentations, member statements and disaster recovery. The survey also measures administrative costs per active member and annuitant. This measure showed that over the past eight years, STRS Ohio's costs have decreased by 0.3% per year while peer costs have increased by 1.9% per year.

Most STRS Ohio associates have been working from home since the onset of the COVID-19 pandemic in March 2020. This has allowed staff working remotely to remain productive and safe and has made it easier for staff who continue to work from the office to maintain service levels and follow health guidance. The pandemic has taught us that flexibility is an important asset and we continue to provide excellent service under all conditions.

STRS Ohio Investments Return in Fiscal 2021 Highest in 38 Years; Active Management Continues to Add Value

STRS Ohio's total fund net return for the fiscal year ending June 30, 2021, was +29.16% — the highest fund return since 1983. The net return is calculated after all internal and external management fees and costs, including carried interest and other fund expenses. The net return beat the total fund blended benchmark by 1.18%.

STRS Ohio's fiscal 2021 return ranked in the top 20% of Callan's public fund sponsor database of more than 200 public funds. The Retirement Board retains Callan as its fiduciary investment consultant. Callan also reported that STRS Ohio's annualized total fund gross return of 12.34% for the five-year period ending June 30, 2021, ranked in the top 10% of its public fund sponsor database, while exhibiting less risk than the median of the database.

Health Care Plan Enrollees Receive Rebate

More than 102,000 retirees received a health care rebate in their November 2021 benefit payments totaling $34 million. Each retiree enrolled in an STRS Ohio health care plan in September received $300 for themselves and $300 for each enrolled dependent. Of the $34 million payout, $30.0 million was a rebate for STRS Ohio benefit recipients, $3.7 million was for covered spouses and $0.3 million was for other dependents. Since the payment is a rebate of previously paid health care premiums, the payment is not taxable.

STRS Ohio Adds Enhancements to Online Personal Account; Members Continue Shifting to Self-Service Options

STRS Ohio continues to add services to the Online Personal Account section of our website and usage continues to increase. There are now about 129,000 members and nearly 93,000 benefit recipients who have established an online account. Electronic communication of counseling and member education opportunities is widespread with the use of email for many types of notifications.

New online *Service Retirement Applications* for members in the Defined Contribution and Combined Plans became available in January 2021. A new online application for a member moving from a disability benefit to a service retirement benefit was also implemented. During fiscal year 2021, more than 91% of retirement applications and 50% of withdrawal applications were completed online rather than by paper. In addition, more than 90% of initial plan selections and final retirement plan elections were made online. Retirees now have the option to conveniently manage their participation in the dental and vision plans online in addition to their medical plan.

Member Survey Results Show Positive Perceptions of STRS Ohio

Research with STRS Ohio members and retirees conducted in late 2020 revealed that a vast majority of members (nine out of 10 retirees and eight out of 10 actives) have positive overall impressions of the retirement system. Additionally, a majority agreed that STRS Ohio has earned the trust and confidence of its members. STRS Ohio continues to be the primary source of information about the system for more than nine out of 10 members, and a majority of members (90% of retirees and 89% of actives) believe STRS Ohio is open and honest in its communications. The results are based on a random sample of 302 retired members of the system and 303 active members, giving the survey results a sampling error of no more than plus/minus 5.7 percentage points.

Management Responsibility and Report Contents

This report consists of management's representations regarding STRS Ohio's finances. Management assumes full responsibility for the completeness and reliability of all information presented in this report. To provide a reasonable basis for making these representations, management has established a comprehensive internal control framework that is designed both to protect the assets from loss, theft or misuse and to compile sufficient, reliable information for the preparation of STRS Ohio's financial statements in conformity with generally accepted accounting principles. The internal control framework has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely to be derived, and second, the valuation of the cost and benefits requires estimates and judgments by management. We as management believe that the internal controls currently in place support this purpose, and assert that, to the best of our knowledge and belief, this financial report is complete and reliable in all material respects.

STRS Ohio's external auditors, Crowe LLP, conducted an independent audit of the financial statements in accordance with auditing standards generally accepted in the United States. This audit and the financial statements are presented in the Financial Section, beginning on Page 8.

Investments

Total investments (including short-term investments) increased to $98.1 billion as of June 30, 2021. The Investment Review starting on Page 41 discusses the investment environment during fiscal 2021. The investment objectives and policies for the total fund are on Pages 45–53. The allocation of investment assets is designed to achieve the long-term actuarial objective at an acceptable level of risk. Investment risks are diversified over a very broad range of market sectors, securities and other investments. This strategy reduces portfolio risk to adverse developments in sectors and issuers experiencing unusual difficulties and offers opportunity to benefit from future markets. A summary of the asset allocation can be found on Page 64, the Schedule of U.S. Stock Brokerage Commissions Paid can be found on Page 65 and a schedule of the system's largest investment holdings can be found on Page 66.

For the fiscal year ended June 30, 2021, net investment income was $22.3 billion and the total fund net return was 29.16% after all management fees and costs, including carried interest and other fund expenses. STRS Ohio's annualized total fund net return was 12.49% over the last three years and 12.21% for the last five years. Similar benchmark returns over the same one-, three- and five-year periods were 27.98%, 12.28% and 11.85%, respectively. STRS Ohio claims compliance with the Global Investment Performance Standards (GIPS®) and the Verification and Performance Examination Report is on Pages 54–62 and full performance disclosures are on Page 63.

Plan Contributions

Member and employer contributions, as well as income from investments, provide funds for pension benefits and health care coverage. Member and employer contributions totaled $3.4 billion in fiscal 2021 and increased over the prior year by $73 million as a result of payroll growth. Employer contributions include amounts paid by employers of participants in alternative retirement plans (ARPs). ARP participants are not members of STRS Ohio; however, their employers contribute 4.47% of salaries to STRS Ohio to help pay for unfunded liabilities. In fiscal 2021, STRS Ohio received $60.1 million in other retirement system revenue. Premiums received from health care recipients totaled $254.0 million in fiscal 2021. STRS Ohio received $96.5 million in government reimbursements (comprised of federal reinsurance and direct subsidies) for participant prescription costs. This federal subsidy helps offset the overall cost of the post-employment health care program.

Plan Deductions

The principal purpose for STRS Ohio is to provide retirement, survivor and disability benefits to qualified members and their beneficiaries. Plan deductions, including refunds to terminated members, optional health care coverage and administrative expenses, totaled $7.9 billion. While the number of withdrawal counts decreased in fiscal 2021 due to the age increase for required minimum distributions, refunds increased 3.0% from fiscal 2020 and was attributable to the strong equity markets that resulted in higher average withdrawal amounts in the defined contribution plan.

Pension Funding Results

Contribution rates are intended to provide a level basis of funding using the entry age normal cost method, and an actuarial valuation is performed annually by an external actuarial firm. The June 30, 2021, valuation shows that the amortization period for the unfunded accrued liability decreased to 14.0 years from 14.9 the prior year, and the ratio of actuarial value of smoothed assets compared to accrued liabilities improved to 80.1% from 77.4% last year. For actuarial measurements, investment gains and losses are smoothed over four years to spread market volatility. About $8 billion of investment returns from this past year will be recognized over the next three years. When measured using the June 30, 2021, market value of assets, the funded ratio increases to 87.8%. A detailed discussion of funding is provided in the Actuarial Section of this report beginning on Page 68.

Retiree Health Care Program

Health Care Fund net position increased to $4.9 billion as of June 30, 2021, from $3.9 billion as of June 30, 2020, as a result of the significant investment earnings in fiscal 2021. Benefit recipient health care premiums decreased by $42 million or 14%, in aggregate, during fiscal 2021 as a result of continued decreases in non-Medicare retiree health care enrollment and a $29 million premium rebate paid in December 2020. Government reimbursements (comprised of federal reinsurance and direct subsidies) were $96.5 million in fiscal year 2021 compared to $81.9 million in fiscal 2020 due to higher federal reinsurance recoveries in fiscal 2021. Payments for health care claims and provider administrative fees totaled $437 million in fiscal 2021, a decrease of $53 million or 11% from the previous fiscal year. The decrease is largely driven by vendor premium refunds due to lower medical claims and continued decreases in non-Medicare retiree health care enrollment.

The June 30, 2021, health care actuarial valuation showed that benefit payments for the 12-month period ending June 30, 2021, totaled $437.4 million — an average of about $1.2 million per day spent for the health care program enrollees. The funded ratio of the plan is 174.7%, meaning if the fund earns 7.00% in all future years and all other plan experience matches assumptions, the fund is projected to remain solvent for all current members. The health care program is susceptible to volatility from investment returns, government reimbursement changes, enrollment fluctuations and health care inflation.

Certificate of Achievement and Other Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to STRS Ohio for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2020. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports. To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report that conforms to program standards. This report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for one year. STRS Ohio has received a Certificate of Achievement for the last 31 years. We believe our current report continues to meet the Certificate of Achievement program requirements and will be submitted to the GFOA.

In addition, the Public Pension Coordinating Council (PPCC) presented STRS Ohio with the 2021 Public Pension Standards Award for Administration in recognition of meeting professional standards set forth in the Public Pension Standards. PPCC is a coalition made up of the National Association of State Retirement Administrators (NASRA), the National Council on Teacher Retirement (NCTR) and the National Conference on Public Employee Retirement Systems (NCPERS).

Acknowledgments

The preparation of this report is possible only through the combined efforts of the STRS Ohio staff. It is intended to provide comprehensive and reliable information as a basis for making management decisions, complying with legal provisions and determining responsible stewardship of the assets contributed by members and their employers.

Respectfully submitted,

William J Neville

William J. Neville
Executive Director

Lynn A. Hoover

Lynn A. Hoover, CPA
Deputy Executive Director
Chief Financial Officer

Crowe

Crowe LLP
Independent Member Crowe Global

INDEPENDENT AUDITORS' REPORT

Retirement Board
State Teachers Retirement System of Ohio
Columbus, Ohio

Report on the Financial Statements

We have audited the accompanying financial statements of State Teachers Retirement System of Ohio (STRS Ohio), as of and for the year ended June 30, 2021, and the related notes to the financial statements, which collectively comprise STRS Ohio's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of STRS Ohio as of June 30, 2021, and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Comparative Information

The financial statements of Ohio STRS as of June 30, 2020, were audited by other auditors whose report dated December 8, 2020, expressed an unmodified opinion on those statements.

Required Supplementary Information

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

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the STRS Ohio basic financial statements. The Introduction section, schedule of administrative expenses, schedule of internal investment expenses, schedule of external asset management fees, Investments section, Actuarial section and Statistical section, 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 schedules of administrative expenses, internal investment expenses and external asset management fees are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of administrative expenses, internal investment expenses, external asset management fees, as listed in the table of contents, are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The Introduction, 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.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 9, 2021 on our consideration of STRS Ohio's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of STRS Ohio's 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 STRS Ohio's internal control over financial reporting and compliance.

Crowe LLP

Crowe LLP

Columbus, Ohio
December 9, 2021

Management is pleased to provide this overview and analysis of the financial activities of the State Teachers Retirement System of Ohio (STRS Ohio) for the years ended June 30, 2021, and 2020. This information is intended to supplement the financial statements, which begin on Page 17 of this report. We encourage readers to consider additional information and data in this 2021 Annual Comprehensive Financial Report.

Since its beginning in 1920, STRS Ohio's primary goal has been to provide retirement benefits for public educators. STRS Ohio is a long-term investor with a long-time horizon. It is investing money today that is used to pay the benefits earned by its members — but not all those benefits are due at once. Many STRS Ohio members are just entering the classroom and will not retire for many years.

STRS Ohio's asset allocation model is designed to provide the best long-term returns while managing risks to the system. This fiscal year, STRS Ohio will conduct a scheduled asset allocation study to determine if current allocation levels continue to be appropriate.

The system's funded status has improved over the past several years, but vulnerability to future adverse experience remains due to a 7.00% investment return assumption that exceeds the long-term expectations of the board's investment consultant, a fixed employer contribution rate that is currently at the statutory maximum of 14% and negative cash flow due to benefit payments far exceeding contributions. The COVID-19 pandemic that has spanned the globe since the second half of fiscal 2020 has increased volatility in financial markets — and while the system achieved strong investment returns in fiscal 2021, the full impact of the pandemic is still uncertain.

STRS Ohio continues to phase-in changes from the 2013 multifaceted pension reform plan to strengthen the financial condition of the pension fund and changes will be fully phased-in by 2026. Key changes made to the pension plan included increasing retirement eligibility requirements, increasing member contributions, changing the benefit formula, changing the final average salary calculation, changes to cost-of-living adjustment (COLA), changes to disability and survivor benefits and granting the Retirement Board authority to make future adjustments depending on the retirement system's funding progress.

Financial Highlights

Highlights of the fiscal year include:

- The total fund net return was 29.16% in fiscal 2021. The total fund net return for fiscal 2020 was 3.01%. Five- and 10-year total fund net annualized returns are 12.21% and 9.84%, respectively. Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses.
- Total fiduciary net position increased 23.4% from the prior fiscal year, ending at $96.7 billion as of June 30, 2021. Net position decreased 1.5% during fiscal 2020, ending at $78.4 billion as of June 30, 2020.
- The post-employment Health Care (HC) Fund net position was $4.9 billion as of June 30, 2021, increasing 26.5% from the prior fiscal year. The HC Fund balance was $3.9 billion as of June 30, 2020. Significant positive investment returns, good claims experience, lower than expected enrollment and continued government rebates continue to sustain the net position.
- The Defined Contribution (DC) Plan finished fiscal 2021 with $2.4 billion in net position, an increase of 38.9% from the end of fiscal 2020 as a result of the significant investment earnings in fiscal year 2021. The DC Plan was incepted in 2001 and therefore not as mature, with retirements lower than the Defined Benefit (DB) Plan. The DC Plan ended fiscal 2020, with $1.7 billion in net position, an increase of 11.8% from the end of fiscal 2019.
- Total additions to fiduciary net position were $26.2 billion during fiscal 2021 compared to $6.6 billion during fiscal 2020.
- Member and employer contributions totaled $3.4 billion in fiscal 2021 and increased over the prior year by $73 million as a result of payroll growth. Total member and employer contributions were $3.4 billion in fiscal 2020 and increased over the prior year by $98 million.
- Contributions from other retirement systems were $60 million in fiscal 2021 compared to $39 million in fiscal 2020 and include Ohio retirement systems' joint service credit retirement activity.
- Net investment income was $22.3 billion in fiscal 2021 compared to $2.8 billion in fiscal 2020. Investment performance for fiscal 2021 was significantly above the Board's long-term investment return assumption of 7.00%, while fiscal 2020 had a positive absolute return but was significantly below the Board's long-term investment return assumption.
- Total deductions to fiduciary net position were $7.9 billion during fiscal 2021 and 2020.

- Total benefit payments were $7.5 billion during fiscal 2021 and 2020. STRS Ohio paid benefit recipients $7.0 billion in service retirement, disability, survivor and other benefits plus $437 million for health care coverage during fiscal 2021.
- Refunds to members who have withdrawn were $278.8 million in fiscal 2021 compared to $270.6 million in fiscal 2020. While the number of withdrawal counts decreased in fiscal 2021 due to the age increase for required minimum distributions, refunds increased 3.0% from fiscal 2020 and was attributable to the strong equity markets that resulted in higher average withdrawal amounts in the Defined Contribution Plan.
- Administrative expenses were $68.2 million in fiscal 2021 compared to $68.0 million in fiscal 2020. Investment expenses for internal investment management were $41.4 million in fiscal 2021 compared to $41.5 million in fiscal 2020. External asset management fees increased to $250.2 million in fiscal 2021 from $235.0 million in fiscal 2020.

Annual Financial Review

The total fund delivered a 29.16% net return in fiscal 2021 and all asset classes had a positive absolute return during the year. Domestic equities led all investment categories by generating a 46.29% return while alternative investments returned 44.99%, international equities had a 34.39% return, real estate returned 8.01% and fixed income had a 1.16% return. Domestic equities, international equities and fixed income are gross of fees, while real estate and alternative investments are net of all external asset management fees and costs including carried interest and other fund expenses. The total fund net return for the past 10 fiscal years was 9.84%.

Net position for the HC Fund increased to $4.9 billion at June 30, 2021, from $3.9 billion at June 30, 2020. Premiums received from health care recipients in fiscal 2021 decreased to $254 million from $296 million in fiscal 2020. Government reimbursements (comprised of federal reinsurance and direct subsidies) of $96 million were received in fiscal 2021 to help offset prescription drug costs compared to $82 million in fiscal 2020. Health care coverage payments decreased to $437 million in fiscal 2021 from $491 million in fiscal 2020.

Additions
Years Ended June 30, 2021 and 2020
(dollar amounts in thousands)

	2021	2020	Percentage Change
Member contributions	$1,706,818	$ 1,670,406	2.2%
Employer contributions	1,743,049	1,706,961	2.1%
Health care premiums and government reimbursements	350,492	377,655	–7.2%
Other contributions and transfers from DC Plan	83,062	54,229	53.2%
Net investment income	22,334,378	2,832,376	688.5%
Total additions	**$ 26,217,799**	**$ 6,641,627**	**294.7%**

Deductions
Years Ended June 30, 2021 and 2020
(dollar amounts in thousands)

	2021	2020	Percentage Change
Benefits (includes optional health care and transfers to DB Plan)	$ 7,508,768	$ 7,528,596	–0.3%
Refunds	278,771	270,573	3.0%
Administrative expenses	68,155	68,019	0.2%
Total deductions	**$ 7,855,694**	**$ 7,867,188**	**–0.1%**

Overview of the Financial Statements of STRS Ohio

The basic financial statements are the *Statements of Fiduciary Net Position* and the *Statements of Changes in Fiduciary Net Position*. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items. The statements are prepared in conformity with generally accepted accounting principles.

The *Statements of Fiduciary Net Position* are a measure of STRS Ohio's assets and liabilities at the close of the fiscal year. Total assets less current liabilities equals net position held in trust for future benefits.

The *Statements of Changes in Fiduciary Net Position* show additions and deductions for the fiscal year. The net increase (or decrease) is the change in net position available for benefits since the end of the previous fiscal year.

For financial reporting purposes, STRS Ohio assets are divided into three primary funds: the Defined Benefit (DB) Plan, the Defined Contribution (DC)

Plan and the post-employment Health Care (HC) Fund.

- The DB Plan is the largest fund and includes member contributions, employer contributions and investment earnings for DB Plan participants. The DB Plan pays service retirement benefits using a fixed formula based on age, years of service and salary. In addition to service retirement, DB Plan participants are eligible for disability and survivor benefits.
- The DC Plan began on July 1, 2001. It is an optional plan available to new members. DC Plan participants allocate both member and employer contributions in investment choices provided by STRS Ohio. Benefits are based on the member's account value.

  As an alternative to the DB or DC Plan, new members may elect the Combined (CO) Plan. CO Plan participants allocate their member contributions among the same investment choices as DC Plan members, and employer contributions are used to provide a reduced formula service retirement benefit along with disability and survivor protection. Assets to provide benefits to CO Plan members are divided between the DB Plan and the DC Plan.
- Net position for the HC Fund consists of funds set aside to subsidize optional health care coverage for members enrolled in the DB and CO Plans.

The *Notes to Financial Statements* are a fundamental part of the financial statements and provide important information to supplement the financial statements. The notes describe accounting policies along with plan membership and benefits. Additional disclosures of selected financial data are included in the notes.

In addition to the basic financial statements and notes, a *Schedule of Changes in Employers' Net Pension Liability*, *Schedule of Employers' Net Pension Liability, Schedule of Employers' Contributions — Pension* and *Schedule of Investment Returns — Pension* are included as "required supplementary information." These schedules emphasize the long-term nature of pension plans and the status of STRS Ohio in accumulating sufficient assets to pay benefits when due. They also provide a history of contributions from employers and actuarial assumptions and methods that assist in understanding the net pension liability of STRS Ohio.

The *Notes to Required Supplementary Information — Pension* provide the actuarial assumptions and methods used to determine the data in the *Schedule of Changes in Employers' Net Pension Liability,* the *Schedule of Employers' Net Pension Liability* and the *Schedule of Employers' Contributions — Pension*.

Likewise, to provide actuarial assumptions and methods that assist in understanding the net post-employment benefits other than pensions (OPEB) asset of STRS Ohio, a *Schedule of Changes in Employers' Net OPEB Liability (Asset)*, *Schedule of Employers' Net OPEB Liability (Asset), Schedule of Employers' Contributions — OPEB* and *Schedule of Investment Returns — OPEB* are also included as "required supplementary information."

The *Notes to Required Supplementary Information — OPEB* provide the actuarial method and assumptions used to determine the data in the *Schedule of Changes in Employers' Net OPEB Liability (Asset),* the *Schedule of Employers' Net OPEB Liability (Asset)* and the *Schedule of Employers' Contributions — OPEB*.

Schedules of Administrative Expenses, *Internal Investment Expenses* and *External Asset Management Fees* are included to detail the administrative and investment costs to operate STRS Ohio.

Investment Allocation and Fiscal Year Performance

For fiscal 2021, the total fund net return was 29.16%. The relative benchmark for STRS Ohio returned 27.98%. The target allocations at the end of fiscal 2021, were 1% liquidity reserves, 21% fixed income, 28% domestic equities, 23% international equities, 10% real estate and 17% alternative investments. Amounts actually invested in these categories at the end of June 2021 represent an investment over/underweight if different from the target allocation. Over/underweighting occurs as fair values change and as investment managers determine allocation entry and exit timing strategies. See Page 13 for detailed investment performance.

External asset management fees are shown separately in the *Statements of Changes in Fiduciary Net Position* as a reduction of investment income. Coupled with internal investment expenses, the cost to manage investments was $292 million in fiscal 2021 and $276 million in fiscal 2020.

Investment Performance

(total returns, annualized on a fiscal-year basis, July 1–June 30)

1-Year Returns (2021)[1]

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Equities	46.29%	Russell 3000® Index[3]	44.16%
International Equities	34.39%	International Blended Benchmark[4]	33.23%
Fixed Income	1.16%	Fixed-Income Blended Benchmark[5]	0.57%
Real Estate	8.01%	Real Estate Blended Benchmark[6]	11.64%
Alternative Investments	44.99%	Alternative Investments Blended Relative Return Objective[7]	–
Total Fund[8]	**29.28%**	**Total Fund Blended Benchmark[10]**	**27.98%**
Total Fund Net[9]	**29.16%**		

5-Year Returns (2017–2021)[1]

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Equities	18.98%	Russell 3000® Index[3]	17.89%
International Equities	11.41%	International Blended Benchmark[4]	11.58%
Fixed Income	3.68%	Fixed-Income Blended Benchmark[5]	3.32%
Real Estate	6.30%	Real Estate Blended Benchmark[6]	6.40%
Alternative Investments	14.52%	Alternative Investments Blended Relative Return Objective[7]	17.78%
Total Fund[8]	**12.34%**	**Total Fund Blended Benchmark[10]**	**11.85%**
Total Fund Net[9]	**12.21%**		

STRS Ohio Long-Term Policy Objective (10 Years)[2]

Total Fund: 6.8%

Investment performance is calculated using a time-weighted rate of return.

[1] The one-year returns for the fiscal years ended June 30, 2011 through 2021 have been examined by ACA Group, Performance Services Division. A copy of the examination report is available upon request.

[2]The long-term policy objective is a projected annualized policy return based on return forecasts by asset class before any value added. The State Teachers Retirement Board expects the net value added to be 0.40% per year.

[3]The Russell® Indices are a trademark of FTSE International Limited (FTSE), Frank Russell Company (Russell®) and their respective subsidiary undertakings, which are members of the London Stock Exchange Group PLC.

[4]The International Blended Benchmark is calculated monthly using 80% of the MSCI World ex-U.S. 50% Hedged Index-Net and 20% of the MSCI Emerging Markets Index-Net.

[5]The Fixed-Income Blended Benchmark is calculated daily and is a blend of two benchmarks using the actual core fixed-income weighting and the Bloomberg U.S. Universal Index and the actual weighting of the liquid treasury portfolio weighting and the Bloomberg U.S. Intermediate Treasury Index. Bloomberg® and the Bloomberg Indices are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL"), the administrator of the index (collectively, "Bloomberg") and have been licensed for use for certain purposes by State Teachers Retirement System of Ohio. Bloomberg is not affiliated with State Teachers Retirement System of Ohio, and Bloomberg does not approve, endorse, review, or recommend this material. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to this material.

[6]The Real Estate Blended Benchmark is calculated quarterly using 85% NCREIF Property Index (NPI) and 15% FTSE NAREIT Equity REITs Index.

[7]Given the long-term nature of the asset class, no relative return objective for Alternative Investments is displayed for the one- and three-year periods. For the longer five-year period, the Alternative Investments Blended Relative Return Objective is a blend of two relative return objectives for Private Equity (PE) and Opportunistic/Diversified (OD) and is calculated using: 41.2% of the Russell 3000® Index plus 1% for PE and 58.8% of the Russell 3000® Index minus 1% for OD effective July 1, 2019; 43.7% of the Russell 3000® Index plus 1% for PE and 56.3% of the Russell 3000® Index minus 1% for OD effective Oct. 1, 2018; 46.7% of the Russell 3000® Index plus 1% for PE and 53.3% of the Russell 3000® Index minus 1% for OD effective April 1, 2018; 50.0% of the Russell 3000® Index plus 1% for PE and 50.0% of the Russell 3000® Index minus 1% for OD effective Jan. 1, 2014.

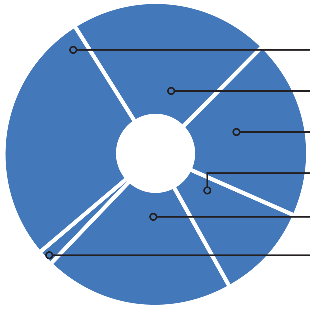
[8]Gross returns are net of transaction costs and gross of management fees, except for Alternative Investments and Real Estate where the return is net of all external investment management fees and costs, including carried interest and other fund expenses.

[9]Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses.

[10]The Total Fund Blended Benchmark is calculated and rebalanced monthly using a blend of the asset class benchmarks based on the Total Fund's policy weights in effect during the respective period. For alternative investments, however, the actual Alternative Investments return is used in the calculation of the Total Fund Blended Benchmark. Information concerning asset class benchmarks and policy weights is available upon request.

Investment Distribution by Fair Value — as of June 30, 2021

(dollar amounts in thousands)



Domestic Equities:	$ 26,928,103	27.4%
International Equities:	$ 20,893,064	21.3%
Fixed Income:	$ 18,803,272	19.2%
Real Estate:	$ 9,980,741	10.2%
Alternative Investments:	$ 19,941,386	20.3%
Cash and Short-Term Investments:	$ 1,565,010	1.6%
Total Investments:	**$ 98,111,576**	

Financial Statement Analysis

The tables on Page 15 show condensed information from the *Statements of Fiduciary Net Position* and the *Statements of Changes in Fiduciary Net Position*.

Total fiduciary net position increased 23.4% in fiscal 2021 and decreased 1.5% in fiscal 2020. In fiscal 2021 net investment income and contributions more than offset benefit payments while in fiscal 2020 net investment income and contributions did not fully offset benefit payments.

Net investment income was $22.3 billion in fiscal 2021 compared to $2.8 billion in fiscal 2020. Investment performance for fiscal 2021 was well above the Board's long-term investment return assumption while fiscal 2020 was a positive absolute return but well below the Board's long-term investment return assumption.

Member contributions increased 2.2% in fiscal 2021 and 2.9% in fiscal 2020. Employer contributions increased 2.1% in fiscal 2021 and 3.1% in fiscal 2020. Member and employer rates remained at 14% in fiscal 2021 and 2020. Increases in contributions were due to the increase in employer payroll.

Health care premiums decreased by $42 million during fiscal 2021 as a result of continued decreases in non-Medicare retiree health care enrollment and a $29 million premium rebate paid in December 2020. Government reimbursements were $96.5 million in fiscal year 2021 compared to $81.9 million in fiscal year 2020 due to higher federal reinsurance recoveries in fiscal 2021. Payments for health care claims and provider administrative fees totaled $437 million in fiscal 2021, a decrease of $53 million from the previous fiscal year. The decrease was largely driven by vendor premium refunds due to lower medical claims and continued decreases in non-Medicare retiree health care enrollment. No employer contributions were allocated to the health care fund in fiscal 2021 nor in fiscal 2020.

STRS Ohio was created to provide retirement, disability and survivor benefits to members and eligible beneficiaries. Expenditures include monthly payments to eligible recipients, refunds of contributions to members who terminate employment and administrative costs of operating STRS Ohio.

These deductions from net position were $7.9 billion in fiscal 2021 and 2020. Fiscal 2021 deductions were a 0.1% decrease from fiscal 2020. The largest deductions component is monthly benefit payments for service retirement, disability and survivor benefits. These benefit payments increased 0.2% in fiscal 2021 and increased 0.3% in fiscal 2020.

Health care costs decreased 10.8% in fiscal 2021. The decrease is largely driven by vendor premium refunds due to lower medical claims and continued decreases in non-Medicare retiree health care enrollment. Health care costs slightly increased 0.3% in fiscal 2020.

Pension Funding Valuation (Funding Method)

The present value of expected benefits to be paid to current and future benefit recipients less the portion that will be paid for by future normal cost contributions (the actuarial accrued liability or AAL) at fiscal year end 2021, 2020 and 2019 was $104.6 billion, $98.7 billion and $97.8 billion, respectively.

Market changes in investment assets are smoothed over a four-year period, except that the actuarial value of assets or AVA shall not be less than 91% nor more than 109% of market value. Actuarial value of assets ended fiscal 2021 at $83.8 billion, up from $76.4 billion at fiscal year end 2020 and $74.4 billion at fiscal year end 2019.

The unfunded actuarial accrued liability or UAAL for STRS Ohio pension benefits was $20.8 billion as of June 30, 2021, down from $22.3 billion as of June 30, 2020, and $23.4 billion as of June 30, 2019. The funded ratio, which is actuarial value of assets divided by actuarial accrued liability, was 80.1% at June 30, 2021. At June 30, 2020, the funded ratio was 77.4% and at June 30, 2019, the funded ratio was 76.1%. At June 30, 2021, the funding period was 14.0 years, down from 14.9 years at June 30, 2020, and 16.6 years at June 30, 2019.

Pension Financial Reporting Valuation (Accounting Method)

Some of the actuarial calculations for financial reporting purposes are different than the funding valuation calculations described above. The approach used for financial reporting complies with Governmental Accounting Standards Board (GASB) reporting requirements and is based on the market value of assets, referred to as the fiduciary net position, rather than the actuarial value of assets. The primary

Net Position (dollar amounts in thousands)

	2021	2020	2019	Amount Increase (Decrease) From 2020 to 2021	Amount Increase (Decrease) From 2019 to 2020
Cash and investments	$ 98,111,576	$ 79,839,692	$ 80,897,783	$ 18,271,884	$ (1,058,091)
Receivables	1,203,061	981,936	1,845,564	221,125	(863,628)
Securities lending collateral	646,451	355,533	480,843	290,918	(125,310)
Net capital assets	77,915	76,239	78,984	1,676	(2,745)
Total assets	100,039,003	81,253,400	83,303,174	18,785,603	(2,049,774)
Total liabilities	3,303,756	2,880,258	3,704,471	423,498	(824,213)
Net position	**$ 96,735,247**	**$ 78,373,142**	**$ 79,598,703**	**$ 18,362,105**	**$ (1,225,561)**

Additions to Net Position (dollar amounts in thousands)

	2021	2020	2019	Amount Increase (Decrease) From 2020 to 2021	Amount Increase (Decrease) From 2019 to 2020
Contributions:					
Member contributions	$ 1,706,818	$ 1,670,406	$ 1,623,095	$ 36,412	$ 47,311
Employer contributions	1,743,049	1,706,961	1,656,132	36,088	50,829
Transfers from Defined Contribution Plan	22,933	14,941	17,413	7,992	(2,472)
Health care premiums and government reimbursements	350,492	377,655	397,630	(27,163)	(19,975)
Other	60,129	39,288	46,022	20,841	(6,734)
Total contributions	3,883,421	3,809,251	3,740,292	74,170	68,959
Net investment income	22,334,378	2,832,376	5,092,217	19,502,002	(2,259,841)
Total additions to net position	**$ 26,217,799**	**$ 6,641,627**	**$ 8,832,509**	**$ 19,576,172**	**$ (2,190,882)**

Deductions From Net Position (dollar amounts in thousands)

	2021	2020	2019	Amount Increase (Decrease) From 2020 to 2021	Amount Increase (Decrease) From 2019 to 2020
Deductions:					
Benefit payments	$ 7,029,864	$ 7,016,726	$ 6,994,812	$ 13,138	$ 21,914
Transfers to Defined Benefit Plan	22,933	14,941	17,413	7,992	(2,472)
Health care coverage	437,404	490,559	489,169	(53,155)	1,390
Refunds to members	278,771	270,573	258,354	8,198	12,219
Administrative expenses	68,155	68,019	66,469	136	1,550
Other	18,567	6,370	45,240	12,197	(38,870)
Total deductions from net position	**$ 7,855,694**	**$ 7,867,188**	**$ 7,871,457**	**$ (11,494)**	**$ (4,269)**

Net Increase (Decrease) in Net Position (dollar amounts in thousands)

	2021	2020	2019	Amount Increase (Decrease) From 2020 to 2021	Amount Increase (Decrease) From 2019 to 2020
Net increase (decrease) in net position	**$ 18,362,105**	**$ (1,225,561)**	**$ 961,052**	**$ 19,587,666**	**$ (2,186,613)**

purpose of the valuation for financial reporting is to provide a consistent, standardized methodology that allows comparability of data and increased transparency of the pension liability across plans.

A side-by-side comparison of the two calculation methods (Funding and Accounting) is as follows:

Funding Method	Accounting Method
Actuarial Accrued Liability (AAL)	Total Pension Liability
– Actuarial Value of Assets (AVA)	– Fiduciary Net Position
= Unfunded Actuarial Accrued Liability (UAAL)	= Net Pension Liability (NPL)

Health Care Financial Reporting Valuation

Additionally, STRS Ohio also complies with GASB reporting requirements for Postemployment Benefit Plans Other Than Pension Plans (OPEB). The OPEB standards are designed to bring greater clarity to post-employment benefit liabilities, the most significant of which is retiree health care insurance. These requirements parallel the pension accounting standards discussed above.

Requests for Information

Questions about any information provided in this report should be addressed to:

State Teachers Retirement System of Ohio
ATTN: Chief Financial Officer
275 E. Broad St.
Columbus, OH 43215-3771

Statements of Fiduciary Net Position (in thousands)

	June 30, 2021				June 30, 2020			
	Defined Benefit	Defined Contribution	Post-employment Health Care	Totals	Defined Benefit	Defined Contribution	Post-employment Health Care	Totals
Assets:								
Cash and short-term investments	$ 1,313,584	$ 178,594	$ 72,832	$ 1,565,010	$ 1,808,074	$ 171,733	$ 97,766	$ 2,077,573
Receivables:								
Accrued interest and dividends	236,737		13,126	249,863	225,572		12,197	237,769
Member contributions	233,262	92		233,354	226,478	473		226,951
Employer contributions	337,411	36		337,447	314,320	184		314,504
Securities sold	317,308		17,593	334,901	134,625		7,279	141,904
Medical benefits receivable			24,862	24,862			23,291	23,291
Miscellaneous receivables	22,634			22,634	37,517			37,517
Total receivables	**1,147,352**	**128**	**55,581**	**1,203,061**	**938,512**	**657**	**42,767**	**981,936**
Investments, at fair value:								
Fixed income	17,540,529	290,196	972,547	18,803,272	14,393,669	285,860	778,291	15,457,820
Domestic equities	24,108,500	1,482,890	1,336,713	26,928,103	19,506,080	964,494	1,054,728	21,525,302
International equities	19,494,756	317,408	1,080,900	20,893,064	15,829,706	211,599	855,940	16,897,245
Real estate	9,307,430	157,254	516,057	9,980,741	8,960,426	113,143	484,506	9,558,075
Alternative investments	18,893,805		1,047,581	19,941,386	13,588,902		734,775	14,323,677
Total investments	**89,345,020**	**2,247,748**	**4,953,798**	**96,546,566**	**72,278,783**	**1,575,096**	**3,908,240**	**77,762,119**
Invested securities lending collateral	612,491		33,960	646,451	337,295		18,238	355,533
Capital assets	252,738			252,738	245,907			245,907
Accumulated depreciation	(174,823)			(174,823)	(169,668)			(169,668)
Net capital assets	77,915			77,915	76,239			76,239
Total assets	**92,496,362**	**2,426,470**	**5,116,171**	**100,039,003**	**75,438,903**	**1,747,486**	**4,067,011**	**81,253,400**
Liabilities:								
Securities purchased and other investment liabilities	402,310		22,306	424,616	192,696		10,419	203,115
Debt on real estate investments	1,969,380		109,194	2,078,574	2,012,882		108,840	2,121,722
Accrued expenses and other liabilities	32,125		1,781	33,906	31,951		1,728	33,679
Medical benefits payable			19,205	19,205			30,498	30,498
Obligations under securities lending program	612,240		33,946	646,186	337,147		18,230	355,377
Net pension and OPEB liabilities	101,269			101,269	135,867			135,867
Total liabilities	**3,117,324**		**186,432**	**3,303,756**	**2,710,543**		**169,715**	**2,880,258**
Fiduciary net position restricted for defined benefit, defined contribution and post-employment health care coverage:	**$ 89,379,038**	**$ 2,426,470**	**$ 4,929,739**	**$ 96,735,247**	**$ 72,728,360**	**$ 1,747,486**	**$ 3,897,296**	**$ 78,373,142**

See accompanying Notes to Financial Statements.

Statements of Changes in Fiduciary Net Position (in thousands)

	Year Ended June 30, 2021				Year Ended June 30, 2020			
	Defined Benefit	Defined Contribution	Post-employment Health Care	Totals	Defined Benefit	Defined Contribution	Post-employment Health Care	Totals
Additions:								
Contributions:								
Member	$ 1,585,509	$ 121,309		$ 1,706,818	$ 1,554,973	$ 115,433		$ 1,670,406
Employer	1,696,121	46,928		1,743,049	1,662,017	44,944		1,706,961
Transfers from Defined Contribution Plan	22,933			22,933	14,941			14,941
Government reimbursements			$ 96,478	96,478			$ 81,876	81,876
Benefit recipient health care premiums			254,014	254,014			295,779	295,779
Other retirement systems	60,129			60,129	39,288			39,288
Total contributions	**3,364,692**	**168,237**	**350,492**	**3,883,421**	**3,271,219**	**160,377**	**377,655**	**3,809,251**
Income from investing activities:								
Net appreciation in fair value of investments	19,473,132	592,775	1,059,270	21,125,177	1,493,404	16,099	78,328	1,587,831
Interest	445,378	144	24,227	469,749	452,753	1,938	23,747	478,438
Dividends	785,910		42,750	828,660	809,820		42,475	852,295
Real estate income	185,547		10,093	195,640	174,293		9,142	183,435
Investment income	20,889,967	592,919	1,136,340	22,619,226	2,930,270	18,037	153,692	3,101,999
Less internal investment expenses	(38,269)	(1,038)	(2,081)	(41,388)	(38,555)	(908)	(2,022)	(41,485)
Less external asset management fees	(237,319)		(12,909)	(250,228)	(223,269)		(11,710)	(234,979)
Net income from investing categories	20,614,379	591,881	1,121,350	22,327,610	2,668,446	17,129	139,960	2,825,535
Securities lending income	7,135		388	7,523	7,228		377	7,605
Securities lending expenses	(716)		(39)	(755)	(727)		(37)	(764)
Net income from securities lending activities	6,419		349	6,768	6,501		340	6,841
Net investment income	20,620,798	591,881	1,121,699	22,334,378	2,674,947	17,129	140,300	2,832,376
Total additions	**23,985,490**	**760,118**	**1,472,191**	**26,217,799**	**5,946,166**	**177,506**	**517,955**	**6,641,627**
Deductions:								
Benefits:								
Service retirement	6,716,896			6,716,896	6,697,443			6,697,443
Disability benefits	189,145			189,145	195,253			195,253
Survivor benefits	123,823			123,823	124,030			124,030
Transfers to Defined Benefit Plan		22,933		22,933		14,941		14,941
Health care			437,404	437,404			490,559	490,559
Other	18,567			18,567	6,370			6,370
Total benefit payments	7,048,431	22,933	437,404	7,508,768	7,023,096	14,941	490,559	7,528,596
Refunds to members who have withdrawn	221,018	57,753		278,771	225,545	45,028		270,573
Administrative expenses	65,363	448	2,344	68,155	65,405	356	2,258	68,019
Total deductions	**7,334,812**	**81,134**	**439,748**	**7,855,694**	**7,314,046**	**60,325**	**492,817**	**7,867,188**
Net increase in net position	**16,650,678**	**678,984**	**1,032,443**	**18,362,105**	**(1,367,880)**	**117,181**	**25,138**	**(1,225,561)**
Fiduciary net position restricted for defined benefit, defined contribution and post-employment health care coverage:								
Beginning of year	72,728,360	1,747,486	3,897,296	78,373,142	74,096,240	1,630,305	3,872,158	79,598,703
End of year	**$ 89,379,038**	**$ 2,426,470**	**$ 4,929,739**	**$ 96,735,247**	**$72,728,360**	**$ 1,747,486**	**$ 3,897,296**	**$ 78,373,142**

See accompanying Notes to Financial Statements.

1. Summary of Significant Accounting Policies

The financial statements of the State Teachers Retirement System of Ohio (STRS Ohio) presented herein have been prepared on the accrual basis of accounting following the accounting policies set forth below.

Organization — STRS Ohio is a cost-sharing, multiple-employer plan that operates under Chapter 3307 of the Ohio Revised Code (R.C.) and is administered by a board comprised of 11 members as follows: five elected contributing members; two elected retired teacher members; an investment expert appointed by the governor; an investment expert appointed jointly by the speaker of the Ohio House of Representatives and the Ohio Senate President; an investment expert designated by the treasurer of state; and the superintendent of public instruction or his or her designated investment expert.

The accompanying financial statements comply with the provisions of the Governmental Accounting Standards Board (GASB) Statement No. 39, an amendment of GASB Statement No. 14, *The Financial Reporting Entity*. This statement requires that financial statements of the reporting entity include all of the organizations, activities, functions and component units for which the reporting entity is financially accountable. Financial accountability is defined as the appointment of a voting majority of the component unit's board and either (1) the reporting entity's ability to impose its will over the component unit, or (2) the possibility that the component unit will provide a financial benefit to or impose a financial burden on the reporting entity. STRS Ohio does not have financial accountability over any entities.

Based on the implementation of GASB 84, STRS Ohio is not a financial reporting entity for purposes of the State of Ohio *Annual Comprehensive Financial Report*. Responsibility for the organization is vested in the STRS Ohio Retirement Board pursuant to RC Chapter 3307.

Investment Accounting — Purchases and sales of investments are recorded as of their trade date. Dividend income is recognized on the ex-dividend date. Interest and real estate income is recognized as the income is earned. Investment-related costs associated with external asset management are reported as external asset management fees if they are separable from investment income and the administrative expenses of the plan.

STRS Ohio has no individual investment that exceeds 5% of net position available for benefits.

Contributions and Benefits — Member and employer contributions are recognized when due based on statutory or contractual requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Capital Assets — Capital assets are recorded at historical cost. Depreciation is provided on a straight-line basis over estimated useful lives of five to 10 years for equipment and 40 years for building and building improvements. Capital assets include purchases of $5,000 or more with a useful life of at least five years.

Method Used to Value Investments — Investments are reported at fair value. Short-term investments including commercial paper, certificates of deposit and repurchase agreements, are reported at amortized cost, which approximates fair value. Equity securities traded on a national or international exchange are valued at the primary closing market price on the principal registered stock exchange. Fixed-income investments are valued as determined by a qualified independent service. The fair value of real estate investments and other internally managed alternative investments is based on independent external appraisals and internal valuations. The fair value of externally managed alternative investments and real estate is determined by the valuation methodology outlined in the partnership agreement and updated to include capital activity through the statement of fiduciary net position date. Refer to Note 7 for additional information on the valuation of investments.

Federal Income Tax Status — STRS Ohio is exempt from federal income taxes under Section 401(a) of the Internal Revenue Code.

Use of Estimates — In preparing financial statements in conformity with accounting principles generally accepted in the United States of America, 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.

New Accounting Pronouncements — GASB Statement No. 87, *Leases,* was issued in June 2017. The objective of this statement is to increase the usefulness of financial statements by establishing a single model for lease accounting based on the principle that leases are financings of the right to use an asset. Lessees will recognize a lease liability and an intangible right-to-use asset and lessors will recognize a lease receivable and a deferred inflow of resources. The effective date of this standard is for reporting periods beginning after June 15, 2021. STRS Ohio is currently evaluating this statement.

GASB Statement No. 92, *Omnibus 2020*, was issued in January 2020. This statement addresses practice issues that have been identified during implementation and application of certain GASB statements. The effective date of this standard is for reporting periods beginning after June 15, 2021. STRS Ohio is currently evaluating this statement.

GASB Statement No. 93, *Replacement of Interbank Offered Rates*, was issued in March 2020. This statement is in response to global reference rate reform, under which the London Interbank Offered Rate (LIBOR) is expected to cease to exist in its current form at the end of 2021, prompting governments to amend or replace financial instruments utilizing LIBOR as a reference rate. The effective date of this standard is for reporting periods beginning after June 15, 2021, except for certain provisions that are effective for reporting periods beginning after Dec. 31, 2021. STRS Ohio is currently evaluating this statement.

GASB Statement No. 95, *Postponement of the Effective Dates of Certain Authoritative Guidance,* was issued in May 2020. The objective of this statement is to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic through postponing the effective dates of certain statements that are scheduled to become effective for periods beginning after June 15, 2018 and later. The effective date of this statement was immediate and postponed GASB 92 and 93 by one year and GASB 87 by 18 months.

GASB Statement No. 96, *Subscription-Based Information Technology Arrangements* (SBITAs), was issued in May 2020. The objective of this statement is to establish uniform accounting and financial reporting requirements for SBITAs and improve comparability of financial statements among governments that have entered in SBITAs. The effective date of this standard is for reporting periods beginning after June 15, 2022. STRS Ohio is currently evaluating this statement.

GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans,* was issued in June 2020. The objectives of this statement are to increase consistency and comparability related to the reporting of the fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution OPEB plans, and employee benefit plans other than pension plans or OPEB plans as fiduciary component units in fiduciary fund financial statements; and, enhance the relevance, consistency, and comparability of the accounting and financial reporting for IRC Section 457 deferred compensation plans that meet the definition of a pension plan and for benefits provided through those plans. The effective date of this standard is fiscal years beginning after June 15, 2021. STRS Ohio is currently evaluating this statement.

2. Description of the STRS Ohio Plan

Plan Membership — STRS Ohio is a statewide retirement plan for licensed teachers and other faculty members employed in the public schools of Ohio (the state) or any school, college, university, institution or other agency controlled, managed and supported, in whole or part, by the state or any political subdivision thereof.

Member and retiree data and participating employers are shown in the following tables.

Member and Retiree Data at June 30, 2021 and 2020

	2021	2020
Current active members	166,427	167,838
Inactive members eligible for refunds only	143,708	142,176
Terminated members entitled to receive a benefit in the future	20,513	19,511
Retirees and beneficiaries currently receiving a benefit	156,921	156,907
Defined Contribution Plan members	9,940	10,205
Reemployed retirees	17,734	19,553
Total Plan Membership	**515,243**	**516,190**

Participating Employers at June 30, 2021 and 2020

	2021	2020
City school districts	194	194
Local school districts	368	369
County educational service centers	52	52
Exempted village school districts	49	49
Joint vocational schools	49	49
Colleges and universities	36	36
County boards of developmental disabilities	56	59
Community schools	299	302
State of Ohio	0	1
Other	12	11
Total	**1,115**	**1,122**

Active members are defined as participants who earned 0.25 years of service credit or more in the valuation year and new members employed on or after Jan. 1, with less than 0.25 years of service credit.

Plan Options — New members have a choice of three retirement plan options. In addition to the DB Plan, new members are offered a DC Plan or a CO Plan. The DC Plan allows members to allocate all of their member contributions and employer contributions equal to 9.53% of earned compensation among various investment choices. The CO Plan offers features of the DC Plan and the DB Plan. In the CO Plan, member contributions less 2%

of earned compensation are allocated among investment choices by the member. Employer contributions and a portion of member contributions in the CO Plan are used to fund a defined benefit payment at a reduced level from the regular DB Plan. Contributions into the DC Plan and the CO Plan are credited to member accounts as employers submit their payroll information to STRS Ohio.

DB Plan Benefits — Plan benefits are established under Chapter 3307 of the R.C. Effective Aug. 1, 2017–July 1, 2019, any member could retire with reduced benefits who had (1) five years of service credit and age 60; (2) 27 years of service credit and age 55; or (3) 30 years of service credit regardless of age. Effective Aug. 1, 2019–July 1, 2021, any member may retire with reduced benefits who has (1) five years of service credit and age 60; (2) 28 years of service credit and age 55; or (3) 30 years of service credit regardless of age. Eligibility changes will continue to be phased in through Aug. 1, 2026, when retirement eligibility for unreduced benefits will be five years of service credit and age 65, or 35 years of service credit and at least age 60. Retirement eligibility for reduced benefits will be five years of service credit and age 60, or 30 years of service credit regardless of age.

The annual retirement allowance, payable for life, is based on the average of the member's five highest years of earnings multiplied by 2.2% for each year of credited service. For July 1, 2015, and earlier, the annual allowance is determined by multiplying final average salary (average of three highest years of earnings) by 2.2% for the first 30 years of credited service. Each year over 30 years is incrementally increased by 0.1%, starting at 2.5% for the 31st year of contributing service up to a maximum allowance of 100% of final average salary. Upon reaching 35 years of Ohio service, the first 31 years of Ohio contributing service are multiplied by 2.5%, and each year over 31 years is incrementally increased by 0.1% starting at 2.6% for the 32nd year. Members retiring before age 65 with less than 30 years of service credit receive a percentage reduction in benefit amounts.

For members who were eligible to retire on July 1, 2015, the annual benefit is the greater of the benefit amount calculated upon retirement under the new benefit formula or the frozen benefit amount as of July 1, 2015.

Since the plan is tax-qualified, benefits are subject to limits established by Section 415 of the Internal Revenue Code.

A retiree of STRS Ohio or another Ohio public retirement system is eligible for reemployment as a teacher following the elapse of two months from the date of retirement. Contributions are made by the reemployed member and employer during the reemployment. Upon termination of reemployment or age 65, whichever comes later, the retiree is eligible for an annuity benefit or equivalent lump-sum payment in addition to the original retirement allowance. A reemployed retiree may alternatively receive a refund of member contributions with interest before age 65, once employment is terminated.

In September 2012, the Ohio General Assembly passed and the Governor signed into law Substitute Senate Bill 342. The legislation improves pension funding of the STRS Ohio DB Plan.

The legislative changes that improve funding to STRS Ohio's DB Plan include: increasing age and service requirements for retirement; pensions calculated on a lower, fixed formula; increasing the period for determining final average salary, increasing member contributions to the retirement system; and modifications to the COLA. The law also provides the Retirement Board with authority to make future adjustments to the member contribution rate, retirement age and service requirements, and the COLA as the need or opportunity arises, depending on the retirement system's funding progress. In April 2017, the Retirement Board made the decision to reduce COLA granted on or after July 1, 2017, to 0% to preserve the fiscal integrity of the retirement system. Benefit recipients' base benefit and past cost-of-living increases are not affected by this change.

DC Plan Benefits — Benefits are established under Chapter 3307.80 to 3307.89 of the R.C.

For members who select the DC Plan, all member contributions and employer contributions at a rate of 9.53% are placed in an investment account. The member determines how to allocate the member and employer money among various investment choices offered by STRS Ohio. The member receives a quarterly statement of his or her account activity and balance and can access their account online. The remaining 4.47% of the 14.0% employer rate is allocated to the DB Plan unfunded liability.

A member is eligible to receive a monthly retirement benefit at age 50 and termination of employment. In lieu of a retirement benefit, the member may elect a lump-sum withdrawal. Employer contributions into member accounts are vested after the first anniversary of the first day of paid service. Members vest 20% per year in employer contributions and all gains and losses on those contributions.

Members in the DC Plan who become disabled are entitled only to their account balance. If a member dies before retirement benefits begin, the member's designated beneficiary is entitled to receive the member's account balance.

CO Plan Benefits — For members who select the CO Plan, 12% of the 14% member contribution rate is deposited into the member's DC account and the remaining amount applied to the DB Plan. In the CO Plan, member contributions are allocated among investment choices by the member, and employer contributions are used to fund a defined benefit payment.

A member's defined benefit is determined by multiplying 1% of the member's final average salary by the member's years of service credit. The defined benefit portion of the CO Plan payment is payable to a member on or after age 60 with five years of service. The defined contribution portion of the account may be taken as a lump sum or converted to a lifetime monthly annuity at age 50 and termination of employment.

DC and CO Plan members must actively select to change plans during their fifth year of membership or their original selection is maintained. Also, for DC and CO Plan members who retire and elect to have an annuity, the DC account balance is transferred to the DB Plan. During fiscal 2021, $22.9 million was transferred from the DC and CO Plan accounts to the DB Plan. During fiscal 2020, $14.9 million was transferred from the DC and CO Plan accounts to the DB Plan.

Death, Survivor and Disability Benefits — A DB or CO Plan member with five or more years of credited service who is determined to be disabled (illness or injury preventing individual's ability to perform regular job duties for at least 12 months) may receive a disability benefit. Additionally, eligible survivors of members who die before service retirement may qualify for monthly benefits. New members on or after July 1, 2013, must have at least 10 years of qualifying service credit to apply for disability benefits.

A death benefit of $1,000 is payable to the beneficiary of each deceased retired member who participated in the DB Plan. Death benefit coverage up to $2,000 can be purchased by participants in the DB, DC or CO Plans. Various other benefits are available to members' beneficiaries.

Health Care Coverage After Retirement — Ohio law allows the State Teachers Retirement Board to offer a cost-sharing, multiple-employer health care plan. STRS Ohio provides access to health care coverage to eligible retirees who participated in the DB or CO Plans and their eligible dependents.

Coverage under the current program includes hospitalization, physicians' fees and prescription drugs and partial reimbursement of monthly Medicare Part B premiums. Medicare Part B partial premium reimbursements will be continued indefinitely. Pursuant to the R.C., the Retirement Board has discretionary authority over how much, if any, of the associated health care costs will be absorbed by the plan. All benefit recipients pay a portion of the health care costs in the form of a monthly premium. Benefit recipients contributed $254.0 million or 58% of the total health care costs in fiscal 2021 (excluding deductibles, coinsurance and copayments). For fiscal 2020, benefit recipients contributed $295.8 million or 60% of the total health care costs.

Under Ohio law, funds to pay health care costs may be deducted from employer contributions, currently 14% of compensation. For fiscal years 2021 and 2020, no employer allocation was made to health care.

Medicare Part D is a federal program to help cover the costs of prescription drugs for Medicare beneficiaries. This program allows STRS Ohio to recover part of the cost for providing prescription coverage since all eligible STRS Ohio health care plans include creditable prescription drug coverage. For the years ended June 30, 2021 and 2020, STRS Ohio received $96.5 million and $81.9 million in Medicare Part D government reimbursements, respectively.

Refunds — Withdrawal cancels a member's rights and benefits in STRS Ohio.

Upon termination of employment, a DB Plan member may withdraw their accumulated contributions made to STRS Ohio. Refunds of member contributions may include interest and 50% matching payments.

A CO Plan member is eligible for the present value of future benefits from the defined benefit portion of the account if he or she terminates employment after at least five years of service. For the defined contribution portion of the account, the refund consists of member contributions plus or minus any investment gains or losses on those contributions.

DC Plan members receive their contributions plus or minus any investment gains or losses on member contributions until they have completed one year of membership. After one year of membership, members vest 20% per year in employer contributions and all gains or losses on those contributions.

Alternative Retirement Plan — Eligible faculty of Ohio's public colleges and universities may choose to enroll in either STRS Ohio or an alternative retirement plan (ARP) offered by their employer.

Employees have 120 days from their date of hire to select a retirement plan.

For employees who elect an ARP, employers are required to remit employer contributions to STRS Ohio at a rate of 4.47% of payroll. For the years ended June 30, 2021 and 2020, the ARP participant payroll totaled $828.3 million and $810.7 million, respectively.

Administrative Expenses — The costs of administering the DB Plan and the retiree health care program are paid from investment income. The administrative and investment costs of the DC Plan are paid by participant fees.

3. Net Pension Liability of Participating Employers

The components of STRS Ohio's net pension liability of the participating employers as of June 30, 2021 and 2020, was as follows:

Net Pension Liability at June 30, 2021 and 2020 (dollar amounts in thousands)	2021	2020
Total Pension Liability	$104,591,406	$ 98,672,288
Fiduciary Net Position	(91,805,507)	(74,475,846)
Net Pension Liability	$ 12,785,899	$ 24,196,442
Ratio of Fiduciary Net Position to the Total Pension Liability	87.8%	75.5%

The total pension liability for 2021 and 2020 was determined by an actuarial valuation as of June 30, 2021 and 2020, using actuarial assumptions related to inflation (2.50%), discount rate of 7.00% for fiscal 2021 and 7.45% for fiscal 2020, 0% COLA and projected salary increases ranging from 2.50% at age 65 to 12.50% at age 20.

Pension and post-employment health care assets are commingled for investment purposes. Amounts reported for individual asset classes are allocated between the DB Plan and post-employment health care based upon ending net position. Amounts reported for individual asset classes for the DC Plan are based on the underlying participant choices.

STRS Ohio's investment consultant develops an estimated range for the investment return assumption based on the target allocation adopted by the Retirement Board. The target allocation and long-term expected rate of return for each major asset class are summarized as follows:

Asset Class	Target Allocation	Long-term Expected Rate of Return*
Domestic Equity	28%	7.35%
International Equity	23%	7.55%
Alternatives	17%	7.09%
Fixed Income	21%	3.00%
Real Estate	10%	6.00%
Liquidity Reserves	1%	2.25%

*10-year annualized geometric nominal returns include the real rate of return and inflation of 2.25% and is net of investment expenses. Over a 30-year period, STRS Ohio's investment consultant indicates that the above target allocations should generate a return above the actuarial rate of return, without net value added by management.

Pension Plan Discount Rate — The projection of cash flows used to determine the discount rate assumes that employer and member contributions will be made at statutory contribution rates of 14% each. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Based on those assumptions, STRS Ohio's fiduciary net position was projected to be available to make all projected future benefit payments to current plan members as of June 30, 2021 and 2020. Therefore, the long-term expected rate of return on pension plan investments of 7.00% and 7.45% was applied to all periods of projected benefit payments to determine the total pension liability, respectively, as of June 30, 2021 and 2020.

Sensitivity of the Net Pension Liability to the Discount Rate Assumption — The following represents the net pension liability as of June 30, 2021 and 2020, calculated using the applicable discount rate assumption, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the assumption.

Net Pension Liability (in thousands)	1% Decrease	Current Assumption	1% Increase
	6.00%	7.00%	8.00%
June 30, 2021	$23,943,203	$12,785,899	$3,358,001
	6.45%	7.45%	8.45%
June 30, 2020	$34,451,521	$24,196,442	$15,506,117

Mortality Rates for Pension — For the actuarial valuations as of June 30, 2021 and 2020, post-retirement mortality rates are based on RP-2014 Annuitant Mortality Table with 50% of rates through age 69, 70% of rates between ages 70 and 79, 90% of rates between ages 80 and 84, and 100% of rates thereafter, projected forward generationally using mortality improvement scale MP-2016; pre-retirement mortality rates are based on RP-2014 Employee Mortality Table, projected forward generationally using mortality improvement scale MP-2016.

Disabled: Post-retirement disabled mortality rates are based on RP-2014 Disabled Mortality Table with 90% of rates for males and 100% of rates for females, projected forward generationally using mortality improvement scale MP-2016.

Experience Study — The actuarial assumptions used in the June 30, 2021 and 2020, valuations, were adopted by the board from the results of an actuarial experience study for July 1, 2011, through June 30, 2016.

4. Post Employment Health Care Net OPEB Asset of Participating Employers

The components of STRS Ohio's net OPEB asset of the participating employers as of June 30, 2021 and 2020, are shown in the table below.

Net OPEB Asset at June 30, 2021 and 2020
(dollar amounts in thousands)

	2021	2020
Fiduciary Net OPEB Position	$ 4,929,739	$ 3,897,296
Total OPEB Liability	2,821,321	2,139,798
Net OPEB Asset	$ 2,108,418	$ 1,757,498
Ratio of Fiduciary Net Position to the Total OPEB Liability	174.7%	182.1%

The total OPEB asset for 2021 and 2020 was determined by an actuarial valuation as of June 30, 2021 and 2020, using actuarial assumptions including the discount rate of 7.00% for fiscal 2021 and 7.45% for fiscal 2020, projected salary increases ranging from 2.5% to 12.5% and health care cost trend rates ranging from –16.2% to 30.0% initially and a 4% ultimate rate for both 2021 and 2020.

STRS Ohio's investment consultant develops an estimate range for the investment return assumption based on the target allocation adopted by the Retirement Board. The target allocation and long-term expected rate of return for each major asset class are summarized as follows:

Asset Class	Target Allocation	Long-term Expected Rate of Return*
Domestic Equity	28%	7.35%
International Equity	23%	7.55%
Alternatives	17%	7.09%
Fixed Income	21%	3.00%
Real Estate	10%	6.00%
Liquidity Reserves	1%	2.25%

*10-year annualized geometric nominal returns include the real rate of return and inflation of 2.25% and is net of investment expenses. Over a 30-year period, STRS Ohio's investment consultant indicates that the above target allocations should generate a return above the actuarial rate of return, without net value added by management.

OPEB Discount Rate — The projection of cash flows used to determine the discount rate assumed STRS Ohio continues to allocate no employer contributions to the HC Fund. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments to current plan members as of June 30, 2021 and 2020. Therefore, the long-term expected rate of return on HC Fund investments of 7.00% and 7.45% was applied to all periods of projected benefit payments to determine the total OPEB liability, respectively, as of June 30, 2021 and 2020.

Sensitivity of the Net OPEB Asset to the Discount Rate and Health Care Cost Trend Rate Assumptions — The following represents the net OPEB asset as of June 30, 2021 and 2020, calculated using the applicable discount rate assumption, as well as what the net OPEB asset would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the assumption. Also shown is the net OPEB asset as of June 30, 2021 and 2020, calculated using health care cost trend rates that are one percentage point lower or one percentage point higher than the current health care cost trend rates.

Net OPEB Asset (in thousands)

At June 30, 2021		
1% Decrease in Discount Rate (6.00%)	Current Discount Rate (7.00%)	1% Increase in Discount Rate (8.00%)
$ 1,779,179	$ 2,108,419	$ 2,383,448
1% Decrease in Trend Rates	Current Trend Rates	1% Increase in Trend Rates
$ 2,372,304	$ 2,108,419	$ 1,782,099
At June 30, 2020		
1% Decrease in Discount Rate (6.45%)	Current Discount Rate (7.45%)	1% Increase in Discount Rate (8.45%)
$ 1,529,138	$ 1,757,498	$ 1,951,254
1% Decrease in Trend Rates	Current Trend Rates	1% Increase in Trend Rates
$ 1,939,227	$ 1,757,498	$ 1,536,126

Mortality Rates for Health Care — *Healthy:* Rates are based on the RP-2014 Annuitant Mortality Table with 50% of rates through age 69, 70% of rates between ages 70 and 79, 90% of rates between ages 80 and 84, and 100% of rates thereafter, projected forward generationally using mortality improvement scale MP-2016.

Disabled: Rates are based on the RP-2014 Disabled Mortality Table with 90% of rates for males and 100% of rates for females, projected forward generationally using mortality improvement scale MP-2016.

Experience Study — The actuarial assumptions used in the June 30, 2021 and 2020, valuation were adopted by the board from the results of an actuarial experience study for July 1, 2011, through June 30, 2016.

5. Contribution Requirements and Reserves

Member and employer contribution rates are established by the Retirement Board and limited by Chapter 3307 of the R.C. The member and employer contribution rates are 14% of covered payroll.

Various funds are established under the R.C. to account for contributions, reserves, income and administrative expenses.

The Teachers' Savings Fund (TSF) is used to accumulate member contributions in trust and from which transfers are made to fund retirement and survivor benefits.

The Employers' Trust Fund (ETF) is used to accumulate employer contributions in trust and from which transfers are made to fund retirement and survivor benefits. The remaining balance in the Guarantee Fund is closed to the ETF at year-end.

The DC Fund accumulates contributions deducted from DC and CO Plan members, employer contributions credited to the DC member accounts and investment earnings thereon less DC Plan expenses and withdrawals. Transfers are made from the DC Fund to the Annuity and Pension Reserve Fund for accounts annuitized at retirement.

The Annuity and Pension Reserve Fund (APRF) is the fund from which all annuity and pension payments for retirement and disability benefits are made. Reserves for the present value of new benefits are transferred to this fund from the TSF, ETF and DC funds at the time of retirement and interest is transferred to this fund annually from the Guarantee Fund.

The Survivors' Benefit Fund (SBF) is the fund from which all survivor benefit payments are made. Reserves for the present value of new benefits are transferred to this fund from the TSF and ETF funds at the time benefits begin and interest is transferred to this fund annually from the Guarantee Fund.

The Guarantee Fund (GF) is used to accumulate income derived from investments, gifts and bequests for the year. It is also the fund from which transfers are made to cover the balance in the Expense Fund and from which interest is transferred and credited to the APRF and SBF funds. Any remaining balance in the GF at fiscal year end is closed to the ETF.

The Expense Fund is the fund from which all administrative and management expenses of STRS Ohio are paid each year. A transfer from the GF is made at the end of each fiscal year to cover the accumulated balance in this fund.

The HC Fund is used to accumulate amounts for the retiree health care program from the allocated portion of employer contributions, investment earnings, governmental reimbursements and benefit recipient premiums less health care expenses.

6. Commitments, Contingencies and Economic Uncertainty

STRS Ohio has made commitments to fund various real estate investments totaling $1,663,269,000 as of June 30, 2021. These commitments have expected funding dates from July 2021 to December 2024.

STRS Ohio has made commitments to fund various alternative investments totaling $7,481,974,000 as of June 30, 2021. The expected funding dates for the commitments as of June 30, 2021, range from July 2021 to June 2027.

STRS Ohio is a party in various legal actions. While the final outcome 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 fiduciary net position.

7. Fair Value Measurement

STRS Ohio's investments measured and reported at fair value are shown on Page 26 and are classified according to the following hierarchy:

Level 1: Level 1 inputs are quoted prices in active markets such as exchange markets.

Level 2: Level 2 inputs are prices that are observable either directly or indirectly. Level 2 inputs may include quoted prices in markets that are not considered active or inputs other than quoted prices that are observable such as interest rates, yield curves, implied volatilities, credit spreads or market-corroborated inputs.

Level 3: Level 3 inputs are prices based on unobservable sources. Level 3 inputs include the best information available under the circumstances, which can include the government's own data and takes into account all information about market participant assumptions.

The assignment of Levels, within the hierarchy, is based on the type or class of investment and the pricing transparency of the investment. Assets classified as Level 1 are valued directly from a primary external pricing vendor. Assets classified as Level 2 are priced using an alternative independent pricing source or a pricing model that uses observable inputs in conjunction with trade information. Assets classified in Level 3 are cases where there is limited activity or a lack of an independent pricing source. Certain entities calculate a net asset value (NAV) per share (or its equivalent). For these investments, governmental accounting standards permit establishment of fair value using a practical expedient based on the NAV per share (or its equivalent).

8. Deposit and Investment Risk Disclosure

Investment Authority — The investment authority of the Retirement Board is governed by Section 3307.15 of the R.C. that also requires the Retirement Board to publish its investment policies annually and make copies available to interested parties. This section requires that investments be made with care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

Investments Measured at Fair Value at June 30, 2021 and 2020 (in thousands)

		Fair Value Measurements Using:				Fair Value Measurements Using:		
	June 30, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	June 30, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level:								
Short-term								
U.S. Treasury bills	$ 1,212,972		$ 1,212,972		$ 1,974,505		$ 1,974,505	
Commercial paper	287,475		287,475		73,430		73,430	
Short-term investment funds	59,000		59,000		25,000		25,000	
Fixed income								
U.S. government agency obligations	45,112		45,112		136,138		136,138	
Corporate bonds	5,014,292		5,014,292		4,732,979		4,732,979	
High yield and emerging markets	2,042,216	$ 82,864	1,959,352		2,005,414	$ 66,667	1,938,747	
Mortgages and asset-backed	3,047,228		3,047,228		2,839,520		2,839,520	
U.S. government obligations	8,653,907		8,653,907		5,743,463		5,743,463	
Domestic								
Common and preferred stock	26,918,294	26,918,100	194		21,525,302	21,525,302		
International								
Foreign stock	19,210,833	19,210,833			15,623,994	15,623,994		
Foreign equity index funds	1,555,221		1,555,221		1,265,856		1,265,856	
Real estate								
Direct real estate assets	7,556,535			$ 7,556,535	7,626,959			$ 7,626,959
REITs	1,269,508	1,269,508			1,068,531	1,068,531		
Alternative investments								
Foreign stock held in alternative investments	143,515	143,515			200,089	200,089		
Domestic stock held in alternative investments	95,701	95,701			6,911	6,911		
Opportunistic diversified	2,120,207	1,822,578	152,034	145,595	1,868,431	1,500,494	257,744	110,193
Total investments by fair value level	**79,232,016**	**49,543,099**	**21,986,787**	**7,702,130**	**66,716,522**	**39,991,988**	**18,987,382**	**7,737,152**
Investments measured at net asset value (NAV):								
Real estate								
Real estate funds	1,146,894				860,065			
Alternative investments								
Hedge funds	225,036				907,977			
Private equity	11,934,093				7,225,442			
Opportunistic diversified	5,472,519				4,150,472			
Total investments measured at NAV	**18,778,542**				**13,143,956**			
Investment derivative instruments:								
Options	(56,292)	(239)	(56,053)		(34,520)	(446)	(34,074)	
Rights and warrants	1,365			1,365	2,973			2,973
Foreign currency forwards	131,885		131,885		9,711		9,711	
Credit Default Swaps	214		214		540		540	
Equity swaps	18,283		18,283		(4,128)		(4,128)	
Total investment derivative instruments	**95,455**	**$ (239)**	**$ 94,329**	**$ 1,365**	**(25,424)**	**$ (446)**	**$ (27,951)**	**$ 2,973**
Cash	5,563				4,638			
Total investments and cash	**$ 98,111,576**				**$ 79,839,692**			

Investments Measured at Net Asset Value (NAV) at June 30, 2021 and 2020 (in thousands)

	June 30, 2021	Unfunded Commitment	Redemption Frequency (if Currently Eligible)	Redemption Notice Period	June 30, 2020	Unfunded Commitment	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Real estate funds total[1]	$ 1,146,894	$ 1,179,726	N/A	N/A	$ 860,065	$ 1,105,864	N/A	N/A
Hedge funds								
Credit/Distressed[2]	67,885		Quarterly	65 days	337,020		Quarterly	65 days
Equity long/short[3]	7,364		Quarterly	Fully redeemed	12,430		Quarterly	Fully redeemed
Event driven[4]	0		N/A	N/A	156,772		Quarterly	65 days
Market neutral[5]	96,289		Monthly	30–60 days	133,703		Monthly	30–60 days
Multi-strategy[6]	53,498		Quarterly	90–95 days	268,052		Quarterly	90–95 days
Hedge funds total	225,036				907,977			
Private equity total[7]	11,934,093	3,414,726	N/A	N/A	7,225,442	4,442,132	N/A	N/A
Opportunistic diversified total[8]	5,472,519	4,067,248	N/A	N/A	4,150,472	3,122,246	N/A	N/A
Total investments measured at NAV	$ 18,778,542				$ 13,143,956			

[1]**Real estate funds total** — Consisting of 54 opportunistic, international and specialty funds which invest in markets throughout the globe. The primary strategy of these funds is to invest in mispriced, mismanaged and distressed assets with the goal of repositioning the asset as a core investment for sale to institutional investors within a 3–5 year holding period. These funds are not eligible for redemption. The fair value of these funds is determined using net assets valued one quarter in arrears plus current cash flows.

[2]**Credit/Distressed** — Consisting of two funds, this strategy invests both long and short in securities of companies that have been, or are expected to be, in potential restructuring situations, as well as U.S. and global credit securities with the goal of generating excess yield relative to traditional credit instruments. These investments are valued at NAV per share. Due to contractual gating restrictions, 50% of the value of these investments is eligible for redemption within the next six months. The remaining 50% of the value of these investments remain restricted up to 12 months.

[3]**Equity long/short** — Consisting of one fund, this strategy invests both long and short in U.S. and global equity securities, with the goal of adding growth and minimizing market exposure. This investment is valued at NAV per share. 100% of this investment is eligible for redemption within the next six months.

[4]**Event driven** — Consisting of one fund, 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. This investment is valued at NAV per share. 100% of this investment is eligible for redemption within the next six months.

[5]**Market neutral**— Consisting of two funds, this strategy aims to pursue strategies that are uncorrelated to broader market returns. These investments are valued at NAV per share. Due to contractual gating, 80% of the value of these investments are eligible for redemption in next six months. The remaining 50% of the value of these investments remain restricted up to 12 months.

[6]**Multi-strategy** — Consisting of three funds, this strategy aims to pursue varying strategies in order to diversify risks and reduce volatility. These investments are valued at NAV per share. 100% of the value of these investments is eligible for redemption within the next six months.

[7]**Private equity total** — Consisting of 212 commingled funds, fund-of-funds and separately managed accounts involving domestic and global buyout and venture capital funds. These are long-term lock up vehicles, typically with 10-year terms plus available extensions. These investments are valued at NAV as reported by the fund/account manager. The unfunded commitments can be called by the managers to make new investments during the investment period, which is roughly the first half of the fund term. Thereafter, the manager can call capital to fund follow-on expenses in support of the existing portfolio investments or to pay fund expenses.

[8]**Opportunistic diversified** — Consisting of 127 commingled funds, co-investments, and direct investments involving domestic and global energy, infrastructure, and specialty finance funds. These are generally long-term lock up vehicles, typically with 10-year terms plus available extensions. These investments are generally valued at NAV as reported by the fund/account manager, with some exceptions for publicly traded securities. The unfunded commitments can be called by the managers to make new investments during the investment period, which is roughly the first half of the fund term. Thereafter, the manager can call capital to fund follow-on expenses in support of the existing portfolio investments or to pay fund expenses.

Investments held at fair value by STRS Ohio at June 30, 2021 and 2020, are summarized below.

Investments and Invested Securities Lending Collateral Held at Fair Value by STRS Ohio at June 30, 2021 and 2020 (summarized and in thousands)

Category	June 30, 2021	June 30, 2020
Cash and short-term investments		
Cash	$ 5,563	$ 4,638
Commercial paper	287,475	73,430
Short-term investment funds	59,000	25,000
U.S. Treasury bills	1,212,972	1,974,505
Total cash and short-term	**1,565,010**	**2,077,573**
Fixed income		
U.S. government agency obligations	45,112	136,138
Corporate bonds	5,014,292	4,732,979
High yield and emerging market	2,042,733	2,005,720
Mortgages and asset-backed	3,047,228	2,839,520
U.S. government obligations	8,653,907	5,743,463
Total fixed income	**18,803,272**	**15,457,820**
Domestic equities	**26,928,103**	**21,525,302**
International equities (See Note 9)	**20,893,064**	**16,897,245**
Real estate (See Note 10)		
East region	3,056,707	3,124,447
Midwest region	1,216,219	1,200,054
South region	868,348	761,920
West region	2,415,261	2,448,936
REITs	1,269,508	1,068,531
Non-core	1,154,698	954,187
Total real estate	**9,980,741**	**9,558,075**
Alternative investments (See Note 11)	**19,941,386**	**14,323,677**
Invested securities lending collateral	**646,451**	**355,533**
Total investments and invested securities lending collateral	**$ 98,758,027**	**$ 80,195,225**

Cash and Short-Term Investments — Cash and short-term investments are combined for reporting purposes and include cash balances of $5,563,000 at June 30, 2021, and $4,638,000 at June 30, 2020, in the *Statements of Fiduciary Net Position*.

GASB Statement No. 40 — GASB Statement No. 40, *Deposit and Investment Risk Disclosures*, addresses common deposit and investment risks related to credit risk, concentration of credit risk, interest rate risk and foreign currency risk.

Credit Risk — Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This risk is measured by ratings assigned by a nationally recognized statistical rating organization. The quality ratings of investments in fixed income as of June 2021 and 2020, are shown in the table on Page 29. U.S. government fixed-income securities or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk.

Custodial Credit Risk — Deposits are exposed to custodial credit risk if they are uninsured and uncollateralized. Custodial credit risk is the risk that, in the event of a failure of the counterparty, STRS Ohio will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of STRS Ohio, and are held by either the counterparty or the counterparty's trust department or agent but not in the name of STRS Ohio.

All investments are held in the name of STRS Ohio or its nominee by the Treasurer of the State of Ohio as custodian. At June 30, 2021 and 2020, the bank statement cash balances were $14,311,000 and $13,359,000, respectively. Bank balances are insured up to $250,000 by the Federal Deposit Insurance Corporation. The remaining bank deposits are covered by collateral held in the name of STRS Ohio's pledging financial institution, as required by state statute.

Interest Rate Risk — Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the investment. Duration is a measure of a debt investment's exposure to fair value changes arising from changing interest rates. It uses the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price. The longer the maturity, the more the value of the fixed-income investment will fluctuate with interest rate changes. The table on Page 29 shows the maturities of investments in fixed income by weighted-average duration, expressed in years, at June 30, 2021 and 2020.

Concentration of Credit Risk — STRS Ohio is guided by statute and policy in the selection of security investments. No investment in any one organization represents 5% or more of STRS Ohio's total investments as of June 30, 2021 and 2020.

Significant investment guidelines that relate to investment concentration, interest rate risk and foreign currency risk by major asset class are as follows:

Overall Investment Portfolio — The Retirement Board has approved a target risk budget range of 0.60% to 1.20%, with a working range of 0.20% to 1.60%, annualized active management for the total fund. In exchange for assuming this level of active risk, the Board expects active management to add net 0.40% of annualized excess return over moving five-year periods to judge its effectiveness.

Quality Ratings of Fixed-Income Investments Held at June 30, 2021 and 2020 (in thousands)

Investment Type	Quality Rating	June 30, 2021 Fair Value	June 30, 2020 Fair Value
U.S. government agency obligations	Aaa	$ 45,112	$ 46,118
	Aa		90,020
Total U.S. government agency obligations		45,112	136,138
Corporate bonds	Aaa	139,068	95,336
	Aa	581,329	526,036
	A	2,589,869	2,606,658
	Baa	1,504,065	1,474,511
	Ba	13,237	16,928
	NR	186,724	13,510
Total corporate bonds		5,014,292	4,732,979
High yield and emerging markets fixed income	Aaa		32,852
	Aa	52,024	57,185
	A	121,262	152,459
	Baa	244,685	265,864
	Ba	634,558	536,682
	B	586,043	540,383
	Caa and Below	232,835	255,462
	NR	171,326	164,833
Total high yield and emerging markets fixed income		2,042,733	2,005,720
Mortgages and asset-backed	Aaa	3,035,102	2,768,835
	NR	12,126	70,685
Total mortgages and asset-backed		3,047,228	2,839,520
Credit risk debt securities		10,149,365	9,714,357
U.S. government obligations		8,653,907	5,743,463
Total fixed-income investments		$18,803,272	$15,457,820

Fixed Income — The portfolio will seek diversification by market sector, quality and issuer. The core fixed income portfolio risk budget range is 0.10% to 1.50% using the Bloomberg U.S. Universal Index as the benchmark. The Liquid Treasury portfolio risk budget range is 0.0% to 0.25% during normal market conditions, but will have a board-approved risk budget range of 0.0% to 1.0% using the Bloomberg U.S. Intermediate Treasury Index as the benchmark. Derivative instruments may be used to adjust the exposure to interest rates, individual securities or to various market sectors in the portfolio. Underlying exposure of derivative instruments for fixed-income investments will not exceed 5% of total fund assets. Short sales may be used, but may not exceed 10% of the value of the asset class.

Global Equities — Domestic — The risk budget range for domestic equities is 0.20% to 1.50% using the Russell 3000® Index as the benchmark. Derivative instruments may be used in management of the equity portfolio. Underlying exposure of equity derivative instruments will not exceed 10% of total fund assets. Short sales may be used, but may not exceed 10% of the value of the asset class.

Global Equities — International — International assets will be a diversified portfolio including both developed and emerging countries. The risk budget range for international equity is between 0.60% to 2.50% using a blended benchmark of 80% MSCI World ex US Index-Net (50% hedged currency) and 20% MSCI Emerging Markets Index-Net. Derivative instruments may be used in management of the portfolio and underlying exposure of derivative instruments for international investments will not exceed 10% of total fund assets. Short sales may be used, but may not exceed 10% of the value of the asset class.

Real Estate — The real estate portfolio shall be diversified between property type, geographic location and investment structure. The risk budget range for real estate investments is 2.00% to 7.00% using a benchmark of 85% NCREIF Property Index and 15% FTSE NAREIT Equity REITs Index. Investments in non-core real estate, which includes domestic and international opportunity funds and real estate development projects, shall not exceed 20% of total real estate assets. Derivative instruments may be used and will not exceed 1% of total fund assets. STRS Ohio may borrow funds on a secured or unsecured basis and leverage is limited to 50% in aggregate of internally managed real estate assets

Duration of Fixed-Income Investments Held at June 30, 2021 and 2020 (in thousands)

	June 30, 2021		June 30, 2020	
Investment Type	Fair Value	Weighted-Average Duration (Years)	Fair Value	Weighted-Average Duration (Years)
U.S. government agency obligations	$ 45,112	2.57	$ 136,138	1.20
Corporate bonds	5,014,292	6.66	4,732,979	6.46
High yield and emerging markets fixed income	2,042,733	5.11	2,005,720	5.10
Mortgages and asset-backed	3,047,228	4.22	2,839,520	2.85
U.S. government obligations	8,653,907	5.16	5,743,463	5.20
Total fixed income	$ 18,803,272		$ 15,457,820	

excluding publicly traded real estate investment trusts (REITs). Short sales may be used, but may not exceed 10% of the value of the asset class.

Alternative Investments — Alternative investments involve separate allocations to private equity and opportunistic/diversified investments. Private equity investments are being managed to exceed a private market benchmark over moving five-year periods. Private equity investments are traded infrequently and, therefore, risk budget concepts are not applicable. Opportunistic/diversified investments are being managed to exceed a blend of private market benchmarks over moving five-year periods. Investments in this category can be liquid or illiquid and, therefore, risk budget concepts are not applicable. Derivative instruments may be used but will not exceed 10% of total fund assets. Fees are net of all external investment management fees and costs, including carried interest and other fund expenses.

Foreign Currency Risk — Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. Forward currency contracts may be used to manage the exposure to foreign currencies. The system's investments exposed to foreign currency risk at June 30, 2021 and 2020, are shown in the table to the right. The investment figures are comprised of numerous portfolios within international equity, debt securities and real estate investments.

Securities Lending — STRS Ohio participates in a domestic and international securities lending program whereby securities are loaned to investment brokers/dealers (borrower). Securities loaned are collateralized by the borrower at 102% of the domestic equity and U.S. dollar-denominated fixed-income loaned securities' fair value and 105% of the international loaned securities' fair value.

Fair Value Subject to Foreign Currency Risk Held at June 30, 2021 and 2020 (in thousands)

	June 30, 2021			June 30, 2020		
Foreign Currency Denomination	International	Real Estate	High Yield & Emerging Markets Fixed Income	International	Real Estate	High Yield & Emerging Markets Fixed Income
Australian Dollar	$ 347,563			$ 345,644		
Brazilian Real	214,806		$ 1,114	106,213		$ 173
British Pound Sterling	1,019,421	$ (52,504)		568,708	$ (49,446)	
Canadian Dollar	405,219			318,926		
Chilean Peso	14,839			11,270		
Chinese Yuan Renminbi	220,009			167,594		
Colombian Peso	484			7,225		
Czech Republic Koruna	16,818			12,012		
Danish Krone	203,426			131,371		
Egyptian Pound	1,549		2,235	2,696		1
European Union Euro	1,643,919	(275,558)	5,965	1,216,443	(194,349)	115
Hong Kong Dollar	940,233			835,313		
Hungarian Forint	26,595			26,976		
Indian Rupee	299,236		15	158,082		
Indonesian Rupiah	41,230			37,064		
Israeli Shekel	(11,037)			(8,561)		
Japanese Yen	1,300,651	(36,063)		1,395,593	(47,321)	
Kenyan Shilling	4,402					
Kuwaiti Dinar	1,791					
Malaysian Ringgit	24,921			21,877		
Mexican Peso	79,318			55,116		1,945
Moroccan Dirham				82		
New Taiwan Dollar	731,892			437,385		
New Zealand Dollar	20,565			67,354		
Nigerian Naira	12,600			10,791		
Norwegian Krone	101,780			26,025		
Pakistani Rupee	137					
Peruvian Nuevo Sol			204			656
Philippines Peso	30,550			24,884		
Polish Zloty	13,802			10,570		
Qatari Rial	3,246			6,983		
Romanian Leu	5,196			3,559		
Russian Ruble	75,363			53,912		3,424
Saudi Arabia Riyal	1,422			2,539		
Singapore Dollar	76,747			84,000		
South African Rand	132,657			93,115		
South Korean Won	715,658			459,298		
Swedish Krona	228,016			153,109		
Swiss Franc	542,052			460,593		
Thailand Baht	94,219			99,852		
Turkish Lira	9,292			47,930		
Ukranian Hryvnia			1,084			
United Arab Emirates Dirham	10,370			14,962		
Vietnamese Dong	11,062			11,317		
Zimbabwean Dollar	782			401		
Held In Foreign Currency	**$ 9,612,801**	**$ (364,125)**	**$ 10,617**	**$ 7,478,223**	**$ (291,116)**	**$ 6,314**

STRS Ohio lends domestic equities, international equities, U.S. Treasuries, agencies and corporate bonds. The collateral received is cash, U.S. Treasuries or related agency securities. STRS Ohio cannot sell or pledge collateral received. If a borrower defaults, then the collateral can be liquidated.

A custodial agent bank administers the program and STRS Ohio receives a fee from the borrower for the use of loaned securities. Cash collateral from securities lending is invested in U.S. government agencies, repurchase agreements, commercial paper, asset-backed securities and corporate obligations.

The credit quality of the invested cash collateral is the same as the credit quality on STRS Ohio direct holdings. There are slight mismatches between the duration of the cash invested and the length of time the securities are on loan. As of June 30, 2021, the weighted average maturity of the invested cash collateral is 50 days. Because much of the cash collateral is invested in floating rate securities, the weighted average number of days interest rates reset is 11 days as of June 30, 2021. STRS Ohio has minimized its exposure to credit risk due to borrower default by having the custodial agent bank determine daily that the required collateral meets the specified collateral requirements. There are no restrictions on the amount of securities that can be loaned. The fair value of loaned securities was $630.2 million and $348.7 million as of June 30, 2021 and 2020, respectively. The fair value of the associated invested cash collateral as of June 30, 2021 and 2020, was $646.5 million and $355.5 million, respectively.

Money-Weighted Rate of Return — The annual money-weighted rate of return on pension plan investments calculated as the internal rate of return on pension plan investments, net of pension plan investment expense, and expresses investment performance, net of pension plan investment expense, adjusted for the changing amounts actually invested. The money-weighted rate of return as of June 30, 2021 and 2020, was 29.24% and 2.99%, respectively.

9. International Investments

Externally Managed — STRS Ohio has investments in international equity securities through the use of external money managers. It is the intent of STRS Ohio and the money managers to be fully invested; however, cash and short-term fixed-income investments may be held temporarily. The portfolios are managed in accordance with various mandates based on Morgan Stanley Capital International's (MSCI) indexes. Investments are held in both developed and emerging international markets.

Internally Managed:

Developed Markets, Emerging Markets — STRS Ohio actively invests in developed and emerging markets. The portfolio's active management adds value primarily through security selection and country allocation decisions using a variety of portfolio management approaches including quantitative and fundamental techniques. Aggregate exposures to countries, currencies, equity styles, and market capitalization are monitored and managed relative to their benchmark exposures.

Europe, Australia and Far East (EAFE) Index Fund — To increase diversification in international developed markets, STRS Ohio invests in an EAFE Index Fund. The EAFE Index Fund purchases foreign equities, futures and other traded investments to replicate the makeup of the EAFE benchmark, consisting of MSCI World ex-U.S. 50% Hedged Index.

Equity Swaps — Four EAFE and three Emerging Market (EM) swap agreements were contracted during fiscal 2021 with maturity dates in fiscal 2022. In exchange for LIBOR (London Interbank Offered Rate) minus a negotiated spread, STRS Ohio will receive or pay the difference of the change in the total return of the various market indices included in the swap agreements. Fixed-income securities with a notional amount of $1,018.0 million and $779.2 million have been set aside at the global subcustodial account as security as of June 30, 2021 and 2020, respectively.

Forward Contracts — Managers have the ability to add value through currency management. Forward currency contracts are used to minimize the impact of foreign currency fluctuations on the asset positions of foreign investments.

The fair values of international investments held at June 30, 2021 and 2020, are shown below.

Fair Values of International Investments Held at June 30, 2021 and 2020 (in thousands)

	June 30, 2021	June 30, 2020
Externally managed		
International stocks	$ 9,204,019	$ 7,309,329
International currency and liquidity reserves	258,246	115,805
Forward contracts	58,076	(9,800)
Total externally managed	**9,520,341**	**7,415,334**
Internally managed		
Developed markets	6,819,174	6,027,597
Emerging markets	2,419,041	1,862,575
EAFE Index Fund	1,555,218	1,265,856
EAFE equity swaps	398,223	243,856
EMF equity swaps	115,364	64,797
Forward contracts	65,703	17,230
Total internally managed	**11,372,723**	**9,481,911**
Total international	**$ 20,893,064**	**$ 16,897,245**

10. Real Estate Investments

Direct — STRS Ohio properties are diversified among property type, geographic location and investment structure. Eighty-five percent of real estate is actively managed. The portfolio is primarily managed internally with direct property investments representing most of the portfolio. Direct real estate investments include office, apartment, industrial and retail space.

Public Real Estate — Public real estate includes publicly traded real estate securities and real estate investment trusts (REITs). REITS are passively managed and targeted at 15% of the real estate portfolio to enhance liquidity and diversification.

Non-Core Real Estate — Non-core real estate investments include opportunistic and international funds that invest in markets throughout the globe. Non-core real estate investments typically carry more risk with higher expected return.

Debt on Real Estate Investments — STRS Ohio uses debt to lower the cash outlay in acquiring real estate assets and to positively impact the performance of the real estate portfolio. STRS Ohio utilizes only direct borrowings that includes both recourse and non-recourse debt, but does not include unused lines of credit. Of the debt on real estate investments, $400 million was recourse debt as of June 30, 2021 and 2020. This debt is recourse to STRS Ohio with a covenant not to mortgage a specific pool of real estate assets. The remainder of the debt on real estate investments of $1.68 billion and $1.72 billion at June 30, 2021 and 2020, respectively, is non-recourse debt, which means that in the event of default, the lender looks to only the real estate holding for repayment of the loan and not the general assets of STRS Ohio.

STRS Ohio's borrowings contain a provision that in the event of default, outstanding amounts may become immediately due depending on the nature of the default.

At June 30, 2021, the recourse loans of $400 million had a maturity date in May 2023. The interest rate on the recourse loans are based on a fixed rate of 1.39%.

Of the non-recourse debt at June 30, 2021, loan maturities range from July 2021 to December 2030. Non-recourse debt at June 30, 2020, had loan maturities ranging from June 2021 to December 2030.

The repayment schedule as of June 30, 2021, and changes in real estate debt as of June 30, 2021 and 2020, are shown in the following tables.

Real Estate Debt Repayment Schedule As of June 30, 2021 (in thousands)

By Fiscal Year	Principal	Interest
2022	$ 55,769	$ 63,415
2023	498,679	62,099
2024	155,445	49,103
2025	134,425	44,876
2026	846,329	24,133
2027–2031	387,927	21,791
Total	**$ 2,078,574**	**$ 265,417**

Changes in Real Estate Debt (in thousands)

As of June 30, 2021	Balance at June 30, 2020	Increase	(Decrease)	Balance at June 30, 2021
Direct borrowings				
Recourse	$ 400,000			$ 400,000
Non-recourse	1,721,722	$ 43,009	$ (86,157)	1,678,574
Total	**$ 2,121,722**	**$ 43,009**	**$ (86,157)**	**$ 2,078,574**

As of June 30, 2020	Balance at June 30, 2019	Increase	(Decrease)	Balance at June 30, 2020
Direct borrowings				
Recourse	$ 250,000	$ 150,000		$ 400,000
Non-recourse	1,612,481	157,079	$ (47,838)	1,721,722
Total	**$ 1,862,481**	**$ 307,079**	**$ (47,838)**	**$ 2,121,722**

11. Alternative Investments

Alternative investments involve separate allocations to private equity and opportunistic/diversified investments. Private equity is 100% actively managed and includes, but is not limited to, venture capital and leverage buyouts, mezzanine debt or distressed debt. Private equity investments may be made directly, through funds, fund of funds or as co-investments. Opportunistic/diversified investments are typically actively managed and are tactical in nature with a goal of downside protection during equity bear markets. The category can be liquid or illiquid and investments may be made directly, through funds, fund of funds or as co-investments.

12. Derivative Instruments

Equity and Over-the-Counter Swap Agreements — As discussed in Note 9, STRS Ohio has entered into international equity swap agreements. In addition, STRS Ohio has entered into over-the-counter (OTC) swap agreements for its alternative investments and domestic equities. No funds are exchanged at the inception of the swap agreements; however, STRS Ohio has purchased fixed-income securities equivalent to the initial notional amount of the agreements, which are located in the global subcustodial account as of June 30, 2021 and 2020. In addition, collateral is pledged between the parties during the term of the agreements to account for market movements.

The notional amount of the equity swap contracts was $1,018.0 million at June 30, 2021, and $779.2 million at June 30, 2020. The fair value of the equity swap contracts was $1.9 million at June 30, 2021, and $3.0 million at June 30, 2020, and is included in the *Statements of Fiduciary Net Position*. The notional amount of the OTC swap agreements was $478.7 million at June 30, 2021 and $284.8 million at June 30, 2020. The fair value of the OTC swap contracts was $16.4 million as of June 30, 2021 and –$1.1 million as of June 30, 2020, and is included in the *Statements of Fiduciary Net Position*. The market risk of the swap is the same as if STRS Ohio owned the underlying stocks that comprise the indexes. The revenues and expenses resulting from these agreements have been recorded in the basic financial statements.

Forward Contracts — Forward contracts in various currencies are used to transact and hedge direct foreign equity and real estate investments that STRS Ohio maintains through the use of outside managers. Additionally, forward contracts are used to hedge currency exposure as a result of the EAFE equity swap agreements. STRS Ohio is obligated to deliver the foreign currency at a certain dollar price sometime in the future. To fulfill this obligation at maturity, STRS Ohio must obtain the currency in the open market. Before the contract matures, STRS Ohio can enter into an offsetting forward contract that nets out the original contract. These events expose STRS Ohio to currency market risk, which can fluctuate. The fair value of the foreign currency forwards of $131.9 million at June 30, 2021, and $9.7 million at June 30, 2020, is included in the *Statements of Fiduciary Net Position*. STRS Ohio is also subject to the risk that the counterparty will fail to fulfill the contract.

Futures — Index futures are designed to offer lower cost and more efficient alternatives to buying individual stocks that comprise the index. The market and credit risk of the futures were the same as if STRS Ohio had owned the underlying stocks that comprise the index. The realized gain or loss on index futures is included in net appreciation (depreciation) in fair value of investments in the *Statements of Changes in Fiduciary Net Position*.

Additionally, futures were used in the EAFE Index Fund and by external money managers. The system's notional exposure to future and forward contracts at June 30, 2021 and 2020, is shown in the following table.

Notional Exposure to Future and Forward Contracts Held at June 30, 2021 and 2020 (in thousands)

	June 30, 2021	June 30, 2020
Forward contracts		
Externally managed	$ 12,347,367	$ 6,083,510
Internally managed	4,722,217	3,814,417
Total forward contracts	**$ 17,069,584**	**$ 9,897,927**
Future contracts		
EAFE Index Fund	$ 16,228	$ 29,093
MSCI EAFE		285,878
MSCI Emerging		68,555
Russell Index Futures		18,114
S&P Index Futures		191,747
Externally Managed	76,527	99,195
Total future contracts	**$ 92,755**	**$ 692,582**

Options — STRS Ohio writes option contracts on existing stock positions to enhance the return on the stock portfolio. In exchange for a premium, STRS Ohio gives the option buyer the right to buy or sell the underlying stock. Options are also purchased to "cover" existing written open option positions. STRS Ohio did not hold any internal options contracts at June 30, 2021 or 2020. Additionally, options were utilized by external managers with a notional value of $4.1 billion at June 30, 2021 and $5.6 billion at June 30, 2020. The fair value of –$56.3 million at June 30, 2021 and –$34.5 million at June 30, 2020, is included in the *Statements of Fiduciary Net Position*.

Warrants — Warrants allow the right to purchase underlying stock shares at a specified price. Warrants are usually added on as an incentive to an issuer's fixed-income securities. STRS Ohio held warrants with a value of $1.4 million as of June 30, 2021, and $3.0 million at June 30, 2020, and is included in the *Statements of Fiduciary Net Position*.

Fixed-Income Credit Default Swaps — STRS Ohio may manage credit exposure through the use of credit default swaps. A credit default swap is a contract whereby the credit risk associated with an investment is transferred by entering into an agreement with another party who, in exchange for periodic fees, agrees to make payments in the event of a default or other predetermined credit event. One of the main advantages of a credit default swap is it allows for exposure to credit risk while limiting exposure to other risks, such as interest rate and currency risk. STRS Ohio held credit default swaps with a notional value of $10.7 million at June 30, 2021, and $24.9 million at June 30, 2020. The fair value of the credit default swaps was $214,000 at June 30, 2021, and $540,000 at June 30, 2020.

13. Pension Plan for Employees of STRS Ohio

All STRS Ohio employees are required to participate in a contributory retirement plan administered by Ohio Public Employees Retirement System (OPERS). OPERS is a cost-sharing, multiple-employer public employee retirement system that administers three pension plans that include a defined benefit plan, a defined contribution plan and a combined plan. Participation in these plans is a choice members make at the time their employment commences.

In 2012, the Ohio Legislature passed Senate Bill 343 to improve the financial condition of OPERS. In the legislation, members were categorized into three groups with varying provisions of the law applicable to each group. Retirement benefits are specific to each group and members must meet the eligibility requirements based on their age and years of service within the group. The key components to OPERS' pension plan changes are:

- Age and service requirements for retirement increased.
- Final average salary calculation increased to five years from three years.
- Calculation used to determine the benefit amount for service retirement was modified.
- COLA is based on the annual percentage change in the Consumer Price Index with a 3% cap.
- Calculation used for early retirement benefit is determined by OPERS' actuary.

Details about OPERS' plan changes and when they become effective can be found on its website at www.opers.org.

The member and employer contribution rates are 10.0% and 14.0% of covered payroll, respectively. The required employer contributions for the current year and the two preceding years are shown in the table below.

STRS Ohio Required Employer Contributions to OPERS

Year Ended June 30	Annual Required Contribution	Percent Contributed
2019	$7,820,000	100%
2020	$7,864,000	100%
2021	**$8,083,276**	**100%**

GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, requires STRS Ohio to record a net pension liability based on its proportionate share of OPERS' total net pension liability. The net pension liability was measured as of Dec. 31, 2020 and 2019, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates. Likewise, STRS Ohio's proportionate share of OPERS' deferred outflows and deferred inflows of resources related to pensions and pension expense are recorded in the *Statements of Fiduciary Net Position* and *Statements of Changes in Fiduciary Net Position* for fiscal years ending June 30, 2021, and June 30, 2020.

For fiscal 2021 and 2020, deferred outflows were $17.4 million and $27.6 million, respectively, and are included in Miscellaneous Receivables; deferred inflows were $35.8 million and $5.1 million, respectively, and net pension liability was $51.3 million and $70.0 million, respectively, and are included in Net Pension and OPEB Liabilities in the *Statements of Fiduciary Net Position*. For fiscal 2021, net pension expense was $22.1 million and for fiscal 2020, net pension income was $26.1 million and are included in Other Deductions in the *Statements of Changes in Fiduciary Net Position*.

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of OPERS and additions to/deductions from OPERS' fiduciary net position have been determined on the same basis as they are reported by OPERS. For this purpose, benefits and refunds are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

OPERS also provides post-employment health care coverage which is considered an OPEB as described in GASB Statement No. 75. In addition to the legislation that made changes to the pension plan, the OPERS Board approved changes to the retiree health care plan with phased-in implementation dates over the next several years. OPERS has the discretion to direct a portion of employer contributions to fund retiree health care. The R.C. provides statutory authority for employer contributions. The employer rate allocated to post employment health care for the defined benefit plan and combined plan was 0% in calendar 2020 and 2019. The portion of the employer rate allocated to post employment health care for the defined contribution plan was 4% in calendar 2020, 2019 and 2018.

For fiscal 2021 and 2020, deferred outflows were $3.4 million and $8.5 million, respectively, and are included in Miscellaneous Receivables; deferred inflows were $20.9 million and $7.7 million respectively, and OPEB asset was $6.8 million and liability of $53.1 million, respectively, and are included in Net Pension and OPEB Liabilities in the *Statements of Fiduciary Net Position*. For fiscal 2021 and 2020, net OPEB income was $41.5 million and expense of $5.4 million, respectively, and are included in Other Deductions in the *Statements of Changes in Fiduciary Net Position.*

For purposes of measuring the net OPEB asset/liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB income/expense, information about the OPEB fiduciary net position of OPERS and additions to/deductions from the OPEB fiduciary net position of OPERS have been determined on the same basis as they are reported by OPERS. For this purpose, health care benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Historical trend information showing the progress of OPERS in accumulating sufficient assets to pay pension and OPEB benefits when due is presented in the OPERS *Comprehensive Annual Financial Report*. OPERS issues a publicly available financial report for the plans. The report may be found on its website at www.opers.org.

Schedule of Changes in Employers' Net Pension Liability
Fiscal Years Ending June 30, 2014–2021* (in thousands)

	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability								
Service cost	$1,189,664	$ 1,150,526	$ 1,129,449	$ 1,075,334	$ 1,067,687	$ 1,058,987	$ 1,111,078	$ 1,094,986
Interest	7,171,680	7,108,056	7,036,514	6,974,353	7,611,942	7,472,169	7,272,034	7,137,686
Benefit changes, due to COLA reduction	0	0	0	0	(12,353,691)	0	0	0
Difference between expected and actual experience	451,180	(133,569)	69,329	31,732	(239,322)	527,725	1,355,347	292,708
Changes in assumptions	4,433,797	0	0	0	6,494,408	0	0	0
Benefit payments and refunds of employee contributions	(7,327,202)	(7,293,669)	(7,298,405)	(7,303,802)	(7,211,006)	(7,317,113)	(6,890,862)	(6,725,017)
Net change in total pension liability	5,919,118	831,344	936,887	777,617	(4,629,982)	1,741,768	2,847,597	1,800,363
Total pension liability, beginning of year	98,672,288	97,840,944	96,904,057	96,126,440	100,756,422	99,014,654	96,167,057	94,366,694
Total pension liability, end of year	**104,591,406**	**98,672,288**	**97,840,944**	**96,904,057**	**96,126,440**	**100,756,422**	**99,014,654**	**96,167,057**
Fiduciary net pension position								
Member contributions	$ 1,706,818	$ 1,670,406	$ 1,623,095	$ 1,580,430	$ 1,537,677	$ 1,372,033	$ 1,259,135	$ 1,193,808
Employer contributions, including other retirement systems	1,803,178	1,746,249	1,702,154	1,634,027	1,590,869	1,545,103	1,594,794	1,508,442
Net investment income	21,212,679	2,692,076	4,847,517	6,737,457	9,233,930	372,871	3,671,845	10,534,608
Benefit payments and refunds	(7,327,202)	(7,293,669)	(7,298,405)	(7,303,802)	(7,211,006)	(7,317,113)	(6,890,863)	(6,725,017)
Administrative expenses	(65,811)	(65,761)	(64,118)	(63,307)	(63,652)	(67,065)	(61,183)	(60,991)
Net change in fiduciary net pension position	17,329,661	(1,250,699)	810,243	2,584,806	5,087,818	(4,094,171)	(426,272)	6,450,850
Fiduciary net pension position, beginning of year	74,475,846	75,726,545	74,916,302	72,371,226	67,283,408	71,377,579	71,843,596	65,392,746
Restatement of fiduciary net pension position**	N/A	N/A	N/A	(39,730)	N/A	N/A	(39,745)	N/A
Restatement of fiduciary net pension position, beginning of year	N/A	N/A	N/A	72,331,496	N/A	N/A	71,803,851	N/A
Fiduciary net pension position, end of year	**91,805,507**	**74,475,846**	**75,726,545**	**74,916,302**	**72,371,226**	**67,283,408**	**71,377,579**	**71,843,596**
Net pension liability, end of year	**$ 12,785,899**	**$ 24,196,442**	**$ 22,114,399**	**$ 21,987,755**	**$ 23,755,214**	**$ 33,473,014**	**$ 27,637,075**	**$ 24,323,461**

*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.
**For purposes of determining net pension liability and related disclosures, fiduciary net position was not restated for earlier periods to reflect the adoption of GASB 75 in 2018 and GASB 68 in 2015.

Schedule of Employers' Net Pension Liability
Fiscal Years Ending June 30, 2013–2021* (dollar amounts in thousands)

Fiscal Year Ending	Total Pension Liability	Fiduciary Net Position	Net Pension Liability	Ratio of Fiduciary Net Position to Total Pension Liability	Covered Payroll **	Net Pension Liability as a Percentage of Covered Payroll
June 30, 2013	$94,366,694	$65,392,746	$28,973,948	69.3%	$10,765,635	269.1%
June 30, 2014	$96,167,057	$71,843,596	$24,323,461	74.7%	$10,725,329	226.8%
June 30, 2015	$99,014,654	$71,377,579	$27,637,075	72.1%	$10,948,586	252.4%
June 30, 2016	$100,756,422	$67,283,408	$33,473,014	66.8%	$11,099,607	301.6%
June 30, 2017	$96,126,440	$72,371,226	$23,755,214	75.3%	$11,557,147	205.5%
June 30, 2018	$96,904,057	$74,916,302	$21,987,755	77.3%	$11,923,688	184.4%
June 30, 2019	$97,840,944	$75,726,545	$22,114,399	77.4%	$12,296,800	179.8%
June 30, 2020	$98,672,288	$ 74,475,846	$ 24,196,442	75.5%	$12,671,208	191.0%
June 30, 2021	**$104,591,406**	**$91,805,507**	**$12,785,899**	**87.8%**	**$12,929,843**	**98.9%**

*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.
**Includes payroll for Defined Contribution and Alternative Retirement Plan participants.

Note: The schedules above include both the DB and DC Plans.

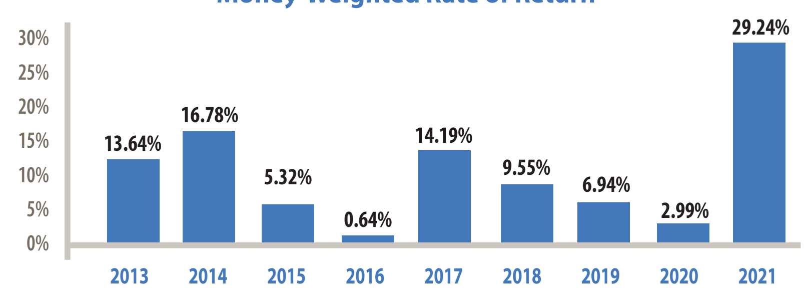
Schedule of Employers' Contributions — Pension
Fiscal Years Ending June 30, 2012–2021 (dollar amounts in thousands)

Fiscal Year	Actuarial Determined Contribution	Employer Contributions*	Contribution Deficiency (Excess)	Covered Payroll**	Contributions as a Percentage of Covered Payroll
2012	$3,248,651	$1,349,561	$1,899,090	$10,102,509	13.36%
2013	$2,910,537	$1,327,862	$1,582,675	$9,917,911	13.39%
2014	$1,489,734	$1,325,141	$164,593	$9,833,028	13.48%
2015	$1,368,602	$1,449,165	$(80,563)	$9,985,181	14.51%
2016	$1,178,129	$1,466,938	$(288,809)	$10,069,269	14.57%
2017	$1,054,862	$1,514,285	$(459,423)	$10,459,706	14.48%
2018	$1,056,430	$1,565,679	$(509,249)	$10,775,526	14.53%
2019	$1,088,328	$1,614,188	$(525,860)	$11,088,785	14.56%
2020	$1,081,662	$1,662,017	$(580,355)	$11,392,013	14.59%
2021	**$1,028,799**	**$1,696,121**	**$(667,322)**	**$11,610,016**	**14.61%**

*Employer contributions are the same as contractually required contributions.
**Excludes payroll from the Defined Contribution and Alternative Retirement Plans in order to report the amount needed to fund defined benefits.

Schedule of Investment Returns — Pension
Fiscal Years Ending June 30, 2013–2021*

Money-Weighted Rate of Return**



*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.

**The money-weighted rate of return expresses investment performance with consideration of the impact of the timing and amounts invested.

Notes to Required Supplementary Information — Pension
Fiscal Years Ending June 30, 2021 and 2020

Valuation date	June 30, 2021	June 30, 2020
Actuarial cost method	Entry age normal	Entry age normal
Actuarial assumptions:		
Investment rate of return, net of investment expense, including inflation	7.00%	7.45%
Projected salary increases	12.50% at age 20 to 2.50% at age 65	12.50% at age 20 to 2.50% at age 65
Projected payroll growth	3.00%	3.00%
Inflation assumption	2.50%	2.50%
Cost-of-living adjustments	0.00%	0.00%

The information presented in the required supplemental schedules was determined as part of the actuarial valuations for the dates indicated. See accompanying independent auditors' report.

Schedule of Changes in Employers' Net OPEB Liability (Asset)
Fiscal Years Ending June 30, 2017–2021* (in thousands)

	2021	2020	2019	2018	2017
Total OPEB liability					
Service cost	$ 284,137	$ 324,526	$ 338,776	$ 633,316	$ 225,094
Interest	167,884	174,040	164,544	320,157	277,562
Benefit changes	556,994	428,480	53,985	(3,340,847)	(1,065,891)
Difference between expected and actual experience	(116,611)	(329,525)	(7,285)	(109,227)	262,764
Changes in assumptions	130,045	(264,958)	40,616	(2,248,888)	(366,671)
Benefit payments	(340,926)	(408,683)	(489,169)	(517,470)	(489,102)
Net change in total OPEB liability	681,523	(76,120)	101,467	(5,262,959)	(1,156,244)
Total OPEB liability, beginning of year	2,139,798	2,215,918	2,114,451	7,377,410	8,533,654
Total OPEB liability, end of year	**2,821,321**	**2,139,798**	**2,215,918**	**2,114,451**	**7,377,410**
Fiduciary net OPEB position					
Retired member contributions	254,014	295,779	312,841	329,305	339,056
Employer contributions	0	0	0	0	0
Net investment income	1,121,699	140,300	244,700	328,965	440,196
Benefit payments, net of reimbursements	(340,926)	(408,683)	(404,380)	(410,273)	(486,605)
Administrative expenses	(2,344)	(2,258)	(2,352)	(2,427)	(2,496)
Net change in fiduciary net OPEB position	1,032,443	25,138	150,809	245,570	290,151
Fiduciary net OPEB position, beginning of year	3,897,296	3,872,158	3,721,349	3,475,779	3,185,628
Fiduciary net OPEB position, end of year	**4,929,739**	**3,897,296**	**3,872,158**	**3,721,349**	**3,475,779**
Net OPEB liability (asset), end of year	**$ (2,108,418)**	**$ (1,757,498)**	**$ (1,656,240)**	**$ (1,606,898)**	**$ 3,901,631**

*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.

Schedule of Employers' Net OPEB Liability (Asset)
Fiscal Years Ending June 30, 2016–2021* (dollar amounts in thousands)

Fiscal Year Ending	Total OPEB Liability	Fiduciary Net OPEB Position	Net OPEB Liability (Asset)	Ratio of Fiduciary Net OPEB Position to Total OPEB Liability	Covered Payroll	Net OPEB Liability (Asset) as a Percentage of Covered Payroll
June 30, 2016	$8,533,654	$3,185,628	$5,348,026	37.3%	$10,628,269**	50.3%
June 30, 2017	$7,377,410	$3,475,779	$3,901,631	47.1%	$10,767,964**	36.2%
June 30, 2018	$2,114,451	$3,721,349	$(1,606,898)	176.0%	$10,775,526	(14.9)%
June 30, 2019	$2,215,918	$3,872,158	$(1,656,240)	174.7%	$11,088,785	(14.9)%
June 30, 2020	$2,139,798	$3,897,296	$(1,757,498)	182.1%	$11,392,013	(15.4)%
June 30, 2021	**$2,821,321**	**$4,929,739**	**$(2,108,418)**	**174.7%**	**$11,610,016**	**(18.2)%**

*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.

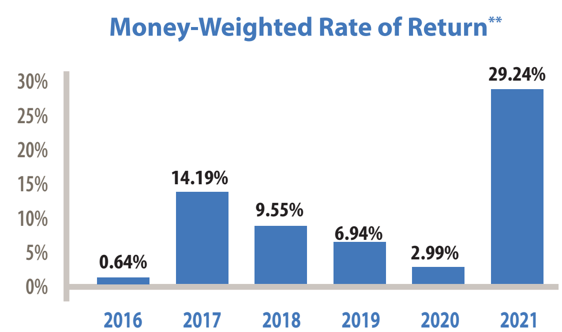
**Covered payroll was based on the prior calendar year projected forward to the fiscal year end period.

Schedule of Employers' Contributions — OPEB
Fiscal Years Ending June 30, 2017–2021* (dollar amounts in thousands)

Fiscal Year	Actuarial Determined Contribution	Employer Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2017	$239,430	$0	$239,430	$10,767,964	0.00%
2018	$0	$0	$0	$10,775,526	0.00%
2019	$0	$0	$0	$11,088,785	0.00%
2020	$0	$0	$0	$11,392,013	0.00%
2021	**$0**	**$0**	**$0**	**$11,610,016**	**0.00%**

*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.

Schedule of Investment Returns — OPEB
Fiscal Years Ending June 30, 2016–2021*



*This is a 10-year schedule — however, the information is not required to be presented retroactively. Years will be added to this schedule in future fiscal years until 10 years of information is available.

** The money-weighted rate of return expresses investment performance with consideration of the impact of the timing and amounts invested.

Notes to Required Supplementary Information — OPEB
Fiscal Years Ending June 30, 2021 and 2020

Valuation date	June 30, 2021	June 30, 2020
Measurement date	June 30, 2021	June 30, 2020
Amortization method	Level percentage of payroll	Level percentage of payroll
Actuarial cost method	Entry age normal	Entry age normal
Actuarial assumptions:		
Discount rate	7.00%	7.45%
Projected salary increases	12.50% at age 20 to 2.50% at age 65	12.50% at age 20 to 2.50% at age 65
Payroll increases	3.00%	3.00%
Trend rates	–16.18–29.98% initial; 4.00% ultimate	–6.69–11.87% initial; 4.00% ultimate

The information presented in the required supplemental schedules was determined as part of the actuarial valuations for the dates indicated. See accompanying independent auditors' report.

Schedules of Administrative Expenses
For the Years Ending June 30, 2021 and 2020

	2021	2020
Personnel		
Salaries and wages	$ 36,558,973	$ 35,765,424
Retirement contributions	4,816,003	4,770,172
Benefits	6,108,072	7,014,796
Total personnel	**47,483,047**	**47,550,392**
Professional and technical services		
Computer support services	1,320,770	988,637
Health care services	580,744	523,593
Actuary	269,457	239,579
Auditing	140,444	192,932
Defined contribution administration fees	1,010,916	971,398
Legal	161,665	238,367
Temporary employment services	1,750	50,982
Total professional and technical services	**3,485,747**	**3,205,488**
Communications		
Postage and courier services	1,147,302	1,178,261
Printing and supplies	1,277,786	1,087,890
Telephone	392,002	323,543
Total communications	**2,817,090**	**2,589,694**
Other expenses		
Equipment repairs and maintenance	6,214,821	5,620,457
Building utilities and maintenance	1,269,689	1,449,433
Transportation and travel	15,500	158,328
Recruitment fees	16,575	162,343
Depreciation	5,302,771	5,896,597
Member and staff education	20,248	130,754
Insurance	757,810	672,625
Memberships and subscriptions	157,478	126,373
Ohio Retirement Study Council	236,864	225,039
Miscellaneous	377,342	231,031
Total other expenses	**14,369,097**	**14,672,980**
Total administrative expenses	**$ 68,154,981**	**$ 68,018,554**

Note: Above amounts do not include internal investment expenses, which are deducted from investment income and shown in a separate schedule on Page 40.

See accompanying independent auditors' report.

Schedules of Internal Investment Expenses
For the Years Ending June 30, 2021 and 2020

	2021	2020
Personnel		
Salaries and wages	$ 26,656,308	$ 27,202,313
Retirement contributions	3,267,273	3,093,889
Benefits	2,837,898	2,752,055
Total personnel	**32,761,479**	**33,048,257**
Professional and technical services		
Investment research	3,057,113	2,854,360
Financial asset advisors	760,458	760,649
Custody banking fees	2,032,791	1,819,858
Investment quotation systems	2,417,883	2,377,170
Temporary employment services	0	17,579
Total professional and technical services	**8,268,245**	**7,829,616**
Other expenses		
Printing and supplies	187	1,811
Building utilities and maintenance	185,100	193,525
Travel	13,617	233,137
Staff education	2,012	7,157
Memberships and subscriptions	92,158	88,670
Miscellaneous	65,602	82,691
Total other expenses	**358,676**	**606,991**
Total internal investment expenses	**$ 41,388,401**	**$ 41,484,864**

See accompanying independent auditors' report.

Schedules of External Asset Management Fees
For the Years Ending June 30, 2021 and 2020

	2021	2020
Asset class		
Fixed income	$ 6,085,016	$ 5,970,702
Domestic equities	13,914,131	11,026,853
International equities	32,358,244	28,380,654
Real estate	19,281,840	15,092,942
Alternative investments	178,588,728	174,508,120
Total external asset management fees	**$ 250,227,959**	**$ 234,979,271**

Note: Investment-related costs associated with external asset management are reported as external asset management fees in the *Statement of Changes in Fiduciary Net Position*, if the investment-related costs are separable from investment income and expenses of the plan.

See accompanying independent auditors' report.

Investment Review

For Fiscal Year July 1, 2020, through June 30, 2021
Prepared by STRS Ohio's Investment Department Associates

Basis of Presentation

Investment fair values and performance information for STRS Ohio are presented differently in this report for various reasons, consistent with the intended purpose of the measurement. Therefore, it is important to understand the methodology used for financial reporting and performance reporting.

In both the Financial and Investments sections, unless otherwise noted, investment fair values are reported in accordance with U.S. Generally Accepted Accounting Principles to most accurately assess the financial condition as of a point in time. The primary difference between the basis for investment performance and that used for financial reporting of investment values are the categorization of the investments and differences resulting from the timing of recognition of performance for certain investments. In accordance with investment industry practices, private asset values are reported with a quarter lag. For financial reporting purposes, adjustments are made to bring valuations current to the financial report fiscal year-end. Both sets of numbers are relevant but reflect different methodologies and serve different purposes.

Performance information reported throughout the Financial and Investments sections of this report are prepared using time-weighted rates of return. Total fund net returns are reported and are net of all internal and external investment management fees and costs, including carried interest and other fund expenses. Asset class performance is gross returns, except for alternative investments and real estate where the return is net of all external investment management fees and costs, including carried interest and other fund expense. Returns for periods longer than one year are annualized. The reporting of performance information is consistent with investment industry standards and is presented in a manner consistent with such information presented by the global financial markets, other pension plans and institutional investors. This method of presentation provides timely information that facilitates comparisons to benchmarks and peer results.

Economic Environment

Following the country's 128-month record length for an economic expansion through fiscal 2020's first half, the economic turmoil resulting from COVID-19 pandemic mitigation efforts created a near-historic 31.2% annualized collapse in real gross domestic product (GDP) during fiscal 2020's final quarter. Many economists and financial market participants expected the pandemic would continue to weigh upon the economy through, at least, the early stages of fiscal 2021. However, with many of the lockdown restrictions removed during mid-May 2020, the U.S. economy skyrocketed in the first quarter of fiscal 2021 — growing an annualized 33.8% and recovering two-thirds of the lost output from the second half of fiscal 2020. Above-trend economic activity during the following three quarters of fiscal 2021 that averaged an annualized 5.8% closed the gap in the level of real GDP from its previous peak at the end of calendar 2019 and pushed the real GDP level to a new all-time high of nearly $19.4 trillion.

The rapid recovery and strength shown in the current economic expansion follows a classic V-shaped pattern — unlike the more gradual, slower U-shaped recovery following the Great Recession of 2007–2009. While that economic expansion took three-and-a-half years to register a new peak level for real GDP, the current expansion will have done so in just one-and-a-half years. With extremely stimulative fiscal and monetary policy approaches in the United States and elsewhere in the world and the widening vaccinations for COVID-19 that have opened economies around the globe, economic activity is positioned for continued robust and above-trend growth in fiscal 2022. Inflation pressures will continue to build in this environment, but slack in important sectors of the economy should prevent actual inflation from soaring well beyond the range the Federal Reserve would find acceptable for an extended period. However, the central bank by the end of calendar 2021 or in early calendar 2022, will likely taper its quantitative easing policy that helps to keep long-term interest rates lower than normal even as its main policy tool of controlling short-term interest rates will likely remain near the zero percent lower bound. Additional robust fiscal policy stimulus in the United States beyond the $5.3 trillion already appropriated since the beginning of the pandemic is also likely at some point in fiscal 2022. Taken together, the U.S. economy should continue to grow significantly above its long-term trend of roughly 2% even as that growth rate decelerates from fiscal 2021's 12.2% surge. Nearly all economic sectors should contribute to the strong economic activity with consumer spending (about 70% of the U.S. economy) growth remaining strong because of ongoing pent-up demand from the recession, solid income growth and improving employment patterns from more and more businesses returning to normal operations.

After many years of inflation growth below the Federal Reserve's policy target of 2%, the central bank has adopted a policy of promoting average inflation over time of 2%. That means they are willing to accept price inflation above 2% for some time to offset the previous periods below the target. Both the commonly known consumer price index (CPI) and the broadest inflation measure, the GDP price index, are already hitting at least the 2% target on a quarterly basis. The monthly CPI measure through the end of fiscal 2021 soared 5.3% over the prior 12 months largely due to base effects when consumer prices fell during the recession. That exaggerates the year-to-year growth rates and the effect will not subside until the economy moves deeper into fiscal 2022. The Federal Reserve refers to this swing in inflation as transitory and is looking beyond the near-term to gauge inflation later in 2022.

With the ongoing improvements in the economy, price pressures should continue to mount. However, economic slack remains large in specific areas like the labor market where, at the end of fiscal 2021, about 6.5 million fewer workers were employed relative to the end of the last economic expansion. In addition, businesses are focusing on attaining productivity gains that slow the growth in unit labor costs and help to keep prices in check. The Federal Reserve's preferred inflation measure, the personal consumption expenditures (PCE) price index, should grow notably above its target rate of 2% but measures like the Dallas Federal Reserve's trimmed-mean PCE price index that excludes volatile categories should grow marginally above the monetary policy target.

Monetary policymakers are displaying a great deal of patience with their policy actions by continuing to purchase long-term securities and holding short-term interest rates basically at zero percent. Federal Reserve policy continues to be extraordinarily aggressive by providing unmatched liquidity and monetary stimulus since the recession began in fiscal 2020. The amount of quantitative easing the Federal Reserve has conducted has nearly doubled from the level that existed prior to the pandemic recession to above $8 trillion. It is useful to recall that, prior to the Great Recession from late 2007 through mid-2009 and the first usage by the Federal Reserve of quantitative easing actions, the assets on the Federal Reserve's balance sheet were roughly $900 billion — or just 11.25% of the assets it carried at the end of fiscal 2021. Suffice it to say, quantitative easing is now a regular part of the Federal Reserve's toolkit in fighting off recessions and slow-growth periods by attempting to keep long-term interest rates lower than they would have been otherwise.

The nominal federal funds rate is the central bank's primary policy tool, allowing it to control important short-term interest rates that affect the economy's credit cycle. In the prior historically long economic expansion that followed the Great Recession, the Federal Reserve kept the nominal federal funds rate at basically zero percent for seven years. With positive inflation throughout, that drove the real federal funds rate into significantly negative territory and provided an enormous monetary stimulus to the economy. Since the pandemic recession began, negative real short-term interest rates have returned to the United States. By some estimates, the combined economic stimulus from the Federal Reserve's normal policy options and the lending capability provided to it by the federal government have amounted to a $6 trillion boost for the U.S. economy. There are already indications from among members of the Federal Reserve that tapering of the quantitative easing programs will likely come in fiscal 2022. That adjustment could lead to an end of assets being added to the Federal Reserve's balance sheet by the close of calendar 2022. Once the Federal Reserve puts that plan into action, it will likely pause after its completion before considering a change in its main policy tool — the nominal federal funds rate. That is likely to keep short-term interest rates pegged to roughly zero percent beyond fiscal 2022.

In addition to ongoing aggressive moves by Federal Reserve monetary policymakers, the federal government continues to support overall economic activity with fiscal policy actions directed at easing the effects of the pandemic mitigation efforts and, in fiscal 2022, addressing infrastructure needs of the U.S. economy. Already, the federal government has appropriated about $5.3 trillion to address the economic repercussions of the COVID-19 pandemic. In fiscal 2022, it is possible that a physical infrastructure bill will pass that could inject anywhere from $500 billion to $1 trillion into the economy over eight to 10 years. Furthermore, the Biden administration would like to appropriate additional trillions in spending on social programs in coming years. While the final packages have a long way to go before passage, economic forecasts must include the likelihood that something on the order of $2 trillion ultimately passes in fiscal 2022. If the result is roughly $2 trillion, then the combined spending by the federal government since the recession and over coming years would be about $7.25 trillion, or about a third of the current size of the nominal economy. Combined with the Federal Reserve's roughly $6 trillion impact on the economy, fiscal and monetary policymakers will have enacted unprecedented plans that compare to 60% of the U.S. economy's size. It is unclear how much and whether proposed tax increases to offset some of the spending will also be enacted in fiscal 2022. The added federal deficits and debt for the U.S. economy will matter again sometime in the future by potentially limiting economic growth with higher taxes and less spending to pay off the previous accumulated debt, but that is not the mission of policymakers today as they work to prevent another downturn from the coronavirus pandemic and address other spending needs across the economy. In the meantime, these issues should be manageable because the historically low financing costs of the rapidly growing debt is lower than the economy's potential nominal growth.

Fixed Income

Fiscal 2021 was a modest year for fixed-income market returns, as measured by the Bloomberg U.S. Universal Index*, with a return of +1.1%. Fixed income returns were driven by higher interest rates and tighter credit spreads. The highest returning sector was high yield (+15.37%), followed by emerging markets (+6.34%), investment grade corporates (+3.30%), commercial mortgage-backed securities (+2.26%), asset-backed securities (+1.34%), government related (+0.80%), mortgage-backed securities (–0.42%) and U.S. Treasuries (–3.22%). The Liquid Treasury Portfolio benchmark, the Bloomberg U.S. Intermediate Treasury Index*, had a return of –1.2% for fiscal 2021.

The STRS Ohio fixed-income asset class returned 1.16% versus the benchmark's return of 0.57%. Over the three prior fiscal years, the STRS Ohio fixed-income asset class returned an annual average of 5.59% versus the benchmark's return of 5.38%. The STRS Ohio performance over the prior five fiscal years was 3.68% versus the benchmark's 3.32%. A more complete report of STRS Ohio performance appears on Page 63.

Domestic Equities

The U.S. equity market rose for the 12th consecutive year in fiscal 2021 as the economy rebounded from the COVID-19 pandemic. The S&P 500 gained 40.8% on a total return basis, closing the year at 4297.50, a new all-time high. Returns for the year were driven primarily by earnings growth, as business prospects improved along with the global economy. S&P 500 earnings grew approximately 40% during the fiscal year. The financials, industrials and materials sectors were the market leaders, while utilities, consumer staples and real estate sectors were the worst performers.

The STRS Ohio domestic equities asset class returned 46.29% versus the Russell 3000® Index benchmark's return of 44.16%. Over the three prior fiscal years, the STRS Ohio domestic equities asset class returned an annualized 19.72% versus the benchmark's return of 18.73%. The STRS Ohio performance over the prior five fiscal years was 18.98% versus the benchmark return of 17.89%. A more complete report of STRS Ohio performance appears on Page 63.

International Equities

The international markets recorded a strong return in fiscal 2021 due to a global economic recovery supported by accommodative monetary and fiscal policies. The reacceleration of international economies from the bottom of pandemic-related recessions was combined with investor enthusiasm for the potential of further removal of restricted activity in service sectors as COVID-19 vaccination rates climbed. The MSCI World ex-US Index (50% hedged) for developed markets increased 31.1% and the MSCI EM Index for emerging markets increased 40.9% with both categories performing the strongest in the first half of the fiscal year.

All countries except one in the developed markets were able to record double-digit positive returns in U.S. dollar terms. The best performing countries were Austria (+72.3%), Sweden (+55.7%) and Norway (+51.3%). The three lowest markets were New Zealand (–4.7%), Portugal (+12.5%) and Israel (+22.5%). The U.S. dollar weakness overall against developed market currencies contributed to an enhancement in returns.

*"Bloomberg®" and the Bloomberg Indices are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL"), the administrator of the index (collectively, "Bloomberg") and have been licensed for use for certain purposes by State Teachers Retirement System of Ohio. Bloomberg is not affiliated with State Teachers Retirement System of Ohio, and Bloomberg does not approve, endorse, review, or recommend this material. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to this material.

There was more dispersion in returns for the emerging countries. The three best returns were Taiwan (+71.6%), Korea (+67.1%) and India (+57.0%). The three weakest markets were Egypt (–13.3%), Turkey (–12.4%) and Malaysia (+3.8%).

The STRS Ohio international asset class returned 34.39% versus the benchmark's return of 33.23%. Over the three prior fiscal years, the STRS Ohio international asset class returned an annualized 9.44% versus the benchmark's return of 9.66%. The STRS Ohio performance over the prior five fiscal years was 11.41% versus the benchmark's return of 11.58%. A more complete report of STRS Ohio performance appears on Page 63.

Real Estate

The total real estate benchmark return was 11.64% in fiscal 2021 compared to 0.92% in fiscal 2020. The private real estate market component provided a total return of 7.38% with the public real estate market (REITs) rebounding from a previous negative year, turning in a positive 38.02% return.

Real estate markets returned to positive appreciation in fiscal 2021 after the previous year's negative result which was caused by the first quarterly decrease in property values in nearly 10 years.

Income returns for the private market index decreased slightly by 21 basis points from 4.40% to 4.19% and, coupled with the appreciation return of 3.09%, produced a total private market index return of 7.38%. The fundamentals of real estate — supply and demand — drive long-term real estate income returns and, for the most part, continue to be in balance.

The STRS Ohio total real estate asset class returned 8.01% versus the benchmark's return of 11.64% in fiscal 2021. Over the prior three fiscal years, the STRS Ohio real estate total asset class returned an annual average return of 5.93% versus the benchmark's return of 6.55%. The STRS Ohio performance over the past five fiscal years was 6.30% versus the benchmark's 6.40%. A more complete report of STRS Ohio performance appears on Page 63.

Alternative Investments

There are two portfolios within alternative investments: private equity and opportunistic/diversified. The target allocation for private equity is 7%. The target allocation for opportunistic/diversified is 10%, resulting in a combined target neutral weight for the alternative investments asset class of 17% of total fund.

The private equity and opportunistic/diversified portfolios grew significantly because of both investment activity during the fiscal year in which capital calls marginally exceeded distributions as well as strong investment returns. Investment returns were driven by a recovery in asset prices following the COVID-19 downturn coupled with fundamental growth across the portfolio as companies either recovered from or grew through the downturn. Fiscal year returns for the Alternative Investments asset class equaled 44.99%, including 24.07% opportunistic/diversified returns and 64.48% private equity returns.

The performance of the alternative investments asset class is compared to a relative return objective or an absolute return objective. The current alternative investment blended relative return objective is in two parts by policy: private equity is the Russell 3000® Index plus 1% and opportunistic/diversified is the Russell 3000® Index minus 1%. For the five-year period ended June 30, 2021, alternative investments performance exceeded the absolute return objective but underperformed the relative return objective. Private equity portfolio performance exceeded the relative and absolute return objectives in the five-year period ended June 30, 2021; opportunistic/diversified performance exceeded the absolute return objectives in the same five-year period but underperformed the relative return objectives. A more complete report of STRS Ohio performance appears on Page 63.

Total Fund

During fiscal 2021, the STRS Ohio total fund returned 29.16% net of all fees versus the benchmark's return of 27.98%. Over the three prior fiscal years, the STRS Ohio total fund returned an annual average of 12.49% net of all fees versus the benchmark's return of 12.28%, while the total fund performance over the prior five fiscal years was 12.21% net of all fees versus the benchmark's 11.85%. During the 10 past fiscal years, the STRS Ohio total fund returned an annual average of 9.84% net of all fees versus the benchmark's return of 9.75%. A more complete report of STRS Ohio total fund performance appears on Page 63.

Statement of Investment Objectives and Policy

Effective March 18, 2021

1.0 Purpose

1.1 The State Teachers Retirement System of Ohio ("STRS Ohio") was established for the benefit of the teachers of the public schools of the State of Ohio. STRS Ohio is dedicated to partnering with STRS Ohio members to provide financial performance and member service to help build financial security for current and future retirees.

1.2 The State Teachers Retirement Board of Ohio (the "Board") is vested with the operation and management of the State Teachers Retirement System of Ohio ("STRS Ohio") (ORC Section 3307.04). The Board has the full power to invest the assets (the "Fund") of STRS Ohio (ORC Section 3307.15). The Board is required to ". . . adopt in a regular meeting, policies, objectives or criteria for the operation of the investment program . . ." (ORC Section 3307.15).

1.3 To fulfill the statutory requirement of ORC Section 3307.15, the Board has adopted this Statement of Investment Objectives and Policies (the "Statement") to govern the investment of the Fund. This Statement summarizes the objectives and policies for the investment of the Fund.

1.4 The Board has approved these objectives and policies after careful consideration of STRS Ohio benefit provisions, and the implications of alternative objectives and policies.

1.5 The Statement has been prepared with five audiences in mind: incumbent, new and prospective Board members; STRS Ohio investment staff; STRS Ohio active and retired members; the Ohio General Assembly and Governor; and agents engaged by the Board to manage and administer the Fund.

1.6 The Board regularly, but in no event less than annually, will assess the continued suitability of this Statement, initiate change as necessary and update this Statement accordingly.

1.7 The Board may authorize its administrative officers and committees to act for it in accord with its policies (ORC Sections 3307.04 and 3307.15). The Board, no less frequently than annually, adopts a resolution delegating to the Executive Director and the Deputy Executive Director — Investments the authority to acquire, dispose, operate and manage the assets of the Fund, subject to the Board's policies and to subsequent approval by the Board. Consequently, the Executive Director, the Deputy Executive Director — Investments and the investment staff are responsible for preparing and maintaining numerous supporting management documents that govern the implementation of Board policies, including, but not limited to, individual investment manager mandates and guidelines, agent agreements and limited partnership documents.

1.8 In carrying out the operation and management of STRS Ohio, the Board, the Executive Director, his/her investment staff and others that are considered fiduciaries as defined in ORC Section 3307.01(K) are subject to various fiduciary responsibilities in ORC Chapter 3307, including those found in ORC Sections 3307.15, 3307.151, 3307.181 and 3307.18. This Statement incorporates, and is subject to, all of the provisions of ORC Chapter 3307.

1.9 The Board acknowledges its responsibilities under ORC Chapter 3307 and to the extent that this Statement is inconsistent with ORC Chapter 3307, Chapter 3307 shall control.

1.95 The Board approved this Statement on March 18, 2021.

2.0 Investment Objective

2.1 Subject to the Ohio Revised Code, the investment objectives for the total fund are:

(a) to earn, over moving 30-year periods, an annualized return that equals or exceeds the actuarial rate of return (ARR) approved by the Board to value STRS Ohio liabilities. The current actuarial rate of return is 7.45%;

(b) to earn a rate of return that equals or exceeds the System's long-term policy index with an acceptable level of risk; and

(c) maintain sufficient liquidity to satisfy cash flow needs.

2.2 The Board believes, based on the assumptions in this Statement, that the investment policies summarized in this Statement will achieve this long-term actuarial objective at an acceptable level of risk. The Board evaluates risk in terms of the probability of not achieving the ARR over a 30-year time horizon.

3.0 Key Document Policy

To assist the Board and the investment staff, the following key documents will be produced or reviewed according to the schedule in Exhibit 1.

Exhibit 1: Key Document Schedule

Key Document	Document Source	Review Schedule
Quarterly Performance Review	Board Consultant	Quarterly
Statement of Investment Objectives and Policy/ Fund Governance	STRS Ohio Investment Staff/ Reviewed by Board Consultant	Annually
Annual Plan (Includes Risk Budget)	STRS Ohio Investment Staff/ Reviewed by Board Consultant	Annually
Actuarial Study	Actuary/STRS Ohio Finance Department	Annually
Asset/Liability Study and Experience Review	STRS Ohio Investment Staff/ STRS Ohio Senior Staff/Board Consultant/Actuary/Board	At least once in every quinquennial period

4.0 Asset Mix Policy, Risk Diversification and Return Expectations

4.1 After careful consideration of the investment objectives, liability structure, funded status and liquidity needs of STRS Ohio, and the return, risk and risk-diversifying characteristics of different asset classes, the Board approved the asset mix policy presented in Exhibit 2 (below). The exhibit also summarizes the Board's return expectations for the asset mix policy and active management.

4.2 Fifty-eight percent of the Fund is targeted for investment in equities, inclusive of domestic, international and private equity investments. Equity investments have provided the highest returns over long time periods, but can produce low and even negative returns over shorter periods.

4.3 The probability of low or negative returns over shorter time periods makes 100% equity policies unsuitable for most pension funds, including STRS Ohio. By investing across multiple equity asset classes, and in lower return but lower volatility fixed-income and real estate, the Board is managing and diversifying total fund risk.

4.4 Forecasts of capital market and active management returns undertaken by the Board's investment consultant indicate that the Board's asset allocation summarized in Exhibit 2 has an expected 10-year annualized return of 6.84% (without net value added). Over a 30-year period, the Board's investment consultant indicates that this asset mix should generate a return above the actuarial rate of return, without net value added by management.

Exhibit 2: Asset Mix Policy and Return Expectations for STRS Ohio Total Fund

Asset Class	Target Allocation	Rebalancing Range	Expected 10-Year Policy Returns[1]	Expected Management Net Returns[2]	Expected Total Return
Equity					
Domestic	**28%**	**23–33%**	**7.35%**	**0.25%**	**7.60%**
International	**23%**	**18–28%**	**7.55%**	**1.00%**	**8.55%**
Alternatives	**17%[4]**	**10–22%[4]**	**7.09%**		**7.09%**
Private Equity	7%[4]	4–10%[4]	8.15%		8.15%
Opportunistic/Diversified	10%[4]	6–14%[4]	6.35%		6.35%
Fixed Income	**21%**	**12–28%**	**3.00%**	**0.35%**	**3.35%**
Core	16%	12–21%			
Liquid Treasury	5%	0–7%			
Real Estate	**10%**	**6–13%**	**6.00%**	**1.00%**	**7.00%**
Liquidity Reserve	**1%**	**0–5%**	**2.25%**		**2.25%**
Total Fund	**100%**		**6.84%**	**0.40%**	**7.24%[3]**

[1]The expected 10-year policy returns are based on the investment consultant's capital market assumptions in the 2017 asset-liability study for each asset class and total fund.

[2]Individual asset class returns (except real estate and alternative investments) are gross value added. The total fund is net of all investment management costs, and real estate and alternative investments is net of all external management fees and costs including carried interest and other fund expenses.

[3]The 10-year total fund return forecast is 7.24% per year, which includes the expected net value added by management and is based on the asset mix policy.

[4]The Private Equity and Opportunistic Diversified target weights and rebalancing ranges are only meant to be general guidelines; the official target weight and rebalancing range is at the total alternative investment asset class level.

4.5 From the 2017 Asset-Liability Study, the 6.84% expected asset mix 10-year policy return was developed with reference to the observed long-term relationships among major asset classes. The Board believes this return expectation is reasonable, but recognizes that the actual 10-year asset mix policy return can deviate significantly from this expectation — both positively and negatively. The volatility level associated with this asset mix is approximately 14.46%.

4.6 Fund assets are invested using a combination of passive and active management strategies. Passive management reduces both the possibility for underperformance and the opportunities of outperformance. Active management is expected to earn net 0.40% per annum of additional returns over moving five-year periods. The Board recognizes that unsuccessful active management can reduce total fund returns.

4.7 The STRS Ohio total fund policy return (blended benchmark) is 28% Russell 3000, 23% International Blended Benchmark, 21% Fixed Income Blended Benchmark, 10% Real Estate Blended Benchmark, 17% Alternative Investments actual return and 1% 90 day Treasury Bill as of July 1, 2019. Beginning July 1, 2021 the STRS Ohio total fund policy return (blended benchmark) is 28% Russell 3000, 23% International Blended Benchmark, 21% Fixed Income Blended Benchmark, 10% Real Estate Blended Benchmark, 17% Alternative Investments Blended Benchmark and 1% 90 day Treasury Bill. Investment objectives and guidelines for individual asset classes have been approved by the Board and are summarized in the following sections.

4.8 Liquidity reserves are kept at a minimum level, but sufficient to cover the short-term cash flow needs. STRS Ohio investment staff may utilize a derivative overlay to maintain the liquidity reserve level at 1%.

4.9 The Board reviews at least annually its expectations for asset class and active management performance, and assesses how the updated expectations affect the probability that the Fund will achieve the established investment objectives.

5.0 Rebalancing

5.1 Exposures to selected asset classes are actively managed within the rebalancing ranges specified in Exhibit 2. Rebalancing ensures that the Fund's actual asset allocation remains close to the target asset mix policy.

5.2 The Fund's actual asset mix is monitored at least monthly relative to established asset allocation policy targets and ranges. The timing and magnitude of rebalancing are decided with due consideration to the liquidity of the investments and the associated transaction costs.

5.3 In its Annual Investment Plan prepared for the Board, staff explains how it is managing asset class exposures based on short- and intermediate-term capital market forecasts.

5.4 The impact of rebalancing decisions on total fund returns is included in investment performance reports to the Board.

6.0 Passive and Active Management Within Risk Budgets

6.1 STRS Ohio investment staff has been delegated the responsibility for managing the Fund's exposure to passive and active investment strategies, subject to the constraint that active risk does not exceed Board-approved target risk budgets for the total fund and individual asset classes. Active risk will be evaluated compared to risk budgets on an ex-ante basis.

6.2 The Board has approved a target risk budget of 0.60% to 1.20%, with a working range of 0.20% to 1.60%, annualized active management for the total fund. In exchange for assuming this level of active risk, the Board expects active management to add net 0.40% of annualized excess return over moving five-year periods to judge its effectiveness.

6.3 The Board realizes that actual active management returns will likely be above or below the net 0.40% target over any five-year moving period, and therefore will evaluate the success of STRS Ohio active management program within this context. The Board recognizes that any amount of management return in excess of the associated investment costs improves the security of STRS Ohio plan members.

6.4 Passive management uses low cost index funds to access the return streams available from the world's capital markets. Index funds control costs, are useful tools for evaluating active management strategies, capture exposure to the more efficient markets and facilitate rebalancing to the asset mix policy.

6.5 Active management is expected to earn higher returns than those available from index funds by making value-added security selection and asset mix timing decisions. Unsuccessful active management results in below index fund returns.

6.6 Because there are no index fund products for private real estate and alternative investments, these assets must be actively managed. Active versus passive decisions in all asset classes are based upon using the best available information.

7.0 Global Equities — Domestic

7.1 Domestic equity is being managed relative to a Board-approved risk budget range of 0.20% to 1.50%, and is expected to earn at least 0.25% of annualized excess return above the Russell 3000® Index over moving five-year periods.

7.2 Key elements of the strategy:

(a) The portfolio's active management adds value primarily through security selection. Sector tilts by style, economic sectors or market capitalization are managed in accordance with the risk budget for domestic equities.

(b) The portfolio utilizes a variety of portfolio management approaches including quantitative and fundamental techniques to diversify the source of excess return.

(c) The portfolio utilizes a combination of internal and external management, utilizing multiple internal portfolio managers and multiple external manager firms to improve the likelihood of achieving excess returns, to diversify risk and to control costs.

7.3 Short sales may be used in the management of STRS Ohio domestic equity portfolios, but may not exceed 10% of the value of the asset class.

8.0 Global Equities — International

8.1 International equity is being managed relative to a Board-approved risk budget range of 0.60% to 2.50%, and is expected to earn at least 1.00% of annualized excess return above a blended benchmark of 80% MSCI World ex US Index-Net (50% hedged currency) and 20% MSCI Emerging Markets Index-Net over moving five-year periods.

8.2 Key elements of the strategy:

(a) The portfolio's active management adds value primarily through security selection and country allocation decisions. These decisions have been shown to be the principal sources of the excess return in international equity portfolios. Managers also have the ability to add value through currency management.

(b) The portfolio uses a variety of portfolio management approaches including quantitative and fundamental techniques to diversify the source of excess return.

(c) Aggregate exposures to countries, currencies, equity styles and market capitalization are monitored and managed relative to their benchmark exposures.

(d) The portfolio utilizes a combination of internal and external management, with multiple internal portfolio managers and multiple external manager firms to improve the likelihood of achieving excess returns, to diversify risk and to control costs.

(e) STRS Ohio utilizes a 50% hedged benchmark on the developed markets portfolios in order to reduce the overall exposure to currency volatility. With a 50% hedged benchmark, all developed market portfolios are generally hedged around the 50% benchmark level. Active currency positions are taken from time to time in some portfolios at the managers' discretion. This is generally limited to 10 percentage points under or over hedged around the benchmark for the total internal developed portfolios. Three-month currency forwards are the investment instrument generally used for hedges.

8.3 Short sales may be used in the management of STRS Ohio international equity portfolios, but may not exceed 10% of the value of the asset class.

9.0 Fixed Income

9.1 Core Fixed Income Portfolio is being managed relative to a Board-approved risk budget range of 0.10% to 1.50%, and is expected to earn at least 0.35% of annualized excess returns above the Bloomberg U.S. Universal Index over moving five-year periods.

9.2 Core Fixed Income Portfolio is actively managed because active management is generally low cost and market opportunities exist for skilled managers to generate excess returns.

9.3 Key elements of the Core Fixed Income Portfolio strategy:

(a) The portfolio will primarily be managed internally, with multiple external managers utilized in specialized segments of the market such as high yield and emerging market debt.

(b) The portfolio will emphasize issue selection, credit analysis, sector allocations and duration management.

(c) Aggregate exposures to duration, credit and sectors are monitored and managed relative to corresponding exposures in the asset class benchmark.

9.4 Liquid Treasury Portfolio is expected to be managed within a risk budget range of 0.00% to 0.25% during normal market conditions, but will have a Board-approved risk budget range of 0.00% to 1.00%. At times, it may be prudent to manage the portfolio to the upper end of the Board-approved risk budget range to accommodate the liquidity needs of the total fund. Returns are expected to track or slightly exceed the annualized returns of the Bloomberg U.S. Intermediate Treasury Index over moving five-year periods.

9.5 The marketability of this portfolio will remain high to maintain substantial flexibility in meeting the liquidity needs of the total fund including benefit payments, asset allocation rebalancing and diversification.

9.6 Key elements of the Liquid Treasury Portfolio strategy:

(a) The portfolio is internally managed because internal management is generally low cost and provides greater control over the timing of investment decisions in order to meet the rebalancing and cash flow needs of the total fund.

(b) The portfolio will emphasize liquidity, issue selection and minimize transaction costs through achievement of efficient trade execution.

(c) Exposures to duration, credit and sectors are monitored and managed relative to the portfolio benchmark and characteristics.

9.7 Short sales may be used in the management of STRS Ohio fixed-income portfolios, but may not exceed 10% of the value of the asset class.

9.8 The Total Fund Blended Benchmark incorporates the Fixed Income Blended Benchmark which consists of the actual Core Fixed Income Portfolio weight multiplied by the Bloomberg Barclays U.S. Universal Index plus the actual weight of the Liquid Treasury Portfolio multiplied by the Bloomberg Barclays U.S. Intermediate Treasury Index.

10.0 Real Estate

10.1 Real estate investments are being managed relative to a Board-approved risk budget range of 2.00% to 7.00%, and are expected to earn at least 1.00% of annualized excess returns above a blended benchmark over moving five-year periods. The Real Estate Blended Benchmark is 85% NCREIF Property Index and 15% FTSE NAREIT Equity REITs Index.

10.2 Key elements of the strategy:

(a) Eighty-five percent of Real Estate is actively managed. The portfolio is primarily managed internally, with direct property investments representing most of the portfolio. External Managers are used primarily for specialized segments of the market. Risk is diversified by investing across major property types and geographic areas.

(b) Leverage of up to and including 50%, in aggregate, is permitted for internally managed assets (excluding REITs).

(c) Publicly traded REITs are passively and actively managed and targeted at 15% of the real estate portfolio to enhance liquidity and diversification.

(d) Non-core real estate investments are limited to 20% of the real estate portfolio. Investment strategies will be characterized as "opportunistic" based on the market conditions prevailing at the time of investment.

10.3 Short sales may be used in the management of REITs, but may not exceed 10% of the value of the asset class.

11.0 Alternative Investments (Private Equity and Opportunistic/Diversified)

11.1 Alternative investments involve separate allocations to private equity (7%) and opportunistic/diversified investments (10%) totaling 17%. The Alternative Investment asset class is being managed to exceed private market benchmarks. The Alternative Investment Blended Benchmark consists of the Private Equity Benchmark multiplied by 41.2% plus the Opportunistic/diversified Blended Benchmark multiplied by 58.8%..

11.2 Private equity investments are being managed to exceed a private market benchmark over moving 5-year periods. The Private Equity Benchmark is the Cambridge Associates Private Equity and Venture Capital Index one quarter lagged to be consistent with external fund reporting. Private equity investments are traded infrequently and, therefore, risk budget concepts are not applicable.

11.3 Key elements of the private equity strategy:

(a) Private equity investments are 100% actively managed.

(b) Private equity risk is diversified by investing across different types of investments including, but not limited to, venture capital, leverage buyouts, mezzanine debt or distressed debt. Private equity investments may be made directly, through funds, fund-of-funds or as co-investments.

(c) Private equity risk is also diversified by investing across vintage years, industry sectors, investment size, development stage and geography.

(d) Private equity investments are managed by general partners with good deal flow, specialized areas of expertise, established or promising net of fees track records and fully disclosed and verifiable management procedures.

11.4 Opportunistic/diversified investments are being managed to exceed a blend of private market benchmarks over moving 5-year periods. Investments in this category can be liquid or illiquid and, therefore, risk budget concepts are not applicable.

11.5 The Opportunistic/diversified blended benchmark consists of the actual Opportunistic Investments Portfolio weight multiplied by the Cambridge Associates Private Credit Index one quarter lagged to be consistent with external fund reporting plus the actual weight of the Diversified Investments Portfolio multiplied by the HFRI Fund of Funds Composite Index, which is a monthly index where subsequent revisions will be reflected in the following period.

11.6 Key elements of the opportunistic/diversified strategy:

(a) Opportunistic/diversified investments are tactical in nature and typically are actively managed.

(b) Downside protection during equity bear markets can be achieved and asset class risk is diversified by investing across different types of opportunistic/diversified investments.

(c) Opportunistic/diversified investments may be made directly, through funds, fund-of-funds or as co-investments.

12.0 Derivatives

12.1 Derivatives may be used in the management of STRS Ohio total fund, including all asset classes. Derivatives are typically, but not exclusively, futures contracts, equity swaps, credit default swaps, option contracts and option contracts on futures for market indexes. Options on individual securities, baskets of securities and equity-linked notes, and shorting for positioning purposes are further examples. Derivatives are both exchange traded and traded over the counter.

12.2 Derivative exposures must be of a hedging or positioning nature. As a percentage of total fund assets, the underlying exposure of all positioning derivatives will not exceed:

(a) 5% for fixed-income investments;

(b) 10% for domestic equity investments;

(c) 10% for international equity investments; and

(d) 1% for real estate investments.

(e) 10% for alternative investments

Hedging derivatives will not be included in the limits above, but must be disclosed in the semi-annual derivative exposure report.

12.3 Any use of leverage will adhere to asset allocation restrictions and asset class active management risk budget constraints.

13.0 Proxy Voting

13.1 Common stock proxies are valuable and should be voted in the best interest of STRS Ohio active and retired members.

13.2 The Board shall maintain stock proxy voting policies and has directed STRS Ohio investment staff and the proxy voting agents to use these policies as guidelines for voting common stock proxies held by the Fund.

14.0 Ohio Investments

14.1 The Board will give due consideration to investments that enhance the general welfare of the State of Ohio and its citizens provided that assets are invested in the best interest of STRS Ohio active and retired members. Preference will be given to Ohio investments offering competitive returns at risk levels comparable to similar investments currently available to the Board.

14.2 STRS Ohio investment staff shall maintain and implement an Ohio Investment Plan. The plan shall set forth procedures to assure that a special effort will be made by the investment staff to examine and evaluate all legal investment opportunities in the state and, where policy criteria are satisfied, to acquire such investments.

15.0 Broker-Dealers

15.1 Purchases and sales of publicly traded securities shall be executed with broker-dealers from a list reviewed by the Board. In those rare situations where best execution cannot be achieved through a broker-dealer on the list, the Deputy Executive Director — Investments may approve the use of a broker-dealer not on the list.

15.2 Selection shall be based on an evaluation by the STRS Ohio investment staff as to financial soundness, underwriting capabilities, research services, execution capabilities and other factors required by the staff to fulfill its assigned investment responsibilities.

15.3 Specific transactions will be directed to the broker on that list most capable of providing brokerage services necessary to obtain both the best available price and the most favorable execution.

15.4 The Board shall give equal consideration to smaller Ohio-headquartered broker-dealers or smaller broker-dealers with at least one Ohio office and broker-dealers owned and controlled by minorities and/or women, provided the assets are transacted in the best interest of STRS Ohio members.

15.5 The Board has a goal to increase the use of Ohio-qualified broker-dealers for the execution of domestic equity and fixed-income securities transactions, when the services that Ohio-qualified broker-dealers provide are equal in quality, cost, scope and execution capabilities to all broker-dealers approved to transact securities transactions on behalf of the Board.

15.6 Each firm listed shall file with the Board on an annual basis such evidence of financial responsibility as required by the Board. This information shall include, but not be limited to, an audited financial statement.

15.7 When stocks are purchased during underwriting, allocations may be made to dealers not on the approved list provided the managing underwriter is so listed.

15.8 When entering into real estate transactions, the Board shall give equal consideration to Ohio firms providing associated professional services, minority-owned and controlled firms, and firms owned and controlled by women.

16.0 Securities Lending

The Board may operate a securities lending program to enhance the income of the Fund. The program must be operated by a bank trustee who follows the custodial requirements of the Treasurer of the State of Ohio and each security lent must be fully collateralized. Results of the program must be reported to the Board annually.

17.0 Securities Litigation

Involvement in securities litigation is an important responsibility for institutional investors with major public market exposure. The Board shall maintain a policy to determine the appropriate action to be taken when class action litigation is initiated against a company that generates a significant loss for the Board during the class period.

18.0 Security Valuation

Valuation of investments shall be the total of:

(a) The primary closing price on the principal registered stock exchange for all equity securities so listed.

(b) The official closing price as reflected by either the OTCBB (Over the Counter Bulletin Board) or the OTC Markets Group for equity securities not listed on a registered stock exchange.

(c) The current value as determined by a qualified independent service for all bonds, notes and certificates of indebtedness, including accrued income.

(d) Amortized cost for commercial paper, certificates of deposit and repurchase agreements.

(e) Each internally managed real estate property initially valued at acquisitional price. Subsequent valuations completed internally or externally as outlined in the Real Estate Valuation Policy Manual. Full, self-contained appraisals completed by an independent external appraiser no less than every third year.

(f) The most recent external manager valuations for alternative investments and externally managed real estate updated to include current capital activity.

(g) International equity and external fixed income investments are valued by the subcustodian using relevant closing market prices and exchange rates and including accrued income for fixed income investments.

(h) Each internally managed alternative investment initially valued at acquisition price. Subsequent valuations completed internally as outlined in the Alternative Investments Valuation Policy Manual.

19.0 Performance Monitoring and Evaluation

19.1 The Board and its agents use a variety of compliance, verification and performance measurement tools to monitor, measure and evaluate how well STRS Ohio assets are being managed. Monitoring, reporting and evaluation frequencies range from live real time performance, to daily, weekly, monthly, quarterly and annualized performance for periods up to 20 years.

19.2 The Board has developed a performance monitoring and evaluation system that answers two fundamental fiduciary questions:

(a) Are the assets being prudently managed? More specifically, are assets being managed in accordance with established laws, policies and procedures, and are individual investment managers in compliance with their mandates?

(b) Are the assets being profitably managed? More specifically, has performance affected benefit security, has capital market risk been rewarded and has active management risk been rewarded?

19.3 If there is a deviation from Board policies, STRS Ohio investment staff is required to provide the Board with a report explaining how the deviation was discovered, the reasons for the deviation, the impact on Fund performance, if any, and steps taken to mitigate future occurrences.

19.4 Exhibit 3 is an example of one of many reports used by the Board to monitor and evaluate performance of the total fund. Panel one indicates whether the total fund return exceeded the actuarial rate of return. Panel two indicates whether the Fund was rewarded for investing in the capital markets. Panel three indicates whether active management added or detracted from returns.

19.5 Additional reports provide the Board with a multi-level view of investment activities at different levels and over different time horizons. These include:

(a) Performance of the total fund;

(b) Performance of individual asset class strategies;

(c) Performance of internally and externally managed portfolios; and

(d) Performance of individual external managers.

Exhibit 3: EXAMPLE Total Fund Trustee Summary Report, as of June 30, 2020

Experienced Returns	Annualized Rates of Return				
	1 Year	3 Years	5 Years	10 Years	20 Years
Have returns affected funded ratio?					
1. Total fund return*	3.14%	6.58%	6.91%	9.39%	6.15%
2. Actuarial discount rate	7.45%	7.45%	7.57%	7.71%	7.82%
3. Relative performance (1–2)	–4.31%	–0.87%	–0.66%	1.68%	–1.68%
Has plan been rewarded for capital market risk?					
4. Total fund blended benchmark return*	3.07%	6.41%	6.60%	9.26%	5.94%
5. Minimum risk/high opportunity cost policy of 91-day T-Bills	1.63%	1.77%	1.19%	0.64%	1.54%
6. Impact of asset mix policy (4–5)	1.44%	4.64%	5.41%	8.62%	4.40%
Has plan been rewarded for active management risk?					
7. Active management return (1–4)*	0.07%	0.17%	0.31%	0.13%	0.20%
8. Net active management return estimated**	–0.06%	0.03%	0.17%	0.00%	0.08%

* Gross returns, except for alternative investments and real estate where the return is net of all external investment management fees and costs, including carried interest and other fund expenses.

** Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses.

The STRS Ohio real estate return includes the use of leverage.

The STRS Ohio total fund policy return (blended benchmark) is 28% Russell 3000, 23% International Blended Benchmark, 21% Fixed Income Blended Benchmark, 10% Real Estate Blended Benchmark, 17% Alternative Investments actual returns and 1% 90 day Treasury Bill as of July 1, 2021.

Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, "Barclays"), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.

The Russell Indices are a trademark of FTSE International Limited (FTSE) and Frank Russell Company (Russell) and their respective subsidiary undertakings, which are members of the London Stock Exchange Group plc group.

Statement of Fund Governance

Effective March 18, 2021

1.0 Purpose

1.1 This Statement of Fund Governance (the "Statement") summarizes the governance structure established by the Board of the State Teachers Retirement Board of Ohio (the "Board") to ensure the prudent, effective and efficient management of the assets of the State Teachers Retirement System of Ohio ("STRS Ohio").

1.2 The fund governance structure was approved by the Board after careful consideration of alternative approaches to governing a very large and growing pension fund within an increasingly complex financial and investment environment.

1.3 The Statement has been prepared with five audiences in mind: incumbent, new and prospective Board members; STRS Ohio investment staff; STRS Ohio active and retired members; the Ohio General Assembly and Governor; and agents engaged by the Board to manage, administer or advise on STRS Ohio's assets ("Fund").

1.4 The Statement summarizes more detailed policy and procedure documents prepared and maintained by STRS Ohio investment staff, and numerous other documents that govern the day-to-day management of STRS Ohio assets.

1.5 The Board regularly assesses the continued suitability of the STRS Ohio fund governance structure, initiates change as necessary and updates this Statement accordingly.

1.6 The Board may authorize its administrative officers and committees to act for it in accord with its policies (Ohio Revised Code [ORC] Sections 3307.04 and 3307.15). The Board, no less frequently than annually, adopts a resolution delegating to the Executive Director and the Deputy Executive Director — Investments the authority to acquire, dispose, operate and manage the assets of the Fund, subject to the Board's policies and to subsequent approval by the Board.

1.7 In carrying out the operation and management of STRS Ohio, the Board, the Executive Director, the investment staff and others that are considered fiduciaries as defined in ORC Section 3307.01(K) are subject to various fiduciary responsibilities in ORC Chapter 3307, including those found in ORC Sections 3307.15, 3307.151, 3307.18 and 3307.181. This Statement incorporates, and is subject to, all of the provisions of ORC Chapter 3307.

1.8 The Board acknowledges its responsibilities under ORC Chapter 3307 and to the extent that this Statement is inconsistent with ORC Chapter 3307, Chapter 3307 shall control.

1.9 The Board approved this Statement on March 18, 2021.

2.0 Governance Principles

2.1 Three principles guided the Board's development of the STRS Ohio fund governance structure:

(a) As STRS Ohio governing fiduciary, the Board is ultimately accountable for all investment decisions. Section 3307.15 of the Ohio Revised Code (the "Code") vests the investment function in the Board and requires the Board to ". . . adopt, in regular meetings, policies, objectives, or criteria for the operation of the investment program . . ." Section 3307.15 of the Code sets forth the fiduciary responsibility of the Board in discharging its duties with respect to the fund.

(b) To ensure STRS Ohio assets are prudently, profitably and efficiently managed on a day-to-day basis, the Board needs to delegate the management and implementation of Board investment policies to qualified managing and operating fiduciaries. Sections 3307.04 and 3307.15 of the Code empower the Board to authorize its committees and administrative officers to act for it in accord with Board policies. The fiduciary responsibility of Board delegates in discharging their duties with respect to the fund is specified in Section 3307.15.

(c) To ensure effective oversight of delegates, the Board requires informative and timely performance reports that reveal if managing and operating fiduciaries have complied with established policies, and indicate how assets under their care have performed relative to Board-approved investment objectives.

3.0 Investment Decisions Retained by the Board

3.1 The Board approves the following investment policies:

(a) Statement of Investment Objectives and Policy, which includes the following:

(i) Total fund risk and return objectives;

(ii) Total fund target asset mix policy;

(iii) Total fund asset mix policy rebalancing ranges;

(iv) Active management risk and return objectives at the total fund and asset class levels; and

(v) Performance measurement criteria and evaluation standards.

(b) Proxy voting;

(c) Ohio investments;

(d) Securities lending;

(e) Broker-dealer selection criteria and procedures;

(f) Ohio-qualified investment managers and brokers; and

(g) Securities litigation.

3.2 Before approving or amending policy decisions, the Board seeks advice, guidance and recommendations from STRS Ohio investment staff, Board-retained investment consultants, and other experts or sources as considered prudent by the Board.

4.0 Investment Decisions Delegated to Investment Staff

4.1 The Board, through the Executive Director, has delegated to qualified STRS Ohio investment staff the following investment management and implementation decisions:

(a) Buying, selling, managing and monitoring individual securities, real assets and/or other investment transactions to achieve the total fund and asset class investment objectives approved by the Board;

(b) Retaining, managing and terminating external investment managers within each asset class as required to achieve the total fund and asset class investment objectives approved by the Board;

(c) Ensuring total fund, asset class and individual manager portfolios comply with established parameters and risk levels; and

(d) Preparing, negotiating and executing external investment manager mandates, guidelines and fee agreements.

4.2 In making these decisions, STRS Ohio investment staff seeks the advice, guidance and recommendations of Board-retained investment consultants, external investment managers, and other experts and sources as considered prudent by STRS Ohio staff.

5.0 Board Oversight

5.1 The Board requires investment staff to prepare and deliver an Annual Investment Plan that explains how STRS Ohio assets will be managed in order to achieve the Board-established investment objectives. This provides the Board a focused opportunity to:

(a) Question and comment on staff's investment management plans;

(b) Request additional information and support about staff's investment intentions; and

(c) Express its confidence in the Annual Investment Plan.

5.2 The Board meets at least quarterly to assess how assets are being managed relative to the Annual Investment Plan, to monitor and evaluate investment performance relative to objectives and to address other investments issues as are warranted.

5.3 The Board approves the criteria and standards for monitoring and evaluating the impact different investment decisions have on total fund, asset class and manager-level performance. Performance is monitored and evaluated with respect to risk and return objectives established by the Board.

(a) Investment risks are monitored and evaluated quarterly by comparing total fund and asset class risk characteristics relative to suitable benchmarks.

(b) Investment returns are monitored monthly and evaluated quarterly by comparing total fund and asset class returns relative to suitable benchmarks.

5.4 Before approving or amending the criteria for monitoring and evaluating investment decisions, the Board seeks advice, guidance and recommendations from STRS Ohio investment staff, Board-retained investment consultants, and other experts and sources as considered prudent by the Board.

ACA™

Verification and Performance Examination Report

State Teachers Retirement System of Ohio
275 E. Broad Street
Columbus, OH 43215-3771

We have verified whether State Teachers Retirement System of Ohio (the "Asset Owner") has, for the periods from July 1, 2006 through June 30, 2021, established policies and procedures for complying with the Global Investment Performance Standards (GIPS®) related to composite and total fund maintenance and the calculation, presentation, and distribution of performance that are designed in compliance with the GIPS standards, as well as whether these policies and procedures have been implemented on an asset owner-wide basis. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein. We have also examined the Asset Owner's Total Fund for the periods from July 1, 2006 through June 30, 2021.

The Asset Owner's management is responsible for its claim of compliance with the GIPS standards, the design and implementation of its policies and procedures, and for the accompanying Total Fund's GIPS asset owner report. Our responsibilities are to be independent from the Asset Owner and to express an opinion based on our verification and performance examination. We conducted this verification and performance examination in accordance with the required verification and performance examination procedures of the GIPS standards, which includes testing performed on a sample basis. We also conducted such other procedures as we considered necessary in the circumstances.

In our opinion, for the periods from July 1, 2006 through June 30, 2021, the Asset Owner's policies and procedures for complying with the GIPS standards related to composite and total fund maintenance, as well as the calculation, presentation, and distribution of performance, have been, in all material respects:

- Designed in compliance with the GIPS standards, and
- Implemented on an asset owner-wide basis.

Also, in our opinion, the Asset Owner has, in all material respects:

- Constructed the Total Fund and calculated the Total Fund's performance for the periods from July 1, 2006 through June 30, 2021 in compliance with the GIPS standards; and
- Prepared and presented the accompanying Total Fund's GIPS asset owner report for the periods from July 1, 2011 through June 30, 2021 in compliance with the GIPS standards.
- Calculated and presented the Supplemental Information included in the accompanying Total Fund's GIPS asset owner report for the periods from July 1, 2020 through June 30, 2021 in compliance with the GIPS standards.

This report does not relate to or provide assurance on any specific performance report of the Asset Owner other than the Asset Owner's accompanying Total Fund GIPS asset owner report, or on the operating effectiveness of the Asset Owner's controls or policies and procedures for complying with the GIPS standards.

ACA Group

ACA Group, Performance Services Division
August 23, 2021

ACA Group, 1370 Broadway, 12th Floor New York, NY 10018
Phone: (212) 951-1030 www.acaglobal.com

State Teachers Retirement System of Ohio
Total Fund
July 1, 2011 through June 30, 2021

Total Fund as of June 30

Fiscal Year	Gross Return (%)	Net Return (%)	Benchmark Return (%)	% of Externally-Managed Assets (%)	Total Composite Assets ($ millions)
2021	29.28	29.16	27.98	34	94,832
2020	3.14	3.01	3.07	31	77,080
2019	7.13	6.99	7.30	30	78,851
2018	9.57	9.43	8.94	30	77,750
2017	14.29	14.15	13.52	29	75,060
2016	0.92	0.78	0.67	30	69,861
2015	5.45	5.33	5.08	28	74,173
2014	16.83	16.71	17.53	28	74,812
2013	13.66	13.54	14.17	25	67,982
2012	2.34	2.23	2.05	25	63,802

State Teachers Retirement System of Ohio ("STRS Ohio") claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. State Teachers Retirement System of Ohio ("STRS Ohio") has been independently verified for the periods from July 1, 2006 through June 30, 2021. An asset owner that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the asset owner's policies and procedures related to total fund and composite maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on an asset owner-wide basis. The Total Fund has had a performance examination for the periods July 1, 2006, through June 30, 2021. The verification and performance examination reports are available upon request.

Accompanying Notes

1. For the purpose of complying with the GIPS standards, the firm is defined as the State Teachers Retirement System of Ohio ("STRS Ohio"), which was established in 1919 by the Ohio General Assembly and is the sponsor and manager of assets for the State Teachers Retirement System of Ohio. The Total Fund was created and incepted in 1919.

2. The Total Fund includes all discretionary assets managed by STRS Ohio for the benefit of participants in the State Teachers Retirement System of Ohio. The strategy reflects an actual asset allocation to the following asset classes as of June 30, 2021: Liquidity Reserves 1.5%, Fixed Income 19.4%, Domestic Equities 28.4%, International Equities 21.9%, Global Equities 0.8%, Real Estate 8.3%, and Alternative Investments 19.7%. The assets of STRS Ohio are managed in accordance with the risk budget for the Total Fund and the individual asset classes. The investment objective for the Total Fund is to earn, over moving

thirty-year periods, an annualized return that equals or exceeds the actuarial rate of return, approved by the State Teachers Retirement Board ("Board") to value STRS Ohio liabilities. Effective July 1, 2017, the actuarial rate of return assumption is 7.45%. The Board-approved asset allocation policy from the 2017 Asset Liability Study was adopted after careful consideration of the investment objectives, liability structure, funded status and liquidity needs of STRS Ohio, and the return, risk, and risk-diversifying characteristics of different asset classes. STRS Ohio hires external managers to manage selected portfolios. The percent of externally-managed assets for the Total Fund as of June 30 for the past 10 fiscal years is disclosed on page 1. Descriptions of the asset classes are as follows:

Fixed Income: The Fixed Income asset class is generally fully invested in fixed income instruments and includes a core fixed income portfolio as well as a liquid treasury portfolio. The core fixed income portfolio is reflective of the Bloomberg Barclays U.S. Universal Index composed of the following issuers: U.S. Government and related agencies; mortgage backed and asset backed issuers; foreign issuers; corporations including investment grade and high yield; and emerging market debtors. The methodology employed places an emphasis on fundamental economic, portfolio, and security analysis to manage sector weightings and maturity distributions. The strategy of the liquid treasury portfolio is to provide liquidity to meet the rebalancing and cash flow needs of the Total Fund. The fixed income asset class seeks diversification by market sector, quality, and issuer. The asset class is primarily managed internally, with external managers utilized in specialist segments of the market such as high yield and emerging market debt. Derivatives may be used to adjust the exposure to interest rates, individual securities, or to various market sectors in the fixed income portfolio. Underlying exposure of derivatives for fixed income investments may not exceed 5% of Total Fund assets. As of June 30, 2021, fixed income derivative positions were 0.04% as a percentage of Total Fund assets. STRS Ohio has given its internal and external managers discretionary authority to manage the assets in the account including, but not limited to, futures, options, currency, and swaps. STRS Ohio enters into forward currency contracts for hedging purposes.

Domestic Equities: The Domestic Equities asset class includes domestic and international common stocks traded on U.S. exchanges, American depository receipts (ADR's), real estate investment trust shares (REITs), and domestic equity derivatives (including, but not limited to, futures, stock options, and index options). Sector tilts by style, economic sectors, or market capitalization are managed in accordance with the risk budget for domestic equities. A variety of portfolio management approaches including quantitative and fundamental techniques are used to diversify the source of excess return. The asset class utilizes a combination of active and passive management and multiple internal and external portfolio managers to improve the likelihood of achieving excess returns, diversify risk, and control costs. STRS Ohio will invest no more than 3% of the Total Fund in equities of any one company. Underlying exposure of equity derivatives may not exceed 10% of Total Fund assets. As of June 30, 2021, domestic equity derivative positions were 0.24% as a percentage of Total Fund assets.

International Equities: The International Equities asset class is a diversified portfolio including both developed and emerging countries. Portfolios consist of international equities including international common stocks traded on U.S. exchanges, ADR's and ordinaries, international depository receipts (IDR's), country funds, international equity derivatives (including, but not limited to, stock options and index options), and some short-term debt instruments. The asset class emphasizes quantitative and fundamental management approaches and exposures to security selection and country allocation decisions. Internal and external managers have the ability to add value through currency management. Aggregate exposures to countries, currencies, equity styles, and market capitalization are monitored and managed relative to their benchmark exposures and the risk budget. The portfolio utilizes a combination of internal and external management to improve the likelihood of achieving excess returns, diversify risk, and control costs.

Underlying exposure of derivatives for international equities may not exceed 10% of Total Fund assets. As of June 30, 2021, international equity derivative positions were 1.11% as a percentage of Total Fund assets. STRS Ohio has given its internal and external managers discretionary authority to manage the assets in the account including, but not limited to, financial, currency and stock index futures, equity swaps, and options on futures and other securities. STRS Ohio invests in international equity swaps through its internally managed program and this represents the primary exposure of derivatives used in this asset class, at 1.09% of Total Fund assets as of June 30, 2021. The STRS Ohio international equity swaps are unleveraged derivative instruments that are constructed to replicate the effect of investing directly in foreign equity markets. The swap contracts entitle STRS Ohio to receive the US dollar return (including currency fluctuations) of a single market index or basket of indexes. In exchange, STRS Ohio is obligated to pay a short-term cash return. The market risk of the swaps is comparable to owning the underlying stocks that comprise the indexes. STRS Ohio also enters into forward currency contracts for hedging purposes.

Global Equities: The Global Equities portfolio includes domestic and non-U.S.-based equities. This actively managed portfolio employs quantitative techniques and is broadly diversified. It can actively tilt at the country, sector, or stock level depending upon its models' expectations. Underlying exposure of equity derivatives in this portfolio combined with the international equities asset class may not exceed 10% of Total Fund assets. As of June 30, 2021, global equity derivative positions were 0.04% as a percentage of Total Fund assets.

Real Estate: Real estate investments are primarily investments in direct properties which are diversified between property type, geographic location, and investment ownership structure and are internally managed. Typically, higher risk/return strategies such as opportunistic commingled funds, both domestic and international, are managed by external real estate managers and are limited to 20% of the real estate asset class. Publicly traded real estate securities are passively managed internally and are targeted at 15% of the real estate asset class to enhance liquidity and diversification. Private real estate is 100% actively managed because index funds replicating the real estate broad market are not available. STRS Ohio may borrow funds on a secured or unsecured basis and leverage is limited to 50% of the internally managed direct real estate assets. On June 30, 2021, and 2020, debt as a percentage of these assets was 27.5% and 28.2%, respectively. The debt as a percentage of assets calculation has changed for the periods shown to reflect the portion of debt attributed to STRS Ohio. Derivatives may be used and cannot exceed 1% of total assets. As of June 30, 2021, real estate derivative positions were 0.00% as a percentage of Total Fund assets. Due to the nature of real estate investments, all private real estate is valued using market-based inputs that are comparable but subjective in nature due to the lack of widely observable inputs.

Alternative Investments: Alternative investments consist of private equity and opportunistic/diversified investments. Private equity investments primarily include venture capital, growth equity, and leveraged buyout opportunities and are 100% actively managed because index funds are not available. Private equity risk is diversified by investing across vintage years, industry sectors, investment size, development stage, and geography, in addition to investing in mezzanine debt, sector-focused, and international funds. STRS Ohio typically invests as a limited partner in closed-end partnerships. Private equity investments are managed by general partners with good deal flow, specialized areas of expertise, established or promising net of fees track records, and fully disclosed and verifiable management procedures.

Opportunistic/diversified investments were established within alternative investments with the intention of diversifying out of public equities and shifting into investments that will produce "equity-like" returns while also providing downside protection in bear markets. Therefore, over the long run, the opportunistic/diversified portfolio is expected to generate returns equal to the Russell 3000 Index minus 1%. Investments in this category can be liquid or illiquid and are tactical in nature. Opportunistic/diversified investments are actively managed because index funds are not available. Downside protection can be achieved and asset class risk is diversified by investing across different types of opportunistic/diversified investments. Opportunistic/diversified investments may be made directly, through specialist managers, or fund-of-funds.

Due to the nature of alternative investments, substantially all investments in this asset class are valued using market-based inputs that are comparable but subjective in nature due to the lack of widely observable inputs. Underlying exposure of derivatives for alternative investments may not exceed 10% of Total Fund assets.

As of June 30, 2021, alternative investment derivative positions were 0.32% as a percentage of Total Fund assets. STRS Ohio utilizes both listed and over-the-counter (OTC) options, futures, and swaps with the S&P 500 Index as the underlying exposure. These positions are primarily used for hedging purposes with a smaller percentage classified as positioning.

Liquidity Reserves: The liquidity reserves portfolio is intended to obtain a high level of current income consistent with the preservation of principal and liquidity. Investments generally consist of U.S. dollar-denominated short-term securities of corporations that are rated in the highest category (A1/P1 rating) by the rating organizations and in securities that are guaranteed by the U.S. government or one of its related agencies. Credit quality is emphasized for the preservation of principal and liquidity.

3. Returns are net of brokerage commissions, expenses related to trading, and applicable foreign withholding taxes on dividends, interest, and capital gains. All returns are expressed in U.S. dollars.

   Total Fund performance is calculated monthly using the Modified Dietz method. Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses. Costs are reported annually by CEM Benchmarking Inc. (CEM) on a calendar year basis and are reflected in the Board's Trustee Summary Report in the Callan Associates quarterly performance report. Investment management costs include internal investment personnel, professional and technical services and other investment operating expenses, actual external manager fees, custodial banking fees, and allocated overhead and oversight including Information Technology Services (ITS). Total investment management costs deducted from the gross return to arrive at the net return have ranged from 11 to 14 basis points per year over the past 10 years.

   Policies for valuing investments, calculating performance, and preparing the GIPS Asset Owner Report are available upon request.

4. The Total Fund includes all individual portfolios that are combined into one aggregate portfolio for GIPS compliance purposes. The performance of the combined portfolio reflects the overall mandate of the plan. Because the Total Fund is one aggregate portfolio for all periods, no measure of internal dispersion of annual portfolio returns is presented.

5. The three-year annualized ex-post standard deviation measures the variability of the composite (using Total Fund gross returns) and the benchmark for the 36 months ended at the following dates:

	3-Yr Annualized Standard Deviation (%)	
June 30	Total Fund	Benchmark
2021	10.1	9.9
2020	8.8	8.7
2019	6.2	6.0
2018	6.0	5.9
2017	6.2	6.2
2016	6.7	6.8
2015	4.8	5.0
2014	7.7	8.1
2013	8.7	9.0
2012	10.4	10.6

6. Benchmark returns are provided to represent the investment environment existing during the periods shown and are not covered by the report of independent verifiers. Each asset class utilizes a benchmark, which as of June 30, 2021, is as follows:

ACA Group, 1370 Broadway, 12th Floor New York, NY 10018
Phone: (212) 951-1030 www.acaglobal.com

Fixed Income: The Fixed Income blended benchmark is calculated daily and is a blend of two benchmarks using the actual core fixed income weighting and the Bloomberg Barclays U.S. Universal index[1] and the actual weighting of the liquid treasury portfolio weighting and the Bloomberg Barclays U.S. Intermediate Treasury index[1]. Bloomberg Barclays U.S. Universal Index represents the union of the U.S. Aggregate Index, U.S. Corporate High-Yield Index, Investment Grade 144A Index, Eurodollar Index, U.S. Emerging Markets Index, and the non-ERISA eligible portion of the CMBS Index. The Bloomberg Barclays U.S. Universal Index covers USD-denominated, taxable bonds that are rated either investment-grade or below investment grade. The Bloomberg Barclays U.S. Intermediate Treasury Index consists of U.S dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Maturities are between 1 year and up to 10 years.

Domestic Equities: Russell 3000® Index[2], which measures the performance of the 3,000 largest U.S. companies based on total market capitalization, and represents approximately 98% of the investable U.S. equity market.

International Equities: The international blended benchmark is calculated monthly using 80% of the MSCI World ex-U.S. 50% Hedged Index-Net and 20% of the MSCI Emerging Markets Index-Net. The MSCI World ex-U.S. 50% Hedged Index-Net is a free float-adjusted market capitalization index of approximately 934 foreign companies that is designed to measure developed market equity performance, excluding the United States. The 50% hedged index captures the performance of the international equity markets while capping the effects of currency fluctuations on the U.S. dollar to 50%. A forward rate is used to construct the hedge. The MSCI Emerging Markets Index-Net is a free float-adjusted market capitalization index that is designed to measure equity performance in the global emerging markets. The index is rebalanced monthly. MSCI assumes the maximum withholding tax rate applicable to institutional investors.

Global Equities: MSCI All Country World Index-Net, which is a free float-adjusted market capitalization index denominated in U.S. dollars of approximately 50 countries and measures the equity performance of U.S., non-U.S. developed, and emerging markets. MSCI assumes the maximum withholding tax rate applicable to institutional investors.

Real Estate: The Real Estate blended benchmark is calculated quarterly and is a blend of two benchmarks using 85% of the NCREIF Property Index (NPI) 85% and 15% of the FTSE NAREIT Equity REITs Index. The NCREIF Property Index is an unlevered quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors – the great majority being pension funds. As such, all properties are held in a fiduciary environment. The FTSE NAREIT Equity REITs Index is a float-adjusted market capitalization index of 149 companies that is designed to measure U.S. Equity REIT performance.

[1] Source: Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, "Barclays"), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.

[2] The Russell Indices are a trademark of the FTSE International Limited (FTSE) and Frank Russell Company (Russell) and their respective subsidiary undertakings, which are members of the London Stock Exchange Group plc group.

ACA Group, 1370 Broadway, 12th Floor New York, NY 10018
Phone: (212) 951-1030 www.acaglobal.com

Alternative Investments: Given the long-term nature of the asset class, STRS Ohio believes that no benchmark return is appropriate for shorter periods for this asset class and the Alternative Investment actual return is used when calculating the Total Fund benchmark. For longer periods such as 5 or 10 years, the Alternative Investment blended benchmark is used for asset class relative performance and is in two parts by policy: Private Equity is the Russell 3000 Index plus 1% and Opportunistic/Diversified is the Russell 3000 Index minus 1%.

Liquidity Reserves: The ICE BofA US 3-Month Treasury Bill Index is used.

The Total Fund blended benchmark is calculated monthly using a blend of the asset class benchmarks based on the Total Fund's policy weights for the respective asset classes, as follows:

	Jul 1, 2020-Jun 30, 2021
Fixed Income	21%
Domestic Equities	28%
International Equities	23%
Real Estate	10%
Alternative Investments	17%
Liquidity Reserves	1%

Information concerning asset class benchmarks and policy weights for other periods is available upon request.

7. Past performance is not an indicator of future investment performance results.

8. As the Total Fund represents 100% of the assets managed by STRS Ohio, this GIPS Asset Owner Report represents STRS Ohio's list of Total Fund descriptions.

9. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

ACA Group, 1370 Broadway, 12th Floor New York, NY 10018
Phone: (212) 951-1030 www.acaglobal.com

Supplemental Information:

The information in the table below is supplemental to the Total Fund GIPS Asset Owner Report presented on the previous pages. Performance information is for the period July 1, 2020 through June 30, 2021.

Fund/Asset Class	Gross Return (%)	Benchmark Return * (%)	As of June 30, 2021 Number of Portfolios	Assets ($ millions)	% of Fund Assets (%)	% of Externally Managed Assets (%)
Total Fund	29.28	27.98	77	94,832	100.0	34
Fixed Income	1.16	0.57	9	18,383	19.4	11
Domestic Equities	46.29	44.16	17	26,932	28.4	11
International Equities	34.39	33.23	18	20,812	21.9	46
Global Equities	41.64	39.26	1	724	0.8	0
Real Estate	8.01	11.64	9	7,868	8.3	14
Alternative Investments	44.99	44.99	22	18,648	19.7	89
Liquidity Reserves	0.12	0.10	1	1,465	1.5	0

* Total Fund and asset class benchmarks as of June 30, 2021, are as follows:

Fund/Asset Class	Benchmark
Total Fund	Total Fund blended benchmark
Fixed Income	Fixed Income blended benchmark
Domestic Equities	Russell 3000 Index
International Equities	International blended benchmark
Global Equities	MSCI All Country World Index – Net
Real Estate	Real Estate blended benchmark
Alternative Investments	Alternative Investments Actual Return
Liquidity Reserves	ICE BofA US 3-Month Treasury Bill Index

Please refer to Note 6 earlier in the report for further discussion of the Total Fund and asset class benchmarks.

Accompanying Notes

Returns are net of brokerage commissions, expenses related to trading, and applicable foreign withholding taxes on dividends, interest, and capital gains. All returns are expressed in U.S. dollars.

Total Fund and asset class returns are calculated as follows:

Total Fund performance is calculated monthly using the Modified Dietz method. Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses. The total fund net return was 29.16% for the year ended June 30, 2021, and corresponding the fund outperformed its Total Fund benchmark by 1.18% net over this same period. Costs are reported annually by CEM Benchmarking Inc. on a calendar year basis and are reflected on the Board's Trustee Summary Report in the Callan Associates quarterly performance report. Investment management costs include internal investment personnel, professional and technical services and other investment operating expenses, actual external manager fees, custodial banking fees, and allocated overhead and oversight including Information Technology Services (ITS).

Fixed Income performance is calculated daily. Performance of the internally-managed portfolios excludes cash returns, as cash is swept daily into the liquidity reserves portfolio. Gross returns are reflected above. Gross returns are defined in note 3.

Domestic Equities performance is calculated daily. Performance of the internally-managed portfolios excludes cash returns, as cash is swept daily into the liquidity reserves portfolio. Gross returns are reflected above. Gross returns are defined in note 3.

International Equities performance is calculated daily. The performance of all portfolios in this asset class includes cash returns. Gross returns are reflected above. Gross returns are defined in note 3.

Global Equities performance is calculated daily. The performance of the portfolio in this asset class includes cash returns. Gross returns are reflected above. Gross returns are defined in note 3.

Real Estate performance is calculated daily with private real estate valuation changes reported monthly. Internally managed direct real estate investments are valued by an external appraiser once every three years and by an internal valuation quarterly. Valuations of externally managed commingled real estate funds are determined by the underlying investment manager quarterly, with supporting financial statements when available. Performance of real estate excludes cash returns, as cash is swept daily into the liquidity reserves portfolio. Gross returns are reflected above. Gross returns are defined in note 3.

Alternative Investments performance is calculated monthly using the Modified Dietz method. Alternative investments are valued by the underlying investment manager with supporting financial statements generally on a quarterly basis. Typically there is a 1 to 3 month lag in the market values used by STRS Ohio but the values are adjusted to reflect the current capital activity. Performance of alternative investments excludes cash returns, as cash is swept daily into the liquidity reserves portfolio. Gross returns are reflected above. Gross returns are defined in note 3.

Liquidity Reserves performance is calculated daily.

ACA Group, 1370 Broadway, 12th Floor New York, NY 10018
Phone: (212) 951-1030 www.acaglobal.com

Investment Performance

(total returns, annualized on a fiscal-year basis, July 1–June 30)

1-Year Returns (2021)[1]

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Equities[11]	46.29%	Russell 3000® Index[3]	44.16%
International Equities[11]	34.39%	International Blended Benchmark[4]	33.23%
Fixed Income[11]	1.16%	Fixed-Income Blended Benchmark[5]	0.57%
Real Estate[11]	8.01%	Real Estate Blended Benchmark[6]	11.64%
Alternative Investments[11]	44.99%	Alternative Investments Blended Relative Return Objective[7]	–
Total Fund[8]	**29.28%**	**Total Fund Blended Benchmark[10]**	**27.98%**
Total Fund Net[9]	**29.16%**		

3-Year Returns (2019–2021)[1]

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Equities[11]	19.72%	Russell 3000® Index[3]	18.73%
International Equities[11]	9.44%	International Blended Benchmark[4]	9.66%
Fixed Income[11]	5.59%	Fixed-Income Blended Benchmark[5]	5.38%
Real Estate[11]	5.93%	Real Estate Blended Benchmark[6]	6.55%
Alternative Investments[11]	15.83%	Alternative Investments Blended Relative Return Objective[7]	–
Total Fund[8]	**12.62%**	**Total Fund Blended Benchmark[10]**	**12.28%**
Total Fund Net[9]	**12.49%**		

5-Year Returns (2017–2021)[1]

Asset Category	STRS Ohio Return	Index Name	Index Return
Domestic Equities[11]	18.98%	Russell 3000® Index[3]	17.89%
International Equities[11]	11.41%	International Blended Benchmark[4]	11.58%
Fixed Income[11]	3.68%	Fixed-Income Blended Benchmark[5]	3.32%
Real Estate[11]	6.30%	Real Estate Blended Benchmark[6]	6.40%
Alternative Investments[11]	14.52%	Alternative Investments Blended Relative Return Objective[7]	17.78%
Total Fund[8]	**12.34%**	**Total Fund Blended Benchmark[10]**	**11.85%**
Total Fund Net[9]	**12.21%**		

STRS Ohio Long-Term Policy Objective (10 Years)[2]

Total Fund: 6.8%

State Teachers Retirement System of Ohio claims compliance with the Global Investment Performance Standards (GIPS®). To receive a compliant presentation and/or a description of the firm's composite, please contact the STRS Ohio Communication Services Department at 614-227-2825.

State Teachers Retirement System of Ohio is defined and created by the Ohio Revised Code, Chapter 3307.15. The STRS Ohio Total Fund performance returns consist of all assets of the fund, including both internally and externally managed accounts. All returns are calculated in U.S. dollars using a time-weighted rate of return. All returns are net of brokerage commissions, expenses related to trading, and applicable foreign withholding taxes on dividends, interest and capital gains. All measurements and comparisons have been made using standard performance evaluation methods, and results are presented in a manner consistent with the investment industry in general and public pension funds in particular.

The Total Fund reflects an actual asset allocation to the following asset classes as of June 30, 2021: Liquidity Reserves 1.5%, Fixed Income 19.4%, Domestic Equities 28.4%, International Equities 22.7%, Real Estate 8.3% and Alternative Investments 19.7%. The investment objective for the Total Fund is to earn, over moving 30-year periods, an annualized return that equals or exceeds the actuarial rate of return, approved by the State Teachers Retirement Board ("Board") to value STRS Ohio liabilities. As of June 30, 2021, the actuarial rate of return was 7.00%.

As part of the Total Fund strategy, certain asset classes may use derivative instruments and/or leverage. The following asset classes may use derivative instruments and/or leverage to gain exposure to certain sectors of the market: Fixed Income: Exposure to derivative instruments may not exceed 5% of Total Fund assets. A variety of derivative instruments may be used to adjust the exposure to interest rates, individual securities or to market sectors in the fixed income asset class; Domestic Equities: Exposure to derivative instruments, including, but not limited to, futures, stock options and index options may not exceed 10% of Total Fund assets; International Equities: Exposure to derivative instruments, including swap agreements, may not exceed 10% of Total Fund assets; Real Estate: Activities may include borrowing funds on a secured or unsecured basis with leverage limited to 50% of the internally managed direct real estate assets. At June 30, 2021 and 2020, debt as a percentage of these assets was 27.5% and 28.2%, respectively. The debt as a percentage of assets calculation has changed for the periods shown to reflect the portion of debt attributed to STRS Ohio. Derivative instruments may also be used and cannot exceed 1% of Total Fund assets; Alternative Investments: Exposure to derivative instruments may not exceed 10% of Total Fund assets. Alternative investment managers may use derivative instruments as components of the funds' investment strategy and to achieve the investment objectives of the fund.

[1]The one-year returns for the fiscal years ended June 30, 2011, through 2021, have been examined by ACA Group, Performance Services Division. A copy of the examination report is available upon request.

[2]The long-term policy objective is a projected annualized policy return based on return forecasts by asset class before any value added. The State Teachers Retirement Board expects the net value added to be 0.40% per year.

[3]The Russell® Indices are a trademark of FTSE International Limited (FTSE), Frank Russell Company (Russell®) and their respective subsidiary undertakings, which are members of the London Stock Exchange Group PLC.

[4]The International Blended Benchmark is calculated monthly using 80% of the MSCI World ex-U.S. 50% Hedged Index-Net and 20% of the MSCI Emerging Markets Index-Net.

[5]The Fixed-Income Blended Benchmark is calculated daily and is a blend of two benchmarks using the actual core fixed-income weighting and the Bloomberg U.S. Universal index and the actual weighting of the liquid treasury portfolio weighting and the Bloomberg U.S. Intermediate Treasury Index. Source: Bloomberg Index Services Limited. The Fixed-Income Blended Benchmark is calculated daily and is a blend of two benchmarks using the actual core fixed-income weighting and the Bloomberg U.S. Universal Index and the actual weighting of the liquid treasury portfolio weighting and the Bloomberg U.S. Intermediate Treasury Index. Bloomberg® and the Bloomberg Indices are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL"), the administrator of the index (collectively, "Bloomberg") and have been licensed for use for certain purposes by State Teachers Retirement System of Ohio. Bloomberg is not affiliated with State Teachers Retirement System of Ohio, and Bloomberg does not approve, endorse, review, or recommend this material. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to this material.

[6]The Real Estate Blended Benchmark is calculated quarterly using 85% NCREIF Property Index (NPI) and 15% FTSE NAREIT Equity REITs Index.

[7]Given the long-term nature of the asset class, no relative return objective for Alternative Investments is displayed for the one- and three- year objectives for Private Equity (PE) and Opportunistic/Diversified (OD) and is calculated using: 41.2% of the Russell 3000® Index plus 1% for PE and 58.8% of the Russell 3000® Index minus 1% for OD effective July 1, 2019; 43.7% of the Russell 3000® Index plus 1% for PE and 56.3% of the Russell 3000® Index minus 1% for OD effective Oct. 1, 2018; 46.7% of the Russell 3000® Index plus 1% for PE and 53.3% of the Russell 3000® Index minus 1% for OD effective April 1, 2018; 50.0% of the Russell 3000® Index plus 1% for PE and 50.0% of the Russell 3000® Index minus 1% for OD effective Jan. 1, 2014.

[8]Gross returns are net of transaction costs and gross of management fees, except for Alternative Investments and Real Estate where the return is net of all external investment management fees and costs, including carried interest and other fund expenses.

[9]Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses.

[10]The Total Fund Blended Benchmark is calculated and rebalanced monthly using a blend of the asset class benchmarks based on the Total Fund's policy weights in effect during the respective period. For alternative investments, however, the actual Alternative Investments return is used in the calculation of the Total Fund Blended Benchmark. Information concerning asset class benchmarks and policy weights is available upon request.

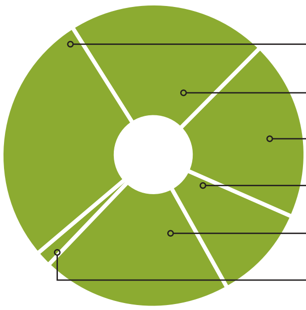
[11]Returns are supplemental to the Total Fund composite returns.

Summary of Investments and Cash
As of June 30, 2021 and 2020 (dollar amounts in thousands)

	June 30, 2021	Percentage of Assets	June 30, 2020	Percentage of Assets
Cash and short-term investments				
Cash	$ 5,563	0.0%	$ 4,638	0.0%
Commercial Paper	287,475	0.3%	73,430	0.1%
Short-term investment funds	59,000	0.1%	25,000	0.0%
U.S. government agencies		0.0%		0.0%
U.S. Treasury bills	1,212,972	1.2%	1,974,505	2.5%
Total cash and short-term investments	**1,565,010**	**1.6%**	**2,077,573**	**2.6%**
Fixed income				
U.S. government agency obligations and U.S. government obligations	8,699,019	8.9%	5,879,601	7.4%
Corporate bonds	5,014,292	5.1%	4,732,979	5.9%
High yield and emerging market	2,042,733	2.1%	2,005,720	2.5%
Mortgages and asset-backed	3,047,228	3.1%	2,839,520	3.6%
Total fixed income	**18,803,272**	**19.2%**	**15,457,820**	**19.4%**
Domestic equities	**26,928,103**	**27.4%**	**21,525,302**	**27.0%**
International equities	**20,893,064**	**21.3%**	**16,897,245**	**21.1%**
Real estate				
East region	3,056,707	3.1%	3,124,447	3.9%
Midwest region	1,216,219	1.2%	1,200,054	1.5%
South region	868,348	0.9%	761,920	1.0%
West region	2,415,261	2.5%	2,448,936	3.1%
REITs	1,269,508	1.3%	1,068,531	1.3%
Non-core	1,154,698	1.2%	954,187	1.2%
Total real estate	**9,980,741**	**10.2%**	**9,558,075**	**12.0%**
Alternative investments	**19,941,386**	**20.3%**	**14,323,677**	**17.9%**
Total investments and cash	**$ 98,111,576**	**100.0%**	**$ 79,839,692**	**100.0%**

Investment schedule excludes invested securities lending collateral.

Investment Distribution by Fair Value — as of June 30, 2021



Ohio Investment Profile — as of June 30, 2021

(in thousands)

STRS Ohio continues to engage in quality Ohio investments. As of June 30, 2021, STRS Ohio investments in companies with headquarters in Ohio are valued at more than $1.3 billion.

Fixed income	$ 166,274
Domestic equities	759,254
Real estate	42,626
Alternative investments	369,986
Total Ohio-headquartered investments	**$ 1,338,140**

Schedule of U.S. Stock Brokerage Commissions Paid

(for the year ended June 30, 2021)

Brokerage Firm	Shares Traded*	Commissions Paid	Average Cents Per Share
Nomura (Instinet LLC)	64,412,928	$ 2,447,749	3.8
JP Morgan Securities LLC	28,387,024	1,031,251	3.6
ITG, Inc.	20,689,278	826,985	4.0
Credit Suisse Securities (USA) LLC	13,885,470	552,419	4.0
Piper Sandler Companies	13,407,407	536,170	4.0
Barclays Capital Inc.	20,752,823	502,249	2.4
Cantor Fitzgerald & Company	11,645,266	465,811	4.0
Liquidnet Inc.	10,017,291	400,692	4.0
RBC Capital Markets LLC	9,911,447	395,458	4.0
Evercore ISI Institutional Equities	7,255,482	290,219	4.0
Cowen & Company LLC	8,455,940	274,013	3.2
Dash Financial Technologies LLC	6,369,463	254,779	4.0
Bernstein (Sanford C.) & Company LLC	6,364,215	247,059	3.9
BTIG LLC	6,904,501	246,718	3.6
KeyBanc Capital Markets	6,341,344	236,791	3.7
Mark J. Muller Equities Inc.	5,812,724	232,509	4.0
Cabrera Capital Markets LLC	5,450,178	217,338	4.0
Citi Capital Markets Inc.	4,972,340	196,058	3.9
Wells Fargo Securities LLC	9,617,082	192,342	2.0
Goldman Sachs & Co LLC	4,533,713	181,277	4.0
Others (includes 23 brokerage firms and external managers)	123,056,320	2,642,665	2.1
Totals	**388,242,236**	**$ 12,370,551**	**3.2**

*Includes option equivalent shares.
Excludes commissions on futures trading.

Schedule of Largest Investment Holdings* (as of June 30, 2021)

Domestic Equities — Top 20 Holdings

	Shares	Fair Value
Microsoft Corp.	4,481,116	$1,213,934,324
Apple Computer Inc.	8,023,342	$1,098,876,920
Amazon Com Inc.	261,889	$900,940,062
Facebook Inc.-A	1,748,683	$608,034,566
Alphabet Inc. Class C	212,864	$422,806,159
Google Inc. Class A	160,361	$391,567,886
Nvidia Corp.	371,078	$296,899,508
Paypal Holdings Inc.	954,432	$278,197,839
Unitedhealth Group Inc.	672,748	$269,395,209
JPMorgan Chase & Co.	1,640,433	$255,152,949
Visa Inc. Class A	1,062,982	$248,546,451
Adobe Systems Inc.	414,044	$242,480,728
Mastercard Inc. Class A	622,887	$227,409,815
Berkshire Hathaway Inc. Class B	757,575	$210,545,244
Johnson & Johnson	1,227,198	$202,168,598
Micron Technology Inc.	2,211,988	$187,974,740
Tesla Inc.	268,083	$182,216,015
Cisco Systems Inc.	3,127,315	$165,747,695
Merck & Co. Inc.	2,126,265	$165,359,629
Fiserv Inc. Headquarters	1,532,546	$163,813,842

International Equities — Top 20 Holdings

	Shares	Fair Value
Taiwan Semicon Man (Taiwan)	15,906,519	$339,681,608
Roche Holding AG (Switzerland)	878,436	$331,236,943
Samsung Electronics Co. LTD (South Korea)	3,749,145	$268,664,034
Nestle SA (Switzerland)	2,118,940	$264,125,349
Hitachi (Japan)	2,945,800	$168,828,127
SAP SE (Germany)	1,155,199	$162,804,921
Sony Group Corp. (Japan)	1,575,900	$153,557,604
Alibaba Group Holding Ltd (China)	616,388	$139,784,471
Novartis AG (Switzerland)	1,455,893	$132,807,808
Air Liquide SA (France)	717,623	$125,662,962
AIA Group LTD (Hong Kong)	9,984,038	$124,063,646
ASML Holding (Netherlands)	174,465	$119,876,729
Novo Nordisk A/S (Denmark)	1,265,642	$106,046,249
BNP Paribas (France)	1,674,910	$105,014,402
LVMH Moet Hennessy Louis Vuitton SE (France)	131,533	$103,152,873
Tencent Holdings Limited (China)	1,349,951	$101,517,720
Reckitt Benckiser Group Plc. (United Kingdom)	1,134,563	$100,262,883
Nintendo Co. LTD (Japan)	161,000	$93,736,553
Diageo Plc. (United Kingdom)	1,877,812	$89,781,929
GlaxoSmithKline Plc. (United Kingdom)	4,469,085	$87,631,176

Fixed Income — Top 20 Holdings

	Par Value	Fair Value
U.S. Treasury N/B, 2.125%, 2/29/2024, Aaa	$163,680,000	$171,250,199
U.S. Treasury N/B, 0.125%, 2/15/2024, Aaa	$165,664,000	$164,602,715
U.S. Treasury N/B, 1.625%, 10/31/2023, Aaa	$155,355,000	$160,076,336
U.S. Treasury N/B, 1.125%, 2/28/2025, Aaa	$140,797,000	$143,370,945
U.S. Treasury N/B, 0.250%, 5/31/2025, Aaa	$143,627,000	$141,236,958
U.S. Treasury N/B, 0.250%, 4/15/2023, Aaa	$138,889,000	$138,975,805
U.S. Treasury N/B, 2.000%, 11/15/2026, Aaa	$125,932,000	$132,887,775
U.S. Treasury N/B, 0.375%, 4/30/2025, Aaa	$133,062,000	$131,627,425
U.S. Treasury N/B, 1.125%, 2/28/2027, Aaa	$130,023,000	$130,947,383
U.S. Treasury N/B, 0.625%, 5/15/2030, Aaa	$135,148,000	$126,342,263
U.S. Treasury N/B, 0.375%, 7/31/2027, Aaa	$131,717,000	$126,263,093
U.S. Treasury N/B, 1.75%, 11/15/2029, Aaa	$121,466,000	$125,394,665
U.S. Treasury N/B, 0.625%, 3/31/2027, Aaa	$128,070,000	$125,298,486
U.S. Treasury N/B, 1.625%, 8/15/2029, Aaa	$122,131,000	$124,917,113
U.S. Treasury N/B, 0.250%, 3/15/2024, Aaa	$116,340,000	$115,885,547
U.S. Treasury N/B, 1.750%, 5/15/2023, Aaa	$110,465,000	$113,589,088
U.S. Treasury N/B, 0.625%, 8/15/2023, Aaa	$120,227,000	$112,036,535
U.S. Treasury N/B, 0.250%, 9/30/2025, Aaa	$108,263,000	$105,979,327
U.S. Treasury N/B, 1.375%, 9/30/2023, Aaa	$101,824,000	$104,290,049
U.S. Treasury N/B, 2.250%, 4/30/2024, Aaa	$94,950,000	$99,838,442

*A complete list of investment holdings is available from STRS Ohio.

Schedule of External Managers (as of June 30, 2021)

Domestic Equities

Intech
Chartwell Investment Partners
Fuller & Thaler Asset Management
M.A. Weatherbie & Company
Neuberger Berman

International Equities

Acadian Asset Management
Alliance Bernstein
American Century
Arrowstreet Capital
Genesis Asset Managers
Lazard Asset Management
MFS Investment Management
Wellington Management
Wellington Small Cap

Fixed Income

BNY Mellon
Fidelity Institutional Asset Management
JPMorgan
MFS Investment Management
Pacific Investment Management Company
Payden & Rygel
PGIM

Real Estate

Ares Management UK Limited
Ares Real Estate Management Holdings, LLC
BCMR-GP LLC
Benson Elliot Capital Management LLP
BentallGreenOak
Blackstone Real Estate Advisors Europe, LP
Blackstone Real Estate Advisors LP
Carlyle Investment Management LLC
CBRE Global Investment Partners Asia, Pte. Ltd.
CBRE Global Investors
CIM Global LLC
CLSA Capital Partners Singapore PTE Ltd.
DDR Corporation
Fortress Japan Opportunity Management LLC
Fortress Real Estate Opportunities Advisors LLC
GreenOak Europe III GP, Ltd.
Invesco Avisers Inc.
JP Morgan Funds Limited
LaSalle Investment Management (Asia) Pte. Ltd.
PAG Holdings
Patria Brazil Real Estate Fund General Partner II, Ltd.
Patria Brazil Retail Property Fund General Partner, Ltd.
PCCP LLC
PGIM Real Estate Luxembourg S.A.
Pramerica Investment Management Limited
SCREP V Management , LLC
SP V Manager, LLC
Strategic Partners Fund Solutions Advisors LP
Westbrook Realty Management V, LP
Westbrook Realty Management VI, LP
Westbrook Realty Management VII, LP
Westbrook Realty Management VIII, LP
Westbrook Realty Management IX, LP
Westbrook Realty Management X, LP
Westbrook Realty Management XI, LP

Alternative Investments

Adams Capital Management, Inc.
Advanced Technology Ventures
Advent International Corporation
Advisor Group, Inc.
AlbaCore Capital LLP
Angelo, Gordon & Co.
Apollo Aviation Group, LLC
Apollo Management
ArcLight Capital Partners, LLC
Ares Management, LLC
Arrowmark
Asia Alternatives Management LLC
Atalaya Capital Management LP
Avenue Capital Group
Avenue Capital Management
Avenue Capital Management II, LP
Axiom Asia Private Capital
Bain Capital, LLC
Baker Capital Corp.
BC Partners Holdings Limited
Beacon Capital Partners, LLC
Benefit Street Partners LLC
Berkshire Partners, LLC
Blackboard Inc. - Transact
Blue Chip Venture Company, Ltd.
Bridgepoint Capital, Ltd.
Brookside Capital, LLC
C B Health Ventures, LLC
Cardinal Partners
Cerberus Capital Management, LP
Christofferson, Robb & Co.
Clayton, Dubilier & Rice, LLC
Clearlake Capital Group
Clearlake Capital Management Flagship Plus, L.P
Commonfund Capital, Inc
Community Bancorp LLC
Comvest
Crestline Management, L.P.
CVC Capital Partners Limited
Davidson Kempner Advisors, Inc.
Dragoneer Investment Group
Duff Ackerman & Goodrich
Dyal Capital Partners
EnCap Investments LP
Essex Woodlands Health Ventures
Fairview Management Group, LLC
Fortress Investment Group, LLC
Francisco Partners
Friedman, Fleischer & Lowe, LLC
General Catalyst Partners
Gilbert Global Equity Capital, LLC
Goldman, Sachs & Co.
Golub Capital
Grosvenor Capital Management, LLC
GSO Capital Partners, LP
GTCR LLC
H.I.G. Capital Management
Hancock Capital Investment Management, LLC
HarbourVest Partners, LLC
Heartland Industrial Partners
Hellman & Friedman LLC
Hermes GPE LLP
HPS Investment Partners, LLC
HPS Mezzanine Management 2019, LLC
HSBC Group
Hyperion Materials & Technologies
Infinity Q Capital Management
IVC Evidensia
Jade Capital Management, LLC
King Street Advisors, LLC
Kohlberg Kravis Roberts & Co. LP
Leonard Green & Partners, LP
Levine Leichtman Capital Partners, Inc.
Lighthouse Capital Partners
Lightspeed China Partners
Lime Rock Partners, LLC
Man Asset Management Limited
Manulife Financial Corporation
Meritage Holdings, LLC
MHR Fund Management LLC
Monitor Clipper Partners, Inc.
Moonrise Capital LP
Moore Capital Advisors, LLC
Morgenthaler Ventures
MV Management XIV, LLC
New Enterprise Associates (NEA)
NISA
Oaktree Capital Management Limited
Oaktree Capital Management, LLC
Och-Ziff Capital Management Group
Ohio Innovation Fund
Owl Rock Capital Advisors
Oxford Finance, LLC
Paine Schwartz Paine, LLC
Panda Energy International, Inc.
Park Street Capital, LLC
PineBridge Investments
Primus Venture Partners, Inc.
Providence Equity Partners, Inc.
Quad Partners LLC
Redpoint Omega III, LLC
Renaissance Technologies
Resolution Life Group
Reverence Capital Partners LLC
SciBeta
Semaphore
Silver Lake Alpine Management Co., LLC
Silver Lake Partners
Siris
Sixth Street Advisors, LLC
Stone Point Capital LLC
Summit Partners
TA Associates, Inc.
TCW Group
Texas Pacific Group
The Blackstone Group
The Carlyle Group
The Riverside Company
Thoma Bravo, LLC
Tiger Iron Capital
TowerBrook Capital Partners, LP
TPG Sixth Street Partners (TSSP)
Truebridge Capital Partners, LLC
TSCOF SPV GP, LLC
TSG Consumer Partners (FKA: Shansby Group)
Twin Brook Capital Partners
Two Sigma Advisers
Varagon Capital Partners
Veritas Capital Fund Management, LLC
Vista Equity Partners Management, LLC
Vitruvian Partners LLP
Warburg Pincus LLC
Wells Fargo
WL Ross & Co, LLC (Invesco)

Certification

October 2021

State Teachers Retirement System of Ohio
275 East Broad Street
Columbus, Ohio 43215

This report presents the June 30, 2021 Actuarial Valuation of the State Teachers Retirement System of Ohio ("STRS Ohio"). In preparing our report, we relied on information, some oral and some written, supplied by the STRS Ohio. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Included in the report are the follow supporting schedules prepared by Cheiron to be included in the Financial, Actuarial and Statistical sections of the STRS Ohio *Annual Comprehensive Financial Report:*

– Financial/Required Supplementary Information
  - Schedule of Changes in Employers' Net Pension Liability
  - Schedule of Employers' Net Pension Liability
  - Schedule of Employers' Contributions — Pension
  - Notes to Required Supplementary Information — Pension
  - Sensitivity of the Net Pension Liability to the Discount Rate and Trend Rate Assumption

– Actuarial
  - Schedule of Valuation Data — Active Members
  - Schedule of Valuation Data — Retirees/Beneficiaries
  - Benefit Recipients Added to and Removed from the Rolls
  - Solvency Test
  - Analysis of Financial Experience

– Statistical
  - Actuarial Funded Ratio & Funding Period
  - Selected Funding Information — Defined Benefit Plan
  - Number of Benefit Recipients by Type
  - Summary of Active Membership Data
  - Benefit Payments by Type

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for STRS Ohio for the purposes described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Gene Kalwarski, FSA, FCA, MAAA, EA
Principal Consulting Actuary

Michael Nobel, FSA, FCA, MAAA, EA
Principal Consulting Actuary

Bonnie Rightnour, FSA, MAAA, EA
Consulting Actuary

This section presents the results of the annual valuation of the assets and liabilities of the State Teachers Retirement System of Ohio (STRS Ohio) as of June 30, 2021, prepared by its actuary, Cheiron, in accordance with Section 3307.51 of Chapter 3307 of the Ohio Revised Code.

Summary of Actuarial Assumptions and Methods

The assumptions below have been adopted by the State Teachers Retirement Board after consulting with the actuary. The board has adopted a funding policy that establishes the framework and specific objectives to monitor the system's funding status.

Mortality Rates — Post-Retirement: RP-2014 Annuitant Mortality Table with 50% of rates through age 69, 70% of rates between ages 70 and 79, 90% of rates between ages 80 and 84, and 100% of rates thereafter, projected forward generationally using mortality improvement scale MP-2016. (Adopted effective July 1, 2017). Sample 2014 mortality rates are as follows.

Mortality Rates — Post-Retirement		
Age	Male	Female
50	0.20%	0.14%
55	0.29%	0.18%
60	0.39%	0.26%
65	0.55%	0.40%
70	1.17%	0.90%
75	1.88%	1.47%
80	4.02%	3.14%
85	7.75%	6.05%
90	13.59%	10.71%
95	21.86%	17.90%
100	31.40%	27.09%

Mortality Rates — Pre-Retirement: RP-2014 Employee Mortality Table, projected forward generationally using mortality improvement scale MP-2016. (Adopted effective July 1, 2017).

Mortality Rates — Post-Retirement Disabled: RP-2014 Disabled Mortality Table with 90% of rates for males and 100% of rates for females, projected forward generationally using mortality improvement scale MP-2016. (Adopted effective July 1, 2017). Sample 2014 mortality rates as follows.

Mortality Rates — Post-Retirement Disabled		
Age	Male	Female
45	1.53%	0.90%
50	1.84%	1.19%
55	2.10%	1.45%
60	2.39%	1.70%
65	2.85%	2.09%
70	3.63%	2.82%
75	4.89%	4.10%

Active Retirement Rates: The following rates of retirement are assumed for members eligible to retire — shown below for selected ages. (Adopted effective July 1, 2017).

Active Retirement Rates

Defined Benefit Plan – Grandfathered Male Rates				
Age	Under 25 Years of Service	25-29 Years of Service	30-34 Years of Service	35 or More Years of Service
<53	0%	0%	20%	30%
55	0%	6%	20%	40%
60	10%	7%	20%	40%
65	20%	20%	25%	25%
70	15%	20%	25%	20%
75	100%	100%	100%	100%

Defined Benefit Plan – Grandfathered Female Rates				
Age	Under 25 Years of Service	25-29 Years of Service	30-34 Years of Service	35 or More Years of Service
<53	0%	0%	20%	35%
55	0%	9%	20%	40%
60	10%	10%	30%	45%
65	25%	30%	35%	45%
70	20%	20%	35%	40%
75	100%	100%	100%	100%

Defined Benefit Plan – Non-Grandfathered Male Rates				
Age	Under 25 Years of Service	25-29 Years of Service	30-34 Years of Service	35 or More Years of Service
<53	0%	3%	20%	20%
55	0%	3%	20%	20%
60	5%	5%	20%	25%
65	20%	20%	25%	25%
70	20%	20%	25%	20%
75	100%	100%	100%	100%

Defined Benefit Plan – Non-Grandfathered Female Rates				
Age	Under 25 Years of Service	25-29 Years of Service	30-34 Years of Service	35 or More Years of Service
<53	0%	5%	20%	20%
55	0%	5%	20%	20%
60	10%	10%	30%	30%
65	30%	30%	35%	35%
70	20%	20%	35%	30%
75	100%	100%	100%	100%

Combined Plan		
Age	Male	Female
60	13%	22%
65	17%	20%
70	12%	12%
75	100%	100%

Inactive Vested Retirement Rates: 5% at each early retirement age through age 64 and 100% at age 65, or the first age at which unreduced benefits are available.

Disability Rates: Shown below for selected ages. (Adopted effective July 1, 2017).

Disability Rates	
Age	Unisex Rate
Under 30	0.01%
30	0.01%
35	0.03%
40	0.05%
45	0.10%
50	0.18%
55	0.22%
60	0.25%
65 and Over	0.25%

Termination Rates: Termination rates based on service, for causes other than death, disability, or retirement. (Adopted effective July 1, 2017).

Vested Terminations*		
Age	Male	Female
20	11.25%	13.25%
25	11.25%	12.50%
30	2.75%	3.75%
35	2.00%	2.00%
40	1.75%	1.50%
45	1.75%	1.25%
50	2.00%	1.75%
55	3.25%	3.00%
60	0.00%	0.00%

* Termination rates cut out at first retirement eligibility

Non-Vested Terminations		
Service	Male	Female
Under 1 Year	30.00%	25.00%
1 to 2 Years	20.00%	20.00%
2 to 3 Years	15.00%	10.00%
3 to 5 Years	10.00%	10.00%

Percent Electing a Deferred Termination Benefit: 50% of terminating members of the Defined Benefit Plan are assumed to elect deferred termination benefit. The remaining 50% are assumed to take an immediate lump-sum.

Percent Married: For valuation purposes, 80% of male members and 60% of female members are assumed to be married. Male members are assumed to be three years older than their spouses, and female members are assumed to be one year younger than their spouses. (The assumed age difference adopted effective July 1, 2012, and reaffirmed effective July 1, 2017.)

Dependents for Survivor's Benefit: The spouse is the only assumed beneficiary for the survivor's benefit.

Investment Return Rate: 7.00% per annum, compounded annually and net of all expenses. (Adopted effective July 1, 2021).

Salary Increase Rates: Inflation rate of 2.50% plus merit and seniority increase, as shown below for selected ages. (Adopted effective July 1, 2017).

Salary Increase Rates	
Age	Rate
20	12.50%
25	11.50%
30	7.75%
35	6.50%
40	5.25%
45	4.75%
50	4.00%
55	3.50%
60	2.75%
65	2.50%

Payroll Growth Rate: 3.00% per annum. (Adopted effective July 1, 2017).

Defined Contribution Plan: The defined contribution account balance is added to the actuarial liability and the actuarial value of assets. If a member retires and elects to have the defined contribution account balance paid as an annuity, then the account balance is transferred to the Defined Benefit Plan and the annuity is valued as part of the Defined Benefit Plan.

Rationale for Assumptions: The demographic actuarial assumptions were adopted by the Board based on recommendations from the prior actuary from an experience study covering plan experience for the period July 1, 2011, through June 30, 2016. Cheiron has reviewed this experience study dated March 3, 2017. Cheiron considers these assumptions to be generally reasonable, but has not yet performed its own actuarial experience study. (Cheiron has started its experience review for the five-year period July 1, 2016–June 30, 2021.)

Actuarial Value of Assets: The actuarial value of assets is based on the market value of assets with a four-year phase-in of actual investment return in excess of (or less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the actuarial value of assets (adjusted for receipts and disbursements during the year). The actual investment return for this purpose is determined net of all investment and administrative expenses. The actuarial value is further adjusted, if necessary, to be within 9% of the market value.

Actuarial Funding Method: The funding method for the valuation of liabilities used for this valuation is the Entry Age Normal (EAN) method. Under this funding method, a normal cost rate is determined as a level percentage of pay for each active participant. The normal cost rate multiplied by payroll equals the total normal cost for each participant. The normal cost contributions (employer and participant) will pay for projected benefits at retirement for each active participant.

The actuarial liability is the difference between the present value of future benefits and the present value of future normal costs. The difference between this actuarial liability and the actuarial value of assets is the unfunded actuarial liability (UAL).

The portion of the actuarial liability in excess of plan assets, the UAL, is amortized to develop an additional cost that is added to each year's employer normal cost. Under this funding method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability. The amortization method is described below.

Amortization Method: The actuarially determined contribution (ADC) is determined as the sum of (a) the employer normal cost rate, and (b) a level percentage of payroll required to amortize the unfunded actuarial accrued liability over the 30-year closed period that began July 1, 2015.

Benefit Recipients Added to and Removed From the Rolls, 2012–2021

Fiscal Year Ended	Beginning Number of Benefit Recipients	Beginning Annual Allowances (in thousands)	Benefit Recipients Added	Payments Added (in thousands)	Benefit Recipients Removed	Payments Removed (in thousands)	Ending Number of Benefit Recipients	Ending Annual Allowance (in thousands)
2012	138,088	$5,393,372	8,761	$512,952	3,593	$90,917	143,256	$5,815,407
2013	143,256	$5,815,407	8,493	$441,942	2,528	$67,167	149,221	$6,190,182
2014	149,221	$6,190,182	5,550	$283,768	2,563	$76,415	152,208	$6,397,535
2015	152,208	$6,397,535	9,027	$490,598	3,119	$86,952	158,116	$6,801,181
2016	158,116	$6,801,181	2,675	$177,665	2,853	$82,684	157,938	$6,896,162
2017	157,938	$6,896,162	3,254	$155,702	3,153	$96,555	158,039	$6,955,309
2018	158,039	$6,955,309	3,847	$128,494	4,464	$134,381	157,422	$6,949,422
2019	157,422	$6,949,422	4,894	$178,255	4,898	$156,522	157,418	$6,971,155
2020	157,418	$6,971,155	4,363	$165,151	4,874	$165,609	156,907	$6,970,697
2021	**156,907**	**$6,970,697**	**5,524**	**$225,426**	**5,510**	**$186,702**	**156,921**	**$7,009,421**

Schedule of Valuation Data — Active Members, 2012–2021

Valuation Date	Number of Active Members	Annualized Salaries (in thousands)	Annual Average Pay	% Increase in Average Pay
2012	173,044	$9,330,845	$53,922	–0.2%
2013	169,945	$9,118,036	$53,653	–0.5%
2014	169,295	$9,148,438	$54,038	0.7%
2015	164,925	$9,057,095	$54,916	1.6%
2016	169,212	$9,562,236	$56,510	2.9%
2017	168,132	$9,842,388	$58,540	3.6%
2018	170,327	$10,581,345	$62,124	6.1%
2019	170,004	$10,849,863	$63,821	2.7%
2020	167,838	$11,192,069	$66,684	4.5%
2021	**166,427**	**$11,404,226**	**$68,524**	**7.4%**

Schedule of Valuation Data — Retirees/Beneficiaries, 2012–2021

Valuation Date	Number of Retirees/Beneficiaries	Annual Allowances (in thousands)	Average Annual Allowances	% Increase in Annual Allowances
2012	143,256	$5,815,407	$40,595	7.8%
2013	149,221	$6,190,182	$41,483	6.4%
2014	152,208	$6,397,535	$42,032	3.3%
2015	158,116	$6,801,181	$43,014	6.3%
2016	157,938	$6,896,162	$43,664	1.4%
2017	158,039	$6,955,309	$44,010	0.9%
2018	157,422	$6,949,422	$44,145	–0.1%
2019	157,418	$6,971,155	$44,284	0.3%
2020	156,907	$6,970,697	$44,426	0.0%
2021	**156,921**	**$7,009,421**	**$44,668**	**0.6%**

Solvency Test, 2012–2021 (dollar amounts in thousands)

Valuation Date	Accrued Liability For: (1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer-Financed Portion)	Actuarial Value of Assets*	Portion of Accrued Liabilities Covered by Valuation Assets: (1)	(2)	(3)
2012	$10,985,246	$68,111,175	$27,205,420	$59,489,508	100%	71%	0%
2013	$10,962,886	$68,075,440	$15,328,367	$62,590,786	100%	76%	0%
2014	$11,477,457	$69,776,259	$14,913,341	$66,657,175	100%	79%	0%
2015	$11,473,309	$74,340,699	$13,200,646	$68,655,999	100%	77%	0%
2016	$12,498,469	$74,282,592	$13,975,362	$70,114,637	100%	78%	0%
2017	$13,668,834	$69,723,394	$12,734,213	$72,216,212	100%	84%	0%
2018	$15,440,336	$68,911,073	$12,552,648	$73,115,358	100%	84%	0%
2019	$16,454,187	$68,412,083	$12,974,674	$74,411,836	100%	85%	0%
2020	$17,591,257	$67,500,051	$13,580,980	$76,357,681	100%	87%	0%
2021	**$18,479,943**	**$69,479,780**	**$16,631,683**	**$83,761,394**	**100%**	**94%**	**0%**

*Excludes health care assets.

Analysis of Financial Experience

Gains and Losses in Unfunded Actuarial Liability Resulting From Differences Between Assumed Experience and Actual Experience (in thousands)

Type of Activity	Gain (loss) for year ended June 30: 2021	2020	2019	2018	2017
Investment income. If there is greater investment income than assumed, there is a gain. If less, there is a loss.	$ 5,216,481	$ 532,022	$ 3,515	$ (253,993)	$ 857,418
Payroll growth. If more contributions from payroll growth are received than expected, there is a gain. If less, there is a loss.	0	0	0	0	7,091
Salary increases. If there are smaller salary increases than assumed, there is a gain. If greater increases, there is a loss.	236,539	177,622	207,875	180,810	279,058
Retirement and other separation experience. If members retire from service at an older age or with a lower final average salary than assumed, there is a gain. If separation claims are less than expected, there is a gain. If new members don't enter the system as expected, there is a loss.	(287,427)	(112,488)	(325,891)	(285,353)	(316,922)
Death after retirement. If retirees live shorter than expected, there is a gain. If retirees live longer than assumed, there is a loss.	208,369	110,833	152,788	(9,495)	27,307
Final plan reselection. If the account value from defined contribution accounts is greater than the reestablished defined benefit account balance, there is a gain.	0	0	0	0	(1,403)
Gain (or loss) during year from financial experience	5,373,962	707,989	38,287	(368,031)	852,549
Actuarial gain (or loss) due to assumption changes/plan amendments	(4,433,797)	0	0	236,418	415,862
Composite gain (or loss) during the year	**$ 940,165**	**$ 707,989**	**$ 38,287**	**$ (131,613)**	**$ 1,268,411**

Summary of Benefit and Contribution Provisions — Defined Benefit Plan

Eligibility for Membership

Immediate upon commencement of employment.

Service Retirement

Eligibility : Effective Aug. 1, 2015, the service credit requirements for an unreduced benefit are as follows:

Unreduced Benefit for Retirement	Minimum Age and Years of Service
Through 7/1/2015	Any age and 30 years; or age 65 and 5 years
8/1/2015–7/1/2017	Any age and 31 years; or age 65 and 5 years
8/1/2017–7/1/2019	Any age and 32 years; or age 65 and 5 years
8/1/2019–7/1/2021	Any age and 33 years; or age 65 and 5 years
8/1/2021–7/1/2023	Any age and 34 years; or age 65 and 5 years
8/1/2023–7/1/2026	Any age and 35 years; or age 65 and 5 years
8/1/2026	Age 60 and 35 years; or age 65 and 5 years

Amounts effective Aug. 1, 2015: Annual amount equal to 2.2% of final average salary for the five highest years of earnings, multiplied by all years of service.

Amounts on or before July 1, 2015: Annual amount equal to the greater of (a) 2.2% of final average salary for the three highest years of earnings, multiplied by years of total Ohio service credit, or 2.5% of final average salary for the three highest paid years if the member has 35 or more years of contributing service credit multiplied by years of total contributing service credit, except that for years of contributing service credit in excess of 30, the following percentages apply:

Year	Percentage
31	2.5%
32	2.6%
33	2.7%
34	2.8%
35	2.9%
36	3.0%
37	3.1%
38	3.2%
39	3.3%

or (b) $86 multiplied by years of service credit.

Transition Benefit: For members who were eligible to retire on July 1, 2015, the annual amount will be greater of (a) the benefit amount calculated upon retirement under the current benefit formula, or (b) the benefit amount the member would have received if he/she retired on July 1, 2015.

Annual salary is subject to the limit under Section 401(a) (17) of the Internal Revenue Code.

Reduction factors for early retirement: The service credit requirements for an actuarially reduced benefit are as follows:

Actuarially Reduced Benefit for Retirement	Minimum Age and Years of Service
Through 7/1/2015	Age 55 and 25 years; or age 60 and 5 years
8/1/2015–7/1/2017	Any age and 30 years; or age 55 and 26 years; or age 60 and 5 years
8/1/2017–7/1/2019	Any age and 30 years; or age 55 and 27 years; or age 60 and 5 years
8/1/2019–7/1/2021	Any age and 30 years; or age 55 and 28 years; or age 60 and 5 years
8/1/2021–7/1/2023	Any age and 30 years; or age 55 and 29 years; or age 60 and 5 years
8/1/2023	Any age and 30 years; or age 60 and 5 years

The actuarially reduced benefit reflects a reduction for each year that the member retires before meeting eligibility for an unreduced benefit.

Disability Retirement

Eligibility : Membership before July 30, 1992, and election of this benefit, completion of five or more years of qualifying service credit, under age 60 and permanently incapacitated for the performance of duty.

Amount

(1) Annuity with a reserve equal to the member's accumulated contributions, plus

(2) The difference between (1) and 2% of the average salary during the three highest paid years times total service plus years and months from date of disability to age 60. Maximum allowance is 75% of final average salary. Minimum allowance is 30% of final average salary. Disability benefits commencing before Aug. 1, 2015, were based on a three-year final average salary.

Disability Allowance

Eligibility : For membership after July 29, 1992, and before July 1, 2013, or membership before July 30, 1992, and election of this benefit, completion of five or more years of qualifying service credit and permanently incapacitated for the performance of duty. Membership on or after July 1, 2013, completion of 10 years of qualifying service credit and permanently incapacitated for the performance of duty.

Amount : 2.2% of the average salary during the five highest paid years times total service. Maximum allowance is 60% of final average salary. Minimum allowance is 45% of final average salary. The disability allowance payment terminates at age 65 (or later if payment begins after age 60). After termination of the disability allowance, the member may apply for service retirement. Disability benefits commencing before Aug. 1, 2015, were based on a three-year final average salary.

Death After Retirement

Lump-sum payment of $1,000 upon death after service or disability retirement.

Survivor Benefits

Eligibility: For membership before July 1, 2013, upon death after at least 1-1/2 years of credit with at least 1/4 year of such service in the 2-1/2 years preceding death or upon death of a disability benefit recipient. For membership on or after July 1, 2013, upon death after at least five years of qualifying service credit and died not later than one year after the date service terminated or upon the death of a disability benefit recipient.

Qualified survivors will receive the highest benefit from among the following for which they are eligible: dependent-based benefit, service-based benefit, and retirement-based benefit.

Qualified survivors are the spouse, dependent children, and/or dependent parents over age 65.

Dependent-based benefit: Monthly survivor benefits are determined according to the number of qualified survivors. These benefits are payable as a percentage of final average salary. The percentages are as follows:

Number of Qualified Dependents	% of Final Average Salary
1	25%
2	40%
3	50%
4	55%
5 or more	60%

Service-based benefit: If a member has 20 or more years of service before death, monthly survivor benefits are determined according to the number of years of service credit. These benefits are payable as a percentage of final average salary. The percentages are as follows:

Years of Service	% of 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%

Retirement-based benefit: If a member dies after meeting service retirement eligibility, the monthly survivor benefit is determined as if the member had actually retired and provided the maximum joint and survivor benefit to the qualified survivor (Option 1). Early retirement reduction applies if the member is not eligible for unreduced benefit.

The primary beneficiary may withdraw the deceased member's account in lieu of receiving monthly benefits if there are no children who are qualified survivors.

Lump-Sum Withdrawal Option

In lieu of any other pension or survivor benefits, a member who leaves the system can receive his or her member contributions with interest in a lump sum payment according to the following schedule:

Credited Service	Lump-Sum Amount
Less than three years	Member contributions with 2% interest
Three or more years but less than five years	Member contributions with 3% interest
Five or more years	150% of member contributions with 3% interest

The board has the authority to modify the interest credited to member contributions.

Plans of Payment

There are four basic plans of payment:

Plan I — Single Life Annuity: if a member chooses this plan at retirement and later marries, he/she may change the plan to a Joint and Survivor Annuity with his/her spouse as beneficiary within the first year of the marriage.

Plan II — Joint and Survivor Annuity: there are four options under this plan of payment:

- Options 1, 2 and 3 apply to a single primary beneficiary
- Option 4 applies to multiple primary beneficiaries

Plan III — Annuity Certain: if a death occurs before the guaranteed period ends, a beneficiary receives the same monthly benefit until the guaranteed period expires. If a member names more than one beneficiary, a lump-sum payment, representing the present value of the remaining payments, is divided equally and paid to the beneficiaries. If all beneficiaries die before the expiration of the certain period, the present value of all remaining payments is paid to the estate of the beneficiary last receiving payments.

Plan IV — Partial Lump-Sum Option Plan: allows a member to take an amount from six to 36 times the monthly Single Life Annuity benefit in a lump sum at retirement. The remainder of a member's lifetime benefits will be paid based on member's selected plan of payment: Single Life Annuity, Joint and Survivor Annuity or Annuity Certain.

Optional Forms of Benefit

Option 1 — 100% joint and survivorship. Reduced retirement allowance payable to the member, continuing after the member's death, for life to the member's sole beneficiary named at retirement.

Option 2 — A joint and survivorship annuity payable during the lifetime of the member, with the member's sole beneficiary named at retirement to receive some other portion of the member's annuity after the member's death.

Option 3 — The sole member's reduced retirement allowance provided under Option 1 or Option 2 is to be paid after the member's death for life to the member's sole beneficiary named at retirement, except that in the event of the death of the sole beneficiary or termination of marriage between the retiree and the sole beneficiary, the retiree may elect to return to his single lifetime benefit equivalent. In the case of termination of marriage, the election may be made with the written consent of the beneficiary or by court order.

Option 4 — Members may elect a reduced benefit to provide continuing lifetime benefits for up to four primary beneficiaries under a Joint and Survivor Annuity. A member may specify percentages of his/her benefit or a flat dollar amount for each beneficiary; however, the total benefit amount payable to all beneficiaries cannot exceed the amount payable to the member.

Cost-of-Living Adjustment (COLA)

Effective July 1, 2017, the COLA was reduced to zero.

Health Care

Retirees, their spouses and dependents are eligible for a comprehensive medical expense health care plan as may be offered by the Retirement Board, subject to changes in terms and conditions from time to time.

Contributions

By Members: 14% of salary.

By Employers: 14% of salaries of their employees who are members.

Summary of Benefit and Contribution Provisions — Combined Plan

Eligibility for Membership

New members hired on or after July 1, 2001, may elect in writing to participate in the Combined Plan.

Service Retirement

Eligibility: Age 60 with five years of service.

Amount: The balance in the member's defined contribution account plus an annual amount equal to 1% of final average salary for the five highest paid years multiplied by years of total Ohio service credit.

Before Aug. 1, 2015, the final average salary was the average of the member's three highest salary years.

Annual salary is subject to the limit under Section 401(a)(17) of the Internal Revenue Code.

Vesting

Eligibility: Completion of five years of service for the defined benefit portion. Member contributions and earnings are 100% vested at all times.

Amount: A member who terminates with five or more years of service credit can receive the actuarial equivalent present value of the defined benefit formula. Before age 50, a withdrawal must include both the defined benefit and defined contribution portions of the account.

Early Retirement

Eligibility: Before age 60 with five years of service.

Amount: The normal retirement benefit commencing at age 60. At age 50 or after, a member may elect to withdraw the full value of his or her defined contribution account and receive the withdrawal value of the defined benefit in a single sum, or leave the defined benefit on account for a benefit payable at age 60. The member may withdraw the defined benefit portion of the account only if he or she is also withdrawing the defined contribution account.

Disability Benefits

Eligibility: Completion of five or more years of qualifying service credit and permanently incapacitated from the performance of duty. For membership on or after July 1, 2013, completion of 10 years of qualifying service credit with STRS Ohio.

Amount: 2.2% of the average salary during the five highest paid years times total service. Maximum allowance is 60% of final average salary and the minimum is 45%. All contributions and investment gains in the member's defined contribution account are used to fund the benefit. At age 65, the disability allowance converts to a service retirement benefit with a 2.2% formula. Alternatively, the member's defined contribution account is available.

Survivor Benefits

Eligibility: For membership before July 1, 2013, upon death after at least 1-1/2 years of qualifying service credit with at least 1/4 year of such service in the 2-1/2 years preceding death or upon death of a disability benefit recipient. For membership on or after July 1, 2013, upon death at least five years of qualifying service credit and died no later than one year after service terminated or upon death of a disability benefit recipient.

Amount: Qualified survivors have the option of receiving dependent-based, service-based or retirement-based benefits described under the Defined Benefit Plan. Both employer contributions and the member's contributions and any investment gains in the member's defined contribution account are used to fund the benefit. Survivors also have the option to withdraw the defined contribution and defined benefit portions of the Combined Plan account.

Optional Forms of Payment of Defined Benefit Portion

The greater of a lump sum of the actuarial equivalent of the defined benefit formula benefit or member contributions to the defined benefit portion. If a member withdraws the defined contribution account before age 50, the defined benefit portion is paid in a lump sum.

Joint and Survivorship Options — Options 1 through 4 described in the Defined Benefit Plan provisions are available, as well as the PLOP. All alternative forms of payment are the actuarial equivalent of the Single Life Annuity benefit payable at age 60.

Optional Forms of Payment of Member's Defined Contribution Account

The actuarial equivalent of the member's defined contribution account can be paid on or after age 50 as a lifetime annuity. Options 1 through 4, described in the Defined Benefit Plan provisions, are also available. The monthly annuity must be $100 or more to receive the member's defined contribution account in the form of an annuity.

The vested amount of the member's defined contribution account upon termination of employment can be paid as a single lump sum. If a member takes a lump sum of the defined benefit formula benefit, the member must simultaneously withdraw the lump-sum value of the member's defined contribution account in a single lump sum.

Health Care

Retirees, their spouses and dependents are eligible for a comprehensive medical expense health care plan as may be offered by the Retirement Board, subject to changes in terms and conditions from time to time.

Contributions

By Members: 14% of salary.

12% of salary is deposited into the member's defined contribution account and 2% is applied to the defined benefit portion of the Combined Plan.

By Employers: 14% of salaries of their employees who are Combined Plan members.

Summary of Benefit and Contribution Provisions — Defined Contribution Plan

Eligibility for Membership

New members hired on or after July 1, 2001, may elect in writing to participate in the Defined Contribution Plan.

Service Retirement

Eligibility: Termination after age 50.

Amount: The balance in the member's defined contribution account.

Vesting

Eligibility: Members vest 20% per year in employer contributions and all gains and losses on those contributions. Member contributions and earnings are 100% vested immediately.

Amount: The balance in the member's defined contribution account.

Early Retirement

Eligibility: Termination before age 50.

Amount: The balance in the member's defined contribution account.

Disability Benefits

Eligibility: Permanently incapacitated for the performance of duty and termination of employment.

Amount: The balance in the member's defined contribution account. At age 50, other payment options are available, but employment must first be terminated.

Survivor Benefits

Eligibility: Upon death.

Amount: The balance in the member's defined contribution account. A spouse may either continue to manage the member's defined contribution account or withdraw the account.

Optional Forms of Payment

The actuarial equivalent of the member's defined contribution account can be paid on or after age 50 as a lifetime annuity. Options 1 through 4, described in the Defined Benefit Plan provisions, are also available. The monthly annuity must be $100 or more to receive the member's defined contribution account in the form of an annuity.

Cost-of-Living Adjustment (COLA)

Not available.

Health Care

Not available.

Contributions

By Members: 14% of salary is deposited into the member's defined contribution account.

By Employers: 14% of salaries of their employees who are Defined Contribution Plan members. Effective July 1, 2017, 9.53% of salary is deposited into the member's defined contribution account. 4.47% of the salaries is used to amortize the unfunded actuarial accrued liability of the plan.

CHEIRON

Classic Values, Innovative Advice

Certification

October 2021

State Teachers Retirement System of Ohio
275 East Broad Street
Columbus, Ohio 43215

This report presents the June 30, 2021 actuarial valuation and disclosure information under the Governmental Accounting Standards Board (GASB) Statement Nos. 74 and 75 for the Other Postemployment Benefits (OPEB) Plan provided by the State Teachers Retirement System of Ohio (STRS Ohio). This report is for the use of STRS Ohio and their auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the measurement of funding requirements for the Plan.

The actuary prepared the following supporting schedules including the Financial and Actuarial Sections of the *Annual Comprehensive Financial Report:*

– Financial/Required Supplementary Information
  - Schedule of Changes in Employers' Net OPEB Liability
  - Schedule of Employers' Net OPEB Liability
  - Schedule of Employers' Contributions – OPEB
  - Notes to Required Supplementary Information – OPEB
  - Sensitivity of the Net OPEB Liability to the Discount Rate and Trend Rate Assumption

– Actuarial
  - Health Care Solvency Test
  - Key methods and assumptions used in Health Care Actuarial Valuation
  - Summary of Membership Data

In preparing our report, we relied on information (some oral and some written) supplied by STRS Ohio. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, changes in healthcare assumptions, and changes in plan provisions or applicable law. This report does not contain any adjustment for the potential impact of COVID-19. We anticipate the virus will impact both mortality and claims in the short term, as well as potentially other demographic experience. However, the net impact is not determinable at this time.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for STRS Ohio for the purposes described herein and for the use by the auditors in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any such other user.

Margaret A. Tempkin, FSA, MAAA, EA
Principal Consulting Actuary

Gaelle Gravot, FSA, MAAA
Principal Consulting Actuary

A separate annual valuation of the retiree health care coverage provided by STRS Ohio was performed as of June 30, 2021, by Cheiron.

Summary of Actuarial Assumptions and Methods — Health Care Fund

The assumptions for this valuation were selected based on recent experience and expectations for the future. Many of the demographic assumptions were selected by the prior actuary based on its prior experience study. Cheiron has not performed its own experience study but reviewed the reports and letters of the prior actuary and believe the assumptions to be reasonable.

Expected Return on Assets: 7.00%

Municipal Bond Yield: 2.16% as of June 30, 2021

Discount Rate: 7.00%, based on a blend of 2.16% municipal bond yield rate and the expected return on invested plan assets. The assets are sufficient to cover all expected benefits, thus the long-term rate of return is used.

Payroll Increase Rate: 3.00% per year for purposes of attributing individual costs under the Entry Age actuarial cost method.

Salary Increase Rate: Varies by age from 2.5% to 12.5%.

Per Person Health Care Cost Trend Rates:

	Medical		Prescription Drug	
Year	Pre-65	65+	Pre-65	65+
2021	5.00%	–16.18%	6.50%	29.98%
2022	4.93%	2.20%	6.33%	21.83%
2023	4.87%	13.11%	6.17%	13.06%
2024	4.80%	11.05%	6.00%	13.57%
2025	4.73%	9.13%	5.83%	10.96%
2026	4.67%	7.41%	5.67%	10.02%
2027	4.60%	6.43%	5.50%	7.42%
2028	4.53%	6.08%	5.33%	5.13%
2029	4.47%	5.75%	5.17%	5.00%
2030	4.40%	5.50%	5.00%	4.86%
2031	4.33%	5.25%	4.83%	4.71%
2032	4.27%	5.00%	4.67%	4.57%
2033	4.20%	4.75%	4.50%	4.43%
2034	4.13%	4.50%	4.33%	4.29%
2035	4.07%	4.25%	4.17%	4.14%
2036+	4.00%	4.00%	4.00%	4.00%

Economic Assumption Changes Since Last Valuation: 2021 Healthcare trends were updated to reflect the FYE 2022 projected Medicare rates. Medicare premium and contribution trends were updated as a result of a change in methodology regarding the adjustments make to gross costs to determine the Medicare premiums. This methodology change resulted in lower premium and therefore lower retiree contribution.

Percent of Retirees Electing Health Care Coverage: 75% of future eligible service retirees and 65% of future eligible disabled retirees are assumed to elect health care coverage. 100% of Combined Plan and 50% of Defined Benefit Plan future inactive vested participants are assumed to cash out. 30% of inactive vested participants who do not cash out are assumed to elect health care coverage. Current and future participants for whom the value of the benefits received is less than their contribution are assumed to drop health care coverage.

Benefit Elections: Below is a summary of medical plan election rates for future retirees by Medicare status.

Pre-Medicare Medical Plans	Benefit Election Rate
Medical Mutual/Aetna Basic PPO	93.7%
AultCare PPO	3.0%
Paramount Health Care HMO	3.3%

Medicare Medical Plans	Benefit Election Rate
Aetna Medicare Advantage	94.2%
Medical Mutual/Aetna Basic PPO	3.9%
AultCare PPO	1.0%
Paramount Health Care HMO	0.9%

Spousal Coverage: Of those future retirees who elect to continue health coverage, 20% were assumed to have an eligible spouse who also opts for health care coverage at that time.

Dependent Age: For current retirees, the actual spouse date of birth was used when available. For future retirees, male retirees are assumed to be three years older than their partners, and female retires are assumed to be one year younger than their partners.

Administrative Expenses: Health plan administrative expenses are included in the per capita claims costs.

Changes Since the Last Valuation: None

Claim and Expense Assumptions: The July 1, 2020–June 30, 2021 claims costs were developed based on the average of the 2020 and 2021 premium rates the system pays its vendors, the average projected 2019 and 2020 employer group waiver program recoveries that the system is expected to receive for calendar 2020 and calendar 2021 prescription filled dates and an estimate of the Rx rebates for the non-Medicare population-based on actual 2018 non-Medicare Rx rebates.

Average Annual Claims and Expense Assumptions: The following claims costs are shown for selected ages.

Average Claim and Expense Assumptions

	Medical Pre-Medicare		Prescription Drug Pre-Medicare		Medical Medicare		Prescription Drug Medicare	
Age	Male	Female	Male	Female	Male	Female	Male	Female
40	$3,164	$5,740	$819	$1,016	$638	$574	$1,372	$1,315
50	$5,474	$6,841	$1,351	$1,433	$1,165	$1,049	$2,508	$2,403
60	$8,916	$9,860	$2,059	$1,948	$1,204	$1,084	$2,591	$2,483
65	$10,481	$9,916	$2,441	$2,206	$614	$562	$1,320	$1,288
70	$11,492	$10,994	$2,898	$2,518	$740	$637	$1,486	$1,348
80	$13,816	$13,516	$3,943	$3,214	$1,070	$894	$1,313	$1,249

Retiree Contributions: In 2020, non-Medicare retirees received a subsidy of 1.984% per year of service to a maximum of 30 years and Medicare retirees received a subsidy of 2.1% per year of service to a maximum of 30 years. In 2021, non-Medicare retirees received a subsidy of 2.055% per year of service to a maximum of 30 years. In 2022, non-Medicare retirees will receive a subsidy of 2.1% per year of service to a maximum of 30 years

Beginning in 2023, the subsidy dollar amount for non-Medicare plans will be frozen at the 2022 levels. Annual increases in the subsidy dollar amount for Medicare plans will be based on the percentage increase in the Aetna Medicare Advantage Plan, limited at 6%.

For those who retire on or after August 2023, the first five years of service do not count towards the subsidy, so subsidy percentages are shifted five years and those with less than 20 years of service receive no subsidy.

A weighted average total cost across the medical plans is used as the STRS Ohio subsidy and is shown below. The amount is assumed to increase with health trend.

Weighted Average Premiums	
Pre-65 retirees	$13,139.52
Retirees age 65+	$3,810.89

Medicare Part D Subsidy: An estimate of –$0.78 per Medicare participant is included in the fiscal 2022 rates.

Medicare Part B Premium Subsidy: Service retirees and disabled retirees who are enrolled in an STRS Ohio medical plan and who participate in Medicare Part B receive $29.90 monthly reimbursement towards the Part B premiums.

Health Care Solvency Test, 2016–2021 (dollar amounts in thousands)

	Accrued Liability For:				Portion of Accrued Liability Covered by Fair Value of Assets:		
Actuarial Valuation Date	(1) Active Members	(2) Inactive Members	(3) Retirees, Survivors & Dependents	Fair Value of Assets	(1)	(2)	(3)
Jan. 1, 2016	$1,830,799	$19,435	$3,303,997	$3,258,197	100%	100%	43%
Jan. 1, 2017	$2,596,979	$18,783	$3,271,404	$3,222,093	100%	100%	19%
Jan. 1, 2018	$777,500	$2,424	$1,636,026	$3,691,399	100%	100%	178%
June 30, 2018	$784,921	$1,965	$1,327,565	$3,721,349	100%	100%	221%
June 30, 2019	$872,892	$2,251	$1,340,775	$3,872,158	100%	100%	224%
June 30, 2020	$930,668	$2,279	$1,206,851	$3,897,296	100%	100%	246%
June 30, 2021	**$1,137,505**	**$2,989**	**$1,680,827**	**$4,929,739**	**100%**	**100%**	**225%**

Summary of Membership Data

Valuation date	Jan. 1, 2016	Jan. 1, 2017	Jan. 1, 2018	June 30, 2018	June 30, 2019	June 30, 2020	June 30, 2021
Active members	164,925	169,205	168,132	170,327	170,004	167,838	**166,424**
Inactive members	17,275	17,011	17,694	18,384	18,762	19,415	**20,430**

STRS Ohio Health Care Program Enrollees

	Jan. 1, 2018	June 30, 2018	June 30, 2019	June 30, 2020	Added	Terminated	June 30, 2021
Retirees	98,231	97,830	96,235	94,456	2,992	4,403	**93,045**
Disabled retirees	3,939	3,823	3,639	3,469	66	258	**3,277**
Survivors	4,826	4,766	4,498	4,377	359	499	**4,237**
Spouses and dependents (excluding children)	15,458	14,913	14,154	13,321	567	1,283	**12,605**
Total	**122,454**	**121,332**	**118,526**	**115,623**	**7,862**	**10,321**	**113,164**
Annual allowance (in thousands)	$351,457	$348,743	$326,560	$320,907	$28,348	$613	**$348,642**

Valuation date	Jan. 1, 2017	Jan. 1, 2018	June 30, 2018	June 30, 2019	June 30, 2020	June 30, 2021
Average per health care participant annual benefit	$2,205	$273	$667	$772	$976	**$768**

The objective of the statistical section is to provide financial statement users with historical perspective, context and detail to assist in using the information in the financial statements and the notes to the financial statements to better understand and assess STRS Ohio's economic condition.

The schedules on Pages 81–82 show financial trend information that assists users in understanding and assessing how STRS Ohio's financial position has changed over time. The financial trend schedules presented are:

- Changes in Fiduciary Net Position
- Net Position by Plan
- Benefit Expenses by Type

Demographic and economic information begins on Page 83. This information is intended to assist users in understanding the environment in which STRS Ohio operates and to provide information that facilitates comparisons of financial statement information over time and among governments. The demographic and economic information presented is:

- Actuarial Funded Ratio and Funding Period
- Selected Funding Information — Defined Benefit Plan
- Number of Benefit Recipients by Type
- Summary of Active Membership Data

Operating information, which begins on Page 85, is intended to provide contextual information about STRS Ohio's operation to assist in using financial statement information. The operating information presented is:

- Benefit Payments by Type
- Average Benefit Payments for Service Retirees
- Average Benefit Subsidy Payments for Retirees Enrolled in Health Care Program
- Number of Reporting Employers by Type
- Principal Participating Employers

Changes in Fiduciary Net Position
Years Ending June 30, 2012–2021 (in thousands)

Defined Benefit Plan

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Additions:										
Member contributions	$ 1,049,709	$ 1,042,959	$ 1,134,899	$ 1,188,062	$ 1,289,809	$ 1,443,374	$ 1,479,151	$ 1,515,445	$ 1,554,973	$ 1,585,509
Employer contributions	1,349,561	1,327,862	1,325,141	1,449,165	1,466,938	1,514,285	1,565,679	1,614,188	1,662,017	1,696,121
Transfers from Defined Contribution Plan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14,941	22,933
Net investment income (loss)	1,094,829	7,984,266	10,418,170	3,644,151	361,567	9,098,570	6,625,382	4,768,116	2,674,947	20,620,798
Other	50,804	54,681	168,250	123,557	55,441	54,649	43,248	63,435	39,288	60,129
Total additions	3,544,903	10,409,768	13,046,460	6,404,935	3,173,755	12,110,878	9,713,460	7,961,184	5,946,166	23,985,490
Deductions:										
Benefit payments	5,741,042	6,152,335	6,504,676	6,662,232	7,090,037	6,989,165	7,052,642	7,040,052	7,023,096	7,048,431
Refunds	169,071	186,459	198,972	198,700	205,223	190,517	219,453	218,601	225,545	221,018
Administrative expenses	57,879	58,613	60,136	60,270	61,038	62,592	62,775	63,858	65,405	65,363
Total deductions	5,967,992	6,397,407	6,763,784	6,921,202	7,356,298	7,242,274	7,334,870	7,322,511	7,314,046	7,334,812
Net increase (decrease)	(2,423,089)	4,012,361	6,282,676	(516,267)	(4,182,543)	4,868,604	2,378,590	638,673	(1,367,880)	16,650,678
Net position held in trust, beginning of year	63,116,710	60,693,621	64,705,982	70,988,658	70,432,646	66,250,103	71,118,707	73,457,567	74,096,240	72,728,360
Prior period adjustment GASB 68 2015; GASB 75 2018	N/A	N/A	N/A	(39,745)	N/A	N/A	(39,730)	N/A	N/A	N/A
Beginning of year restated	N/A	N/A	N/A	70,948,913	N/A	N/A	71,078,977	N/A	N/A	N/A
Net position held in trust, end of year	**$60,693,621**	**$64,705,982**	**$70,988,658**	**$70,432,646**	**$66,250,103**	**$71,118,707**	**$73,457,567**	**$74,096,240**	**$72,728,360**	**$89,379,038**

Defined Contribution Plan

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Additions:										
Member contributions	$ 49,764	$ 52,331	$ 58,909	$ 71,073	$ 82,224	$ 94,303	$ 101,279	$ 107,650	$ 115,433	$ 121,309
Employer contributions	28,890	30,027	29,083	32,002	34,164	36,969	39,103	41,944	44,944	46,928
Net investment income (loss)	2,670	74,076	116,674	27,694	11,304	135,360	112,075	79,401	17,129	591,881
Transfers between retirement plans	(17,246)	(16,738)	(14,033)	(9,931)	(11,440)	(15,034)	(14,003)	(17,413)	N/A	N/A
Total additions	64,078	139,696	190,633	120,838	116,252	251,598	238,454	211,582	177,506	760,118
Deductions:										
Refunds	14,697	20,033	21,369	29,930	26,847	31,324	31,706	39,753	45,028	57,753
Transfers to Defined Benefit Plan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14,941	22,933
Administrative expenses	881	837	854	913	1,033	1,060	532	259	356	448
Total deductions	15,578	20,870	22,223	30,843	27,880	32,384	32,238	40,012	60,325	81,134
Net increase (decrease)	48,500	118,826	168,410	89,995	88,372	219,214	206,216	171,570	117,181	678,984
Net position held in trust, beginning of year	519,202	567,702	686,528	854,938	944,933	1,033,305	1,252,519	1,458,735	1,630,305	1,747,486
Net position held in trust, end of year	**$ 567,702**	**$ 686,528**	**$ 854,938**	**$ 944,933**	**$ 1,033,305**	**$ 1,252,519**	**$ 1,458,735**	**$ 1,630,305**	**$ 1,747,486**	**$ 2,426,470**

Health Care Fund

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Additions:										
Employer contributions	$ 101,025	$ 99,179	$ 98,330	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Health care premiums	246,264	261,903	277,477	306,569	339,927	339,056	329,305	312,841	295,779	254,014
Net investment income (loss)	54,990	402,110	524,484	180,566	17,001	440,197	328,965	244,700	140,300	1,121,699
Government reimbursements	92,213	41,200	46,132	61,127	58,812	79,357	107,197	84,789	81,876	96,478
Total additions	494,492	804,392	946,423	548,262	415,740	858,610	765,467	642,330	517,955	1,472,191
Deductions:										
Health care benefit payments	627,890	599,818	629,465	672,615	676,993	565,962	517,470	489,169	490,559	437,404
Administrative expenses	2,568	2,555	2,495	2,569	2,655	2,497	2,427	2,352	2,258	2,344
Total deductions	630,458	602,373	631,960	675,184	679,648	568,459	519,897	491,521	492,817	439,748
Net increase (decrease)	(135,966)	202,019	314,463	(126,922)	(263,908)	290,151	245,570	150,809	25,138	1,032,443
Net position held in trust, beginning of year	3,195,942	3,059,976	3,261,995	3,576,458	3,449,536	3,185,628	3,475,779	3,721,349	3,872,158	3,897,296
Net position held in trust, end of year	**$ 3,059,976**	**$ 3,261,995**	**$ 3,576,458**	**$ 3,449,536**	**$ 3,185,628**	**$ 3,475,779**	**$ 3,721,349**	**$ 3,872,158**	**$ 3,897,296**	**$ 4,929,739**

Net Position by Plan Years Ending June 30, 2012–2021 (in thousands)				
Fiscal Year	**Defined Benefit Plan**	**Defined Contribution Plan**	**Health Care Fund**	**Total Net Position**
2012	$60,693,621	$567,702	$3,059,976	$64,321,299
2013	$64,705,982	$686,528	$3,261,995	$68,654,505
2014	$70,988,658	$854,938	$3,576,458	$75,420,054
2015	$70,432,646	$944,933	$3,449,536	$74,827,115
2016	$66,250,103	$1,033,305	$3,185,628	$70,469,036
2017	$71,118,707	$1,252,519	$3,475,779	$75,847,005
2018	$73,457,567	$1,458,735	$3,721,349	$78,637,651
2019	$74,096,240	$1,630,305	$3,872,158	$79,598,703
2020	$72,728,360	$1,747,486	$3,897,296	$78,373,142
2021	**$89,379,038**	**$2,426,470**	**$4,929,739**	**$96,735,247**

Benefit Expenses by Type Years Ending June 30, 2012–2021 (in thousands)					
Fiscal Year	**Service Retirement**	**Disability**	**Survivor**	**Other**	**Total**
2012	$5,401,457	$208,929	$115,473	$15,183	$5,741,042
2013	$5,792,657	$211,755	$124,656	$23,267	$6,152,335
2014	$6,135,563	$211,945	$121,089	$36,079	$6,504,676
2015	$6,280,983	$211,425	$121,533	$47,055	$6,660,996
2016	$6,714,014	$212,614	$124,808	$38,601	$7,090,037
2017	$6,612,638	$210,649	$123,959	$41,919	$6,989,165
2018	$6,673,049	$206,969	$124,756	$47,868	$7,052,642
2019	$6,669,115	$201,726	$123,971	$45,240	$7,040,052
2020	$6,697,443	$195,253	$124,030	$6,370	$7,023,096
2021	**$6,716,896**	**$189,145**	**$123,823**	**$18,567**	**$7,048,431**

Actuarial Funded Ratio and Funding Period, 2012–2021 (dollar amounts in thousands)

As of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Funding Period
2012	$59,489,508	$106,301,841	$46,812,333	56.0%	Infinite years
2013	$62,590,786	$94,366,694	$31,775,908	66.3%	40.2 years
2014	$66,657,175	$96,167,057	$29,509,882	69.3%	29.5 years
2015	$68,655,999	$99,014,654	$30,358,655	69.3%	28.4 years
2016	$70,114,637	$100,756,422	$30,641,785	69.6%	26.6 years
2017	$72,216,212	$96,126,440	$23,910,228	75.1%	18.4 years
2018	$73,115,358	$96,904,057	$23,788,698	75.5%	17.8 years
2019	$74,411,836	$97,840,944	$23,429,109	76.1%	16.6 years
2020	$76,357,681	$98,672,288	$22,314,607	77.4%	14.9 years
2021	**$83,761,394**	**$104,591,406**	**$20,830,012**	**80.1%**	**14.0 years**

Selected Funding Information — Defined Benefit Plan, 2012–2021

		Employer Contribution Rate					
As of June 30	Member Contribution Rate	Employer Normal Cost	Health Care	Unfunded Actuarial Accrued Liability	Total Employer Rate	Interest Rate Assumption	Payroll Growth Assumption
2012	10.00%	5.94%	1.00%	7.06%	14.00%	7.75%	3.50%
2013	11.00%	1.03%	1.00%	11.97%	14.00%	7.75%	3.50%
2014	12.00%	–0.17%	0.00%	14.17%	14.00%	7.75%	3.50%
2015	13.00%	–1.54%	0.00%	15.54%	14.00%	7.75%	3.50%
2016	14.00%	–3.05%	0.00%	17.05%	14.00%	7.75%	3.50%
2017	14.00%	–3.16%	0.00%	17.16%	14.00%	7.45%	3.00%
2018	14.00%	–3.09%	0.00%	17.09%	14.00%	7.45%	3.00%
2019	14.00%	–3.17%	0.00%	17.17%	14.00%	7.45%	3.00%
2020	14.00%	–2.95%	0.00%	16.95%	14.00%	7.45%	3.00%
2021	**14.00%**	**–1.77%**	0.00%	**15.77%**	**14.00%**	**7.00%**	3.00%

Number of Benefit Recipients by Type, 2012–2021

As of June 30	Service Retirement	Disability	Beneficiaries Receiving Optional Allowances	Survivor	Total
2012	122,136	5,951	9,300	5,869	143,256
2013	127,797	5,890	9,621	5,913	149,221
2014	130,521	5,825	9,945	5,917	152,208
2015	136,019	5,736	10,437	5,924	158,116
2016	135,638	5,640	10,767	5,893	157,938
2017	135,446	5,498	11,135	5,960	158,039
2018	134,718	5,314	11,486	5,904	157,422
2019	134,465	5,183	11,880	5,890	157,418
2020	133,766	4,986	12,309	5,846	156,907
2021	**133,532**	**4,789**	**12,830**	**5,770**	**156,921**

Summary of Active Membership Data, 2012–2021 (dollars in thousands)

Defined Benefit Plan

	Females				Males				Total			
As of June 30	Active Members	Annual Salaries	Average Age	Average Service	Active Members	Annual Salaries	Average Age	Average Service	Active Members	Annual Salaries	Average Age	Average Service
2012	119,931	$6,269,684	43.61	12.42	48,442	$2,839,622	44.58	12.39	168,373	$9,109,306	43.89	12.41
2013	117,359	$6,116,458	43.27	12.17	47,698	$2,765,389	44.24	11.97	165,057	$8,881,847	43.55	12.11
2014	116,748	$6,128,826	43.18	12.19	47,280	$2,762,322	44.23	12.07	164,028	$8,891,148	43.49	12.15
2015	113,852	$6,059,671	42.75	11.81	45,474	$2,715,670	43.91	11.84	159,326	$8,775,341	43.08	11.82
2016	116,728	$6,404,312	42.96	12.01	46,532	$2,849,489	44.11	12.02	163,260	$9,253,801	43.29	12.02
2017	115,925	$6,600,162	43.25	12.42	46,131	$2,913,921	44.41	12.39	162,056	$9,514,083	43.58	12.41
2018	117,692	$6,881,822	43.54	12.68	46,246	$2,999,599	44.72	12.69	163,938	$9,881,421	43.87	12.68
2019	117,646	$7,082,124	43.75	12.98	45,833	$3,062,544	45.06	13.08	163,479	$10,144,667	44.12	13.01
2020	116,250	$7,323,611	44.02	13.46	44,845	$3,136,140	45.31	13.62	161,095	$10,459,751	44.38	13.50
2021	**115,321**	**$7,477,668**	**43.94**	**13.69**	**44,247**	**$3,162,389**	**45.29**	**13.90**	**159,568**	**$10,640,057**	**44.31**	**13.75**

Combined Plan

	Females				Males				Total			
As of June 30	Active Members	Annual Salaries	Average Age	Average Service	Active Members	Annual Salaries	Average Age	Average Service	Active Members	Annual Salaries	Average Age	Average Service
2012	3,642	$168,991	39.94	7.15	1,029	$52,548	42.55	6.67	4,671	$221,539	40.52	7.04
2013	3,819	$180,102	40.30	7.51	1,069	$56,086	42.72	6.97	4,888	$236,188	40.83	7.39
2014	4,126	$196,090	40.22	7.61	1,141	$61,201	42.56	7.13	5,267	$257,291	40.73	7.51
2015	4,367	$213,263	40.41	7.78	1,232	$68,491	42.85	7.25	5,599	$281,754	40.95	7.66
2016	4,657	$234,432	40.48	7.95	1,295	$74,004	42.82	7.55	5,952	$308,436	40.99	7.86
2017	4,754	$250,040	40.88	8.35	1,322	$78,265	43.20	7.93	6,076	$328,305	41.38	8.26
2018	5,005	$271,250	41.02	8.64	1,384	$84,633	43.28	8.18	6,389	$355,883	41.51	8.54
2019	5,102	$288,624	41.14	9.04	1,423	$90,315	43.51	8.56	6,525	$378,939	41.66	8.94
2020	5,260	$310,026	41.34	9.40	1,483	$97,061	43.53	8.87	6,743	$407,087	41.82	9.28
2021	**5,337**	**$327,699**	**41.25**	**9.81**	**1,522**	**$103,238**	**43.52**	**9.20**	**6,859**	**$430,937**	**41.75**	**9.67**

Total Active Membership

	Females				Males				Total			
As of June 30	Active Members	Annual Salaries	Average Age	Average Service	Active Members	Annual Salaries	Average Age	Average Service	Active Members	Annual Salaries	Average Age	Average Service
2012	123,573	$6,438,675	43.50	12.26	49,471	$2,892,170	44.54	12.27	173,044	$9,330,845	43.80	12.26
2013	121,178	$6,296,561	43.17	12.02	48,767	$2,821,475	44.20	11.86	169,945	$9,118,036	43.47	11.98
2014	120,874	$6,324,915	43.08	12.03	48,421	$2,823,523	44.19	11.95	169,295	$9,148,438	43.40	12.01
2015	118,219	$6,272,934	42.66	11.66	46,706	$2,784,161	43.89	11.72	164,925	$9,057,095	43.01	11.68
2016	121,385	$6,638,743	42.86	11.86	47,827	$2,923,493	44.08	11.90	169,212	$9,562,236	43.21	11.87
2017	120,679	$6,850,202	43.15	12.26	47,453	$2,992,186	44.38	12.26	168,132	$9,842,388	43.50	12.26
2018	122,697	$7,153,072	43.43	12.52	47,630	$3,084,232	44.68	12.56	170,327	$10,237,304	43.78	12.53
2019	122,748	$7,370,749	43.64	12.81	47,256	$3,152,858	45.01	12.94	170,004	$10,523,607	44.02	12.85
2020	121,510	$7,633,638	43.90	13.28	46,328	$3,233201	45.25	13.47	167,838	$10,866,839	44.28	13.33
2021	**120,658**	**$7,805,368**	**43.82**	**13.52**	**45,769**	**$3,265,627**	**45.23**	**13.74**	**166,427**	**$11,070,995**	**44.21**	**13.58**

Note: Members enrolled in STRS Ohio's Defined Contribution Plan and reemployed retirees are not reflected in the above figures. Totals may differ due to rounding.

Benefit Payments by Type
As of June 30, 2021

Age Last Birthday	Number	Annual Allowance (in thousands)	Average Annual Allowance
Service Retirees			
Under 60	4,262	$ 224,386	$ 52,648
60–64	11,762	566,211	48,139
65–69	28,119	1,357,452	48,275
70–74	37,722	1,875,942	49,731
75–79	23,662	1,126,714	47,617
Over 79	28,005	1,116,954	39,884
Total	**133,532**	**$ 6,267,659**	**$ 46,938**
Disability Benefit Recipients			
Under 60	1,004	$ 35,971	$ 35,828
60–64	622	24,287	39,047
65–69	712	29,981	42,108
70–74	1,030	43,577	42,308
75–79	704	27,779	39,459
Over 79	717	23,322	32,527
Total	**4,789**	**$ 184,917**	**$ 38,613**
Beneficiaries Receiving Optional Allowances			
Under 60	17	$ 648	$ 38,118
60–64	119	5,039	42,345
65–69	572	24,200	42,308
70–74	1,583	66,198	41,818
75–79	1,996	79,980	40,070
Over 79	8,543	256,525	30,028
Total	**12,830**	**$ 432,590**	**$ 33,717**
Survivor Benefit Recipients			
Under 60	1,340	$ 17,299	$ 12,910
60–64	369	7,938	21,512
65–69	704	17,059	24,232
70–74	945	24,789	26,232
75–79	813	20,326	25,001
Over 79	1,599	36,844	23,042
Total	**5,770**	**$ 124,255**	**$ 21,535**
Grand Total	**156,921**	**$ 7,009,421**	**$ 44,668**

Average Benefit Payments for Service Retirees
July 1–June 30, 2012–2021

		Years of Service Credit						
		5–9	10–14	15–19	20–24	25–29	30+	Average/Total
2012	Average monthly benefit	$496	$946	$1,625	$2,385	$2,965	$4,727	$3,921
	Average final average salary	$31,235	$45,473	$58,519	$68,884	$72,224	$77,181	$72,706
	Number of recipients	204	241	450	674	960	5,463	7,992
2013	Average monthly benefit	$482	$945	$1,714	$2,407	$3,144	$4,796	$3,886
	Average final average salary	$33,742	$47,370	$62,954	$68,669	$75,864	$79,557	$74,643
	Number of recipients	203	280	541	724	1,198	5,113	8,059
2014	Average monthly benefit	$488	$951	$1,681	$2,419	$3,268	$4,808	$3,885
	Average final average salary	$36,506	$48,294	$61,904	$70,372	$78,726	$81,516	$76,213
	Number of recipients	157	225	417	549	817	3,703	5,868
2015	Average monthly benefit	$524	$960	$1,729	$2,410	$3,132	$4,722	$3,795
	Average final average salary	$42,757	$49,494	$64,257	$69,568	$75,754	$80,543	$75,610
	Number of recipients	149	269	514	683	1,246	4,400	7,261
2016	Average monthly benefit	$540	$989	$1,562	$2,440	$3,359	$5,052	$3,805
	Average final average salary	$45,268	$52,092	$59,616	$71,777	$81,463	$87,829	$79,495
	Number of recipients	92	147	347	500	686	1,990	3,762
2017	Average monthly benefit	$505	$1,150	$1,619	$2,453	$3,253	$4,534	$3,460
	Average final average salary	$44,471	$60,384	$62,461	$74,083	$80,735	$83,139	$77,032
	Number of recipients	75	119	237	282	366	1,204	2,283
2018	Average monthly benefit	$483	$1,067	$1,690	$2,416	$3,325	$4,861	$3,454
	Average final average salary	$37,558	$54,811	$63,271	$71,915	$81,491	$88,886	$78,110
	Number of recipients	80	111	304	344	406	1,030	2,275
2019	Average monthly benefit	$584	$1,088	$1,778	$2,480	$3,300	$4,764	$3,637
	Average final average salary	$45,300	$57,695	$66,023	$72,714	$80,278	$86,760	$79,278
	Number of recipients	75	127	279	380	447	1,475	2,783
2020	Average monthly benefit	$528	$1,056	$1,714	$2,575	$3,475	$4,993	$3,647
	Average final average salary	$42,644	$54,055	$64,370	$74,930	$81,607	$90,582	$80,375
	Number of recipients	72	129	275	437	423	1,212	2,548
2021	**Average monthly benefit**	**$522**	**$1,127**	**$1,840**	**$2,594**	**$3,483**	**$5,079**	**$3,863**
	Average final average salary	**$41,664**	**$56,775**	**$66,971**	**$75,035**	**$83,495**	**$91,401**	**$82,509**
	Number of recipients	**85**	**169**	**276**	**437**	**471**	**1,677**	**3,115**

Average Benefit Subsidy Payments for Retirees Enrolled in Health Care Program, 2012–2021

		Years of Service Credit						
		5–9*	10–14*	15–19	20–24	25–29	30+	Average/Total
FY 2012	Average monthly subsidy	$34	$39	$155	$208	$273	$372	$329
	Number of recipients	1,536	1,665	4,347	6,256	11,253	74,274	99,331
FY 2013	Average monthly subsidy	$34	$39	$152	$203	$262	$347	$310
	Number of recipients	1,427	1,553	4,359	6,386	11,554	76,616	101,895
FY 2014	Average monthly subsidy	$34	$40	$153	$203	$260	$335	$302
	Number of recipients	1,325	1,447	4,497	6,532	11,948	79,367	105,116
FY 2015	Average monthly subsidy	$34	$39	$160	$210	$265	$337	$306
	Number of recipients	1,198	1,288	4,409	6,564	12,141	80,871	106,471
FY 2016	Average monthly subsidy	$36	$47	$165	$214	$269	$329	$302
	Number of recipients	1,167	1,301	4,172	6,746	12,700	84,633	110,719
FY 2017	Average monthly subsidy	$37	$52	$162	$207	$260	$307	$284
	Number of recipients	1,074	1,170	4,017	6,610	12,494	83,345	108,710
FY 2018	Average monthly subsidy	$34	$48	$158	$198	$247	$289	$268
	Number of recipients	950	1,019	4,019	6,489	12,262	82,257	106,996
FY 2019	Average monthly subsidy	$32	$45	$158	$200	$250	$282	$265
	Number of recipients	854	914	3,935	6,316	12,030	82,370	106,419
FY 2020	Average monthly subsidy	$32	$46	$159	$198	$248	$281	$264
	Number of recipients	772	836	3,827	6,144	11,813	80,980	104,372
FY 2021	**Average monthly subsidy**	**$32**	**$48**	**$160**	**$199**	**$249**	**$281**	**$265**
	Number of recipients	**683**	**734**	**3,708**	**6,013**	**11,589**	**79,575**	**102,302**

*Members who retired before Jan. 1, 2004, with less than 15 years of service credit have access to the STRS Ohio Health Care Program, but pay the full cost of their premium. Members who retire on or after Jan. 1, 2004, and before Aug. 1, 2023, must have at least 15 years of qualifying service credit to access coverage. Members who retire on or after Aug. 1, 2023, must have at least 20 years of qualifying service credit to access coverage. The subsidy amounts listed for years of service credit less than fifteen years are reflective of the Medicare Part B Premium reimbursements, which currently require a minimum of five years of service credit, and some other subsidy situations.

Number of Reporting Employers by Type, 2012–2021

Fiscal Year Ended	City School Districts	Local School Districts	County Educational Service Centers	Exempted Village School Districts	Joint Vocational Schools	Colleges and Universities	County Boards of Developmental Disabilities	Community Schools	Other	Total
2012	194	370	56	49	49	36	69	312	10	1,145
2013	194	369	55	49	49	36	67	322	12	1,153
2014	194	371	55	49	49	36	65	352	12	1,183
2015	194	370	53	49	49	36	64	337	12	1,164
2016	194	369	52	49	49	36	62	329	12	1,152
2017	194	369	52	49	49	36	61	323	12	1,145
2018	194	369	52	49	49	36	61	318	12	1,140
2019	194	369	52	49	49	36	59	302	11	1,121
2020	194	369	52	49	49	36	59	302	12	1,122
2021	**194**	**368**	**52**	**49**	**49**	**36**	**56**	**299**	**12**	**1,115**

Principal Participating Employers for the Year Ended June 30, 2021

Employer	Covered Members	Prior Year Rank	Percentage of Membership
The Ohio State University	5,499	1	2.50%
Columbus City Schools	5,009	2	2.27%
Cleveland Metropolitan Schools	3,786	3	1.72%
Cincinnati Public Schools	3,502	4	1.59%
University of Cincinnati	3,246	5	1.47%
Kent State University	2,670	7	1.21%
Toledo Public Schools	2,622	10	1.19%
Akron Public Schools	2,557	9	1.16%
ESC Council of Governments	2,295	6	1.04%
ESC of Northeast Ohio	2,017	8	0.92%
All Others (see table below)	187,149		84.93%
Total Covered Members	**220,352***		**100.00%**

*Covered members include any participant in STRS Ohio who made contributions through a reporting employer during the fiscal year. Part-time teachers working in multiple school districts are included within each school's payroll data and, consequently, are reported more than once. Participating employers include every publicly funded school in Ohio employing a licensed teacher. A complete listing of participating employers is available upon request. Years prior to the current year are not reflected since the participating employers do not change substantially from year to year.

Employers — All Other Categories for the Year Ended June 30, 2021

Reporting Employer Type	Covered Members
City School Districts	67,530
Local School Districts	57,909
Colleges and Universities	23,485
Community Schools	9,763
County Educational Service Centers	8,866
Exempted Village School Districts	8,087
Joint Vocational Schools	7,824
Other	2,825
County Boards of Developmental Disabilities	860
Total	**187,149**

Note: Reporting employers includes the Defined Benefit, Defined Contribution and Health Care Plans.

STRS Ohio Plays a Critical Role in Supporting and Sustaining the State of Ohio

Ohio's pension systems share one common goal: to provide retirement security for the thousands of public servants who have made a career out of serving others.

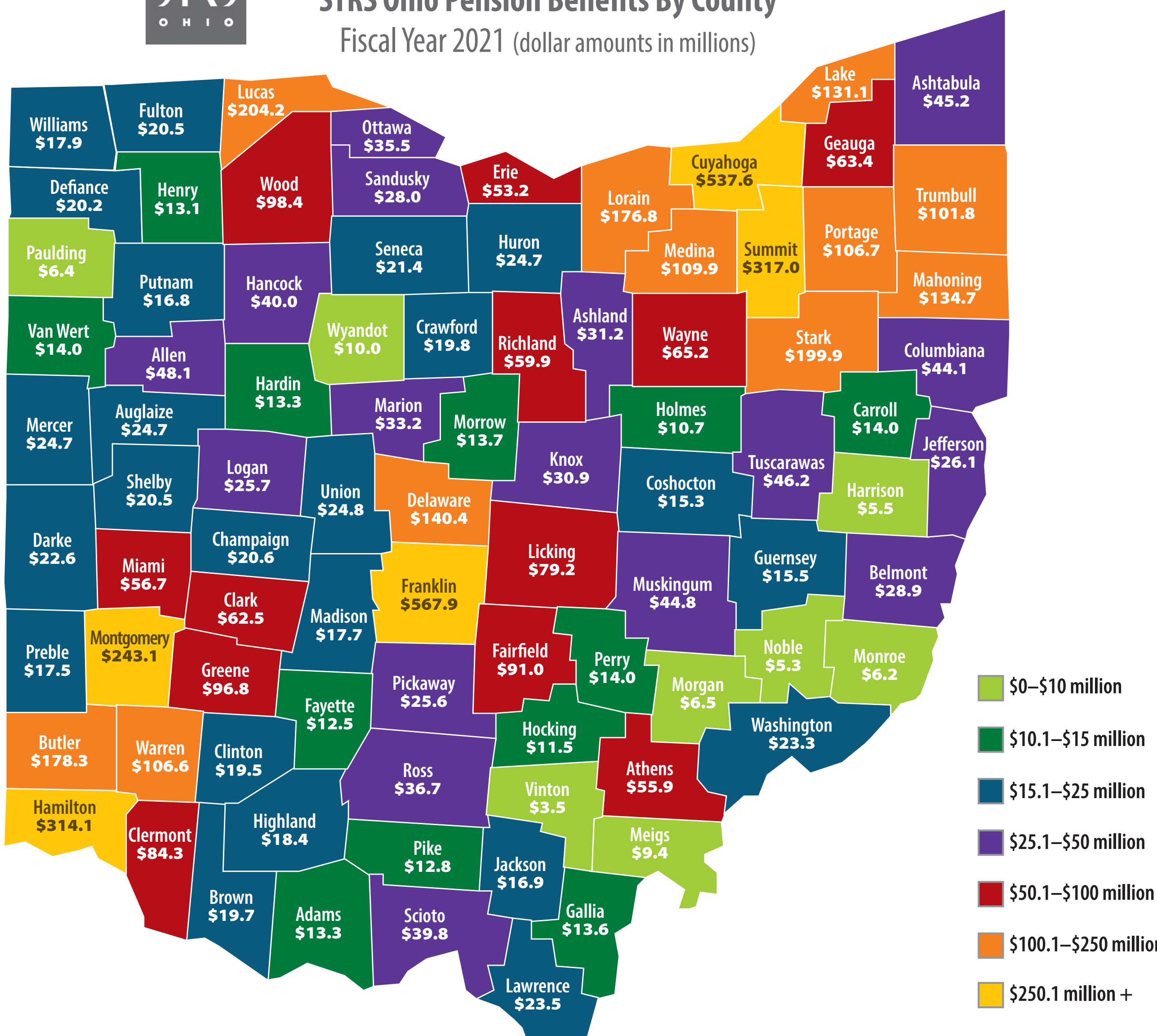
STRS Ohio is one of Ohio's five statewide public pension systems and plays a critical role in supporting and sustaining the State of Ohio. Together, Ohio's statewide public retirement systems serve over a million of the state's citizens, both working and retired. The five systems provide a stable source of revenue for local economies, paying more than $17 billion annually in pension and health care benefits.

These pension systems are major economic drivers for the state; are administratively efficient and economical; and provide a stable retirement income for public workers in Ohio, thereby reducing the burden on taxpayers and Social Security. In fact, these earned pensions represent good public policy for helping to maintain financial security for Ohio's older citizens.

Economic Impact on the State of Ohio

STRS Ohio Pension Benefits By County

Fiscal Year 2021 (dollar amounts in millions)



$5.7 BILLION
STRS Ohio benefits distributed among Ohio's **88** counties

8 OUT OF **10**
STRS Ohio benefit recipients **live in Ohio**

$1.3 BILLION
STRS Ohio **investments** with companies headquartered in **Ohio**

State Teachers Retirement System of Ohio
275 E. Broad St., Columbus, OH 43215-3771 • 614.227.4090 • www.strsoh.org

50-143, 12/21/77