

2022

ANNUAL COMPREHENSIVE FINANCIAL REPORT

For Fiscal Year Ended March 31, 2022



New York State and Local Retirement System

A pension trust fund of the State of New York

Office of the New York State Comptroller

Thomas P. DiNapoli

2022 Comprehensive Annual Financial Report

For Fiscal Year Ended March 31, 2022

New York State and Local Retirement System

Employees' Retirement System

Police and Fire Retirement System

A pension trust fund of the State of New York

Prepared by the staff of the



New York State and Local Retirement System

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For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

March 31, 2021

Christopher P. Morill

Executive Director/CEO



Public Pension Coordinating Council

***Public Pension Standards Award
For Funding and Administration
2021***

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New York State and Local Retirement System

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

Presented by the Public Pension Coordinating Council, a confederation of

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

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

Letter of Transmittal



Office of the New York State Comptroller
Thomas P. DiNapoli

New York State and Local Retirement System
110 State Street, Albany, New York 12244-0001

Phone: 1-866-805-0990

518-474-7736

Web: www.osc.state.ny.us/retirement

September 30, 2022



To the Governor, the State Legislature
and the People of New York State:

I am pleased to present the Annual Comprehensive Financial Report for the New York State and Local Retirement System (the System or NYSLRS) for the fiscal year ended March 31, 2022.

We believe the enclosed financial statements and data are fairly presented in all material respects and are reported in a manner designed to present the financial position and results of the System's operations accurately. This report is intended to provide complete and reliable information as a basis for making management decisions, adhering to and complying with legal requirements, and ensuring responsible stewardship of the System's assets.

Responsibility for the accuracy of the data, and the completeness and fairness of the report, including all disclosures, rests with the System. All disclosures required and necessary to enable the public and the financial community to gain an understanding of the System's financial activities have been included. The Financial section of this report was prepared to conform with Generally Accepted Accounting Principles (GAAP) for governmental units, as set forth by the Governmental Accounting Standards Board (GASB), as well as the reporting requirements prescribed by the Government Finance Officers Association of the United States and Canada (GFOA). GAAP defines uniform minimum standards of, and guidelines for, financial accounting and reporting. These principles establish the framework within which financial transactions are recorded and reported, resulting in financial statements that provide comparability between government entities, consistency between accounting periods, and reliability for both internal and external users of financial statements.

The System's transactions are reported on the accrual basis of accounting. Sufficient internal accounting controls exist to provide reasonable assurance regarding the safekeeping of assets and the fair presentation of the financial statements and supporting schedules.

The Financial section features a Management's Discussion and Analysis (MD&A). GASB requires that the System provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of an MD&A. This letter of transmittal complements the MD&A and should be read in conjunction with it. The MD&A can be found in the Financial section immediately following the report of the independent auditors.

I am proud that the System was awarded a Certificate of Achievement for Excellence in Financial Reporting from GFOA for its Annual Comprehensive Financial Report for the fiscal year ended March 31, 2021. The Certificate of Achievement is a prestigious national award recognizing excellence in the preparation of state and local government financial reports. GFOA awards these certificates to those governments whose annual comprehensive financial reports meet or exceed the Association's strict criteria. To be awarded a Certificate of Achievement, a governmental unit must publish a comprehensive, easily readable and efficiently organized annual financial report that conforms to program standards and that satisfies both generally accepted accounting principles and applicable legal requirements.

The System has received this respected award for each of the past 18 years. We believe that our current report continues to meet the Certificate of Achievement program requirements and are submitting it to GFOA for consideration again this year.

NYSLRS administers two distinct systems. They are the New York State and Local Employees' Retirement System (ERS) and the New York State and Local Police and Fire Retirement System (PFRS). The assets of ERS and PFRS are held in the New York State Common Retirement Fund (Fund) and managed by the Division of Pension Investment and Cash Management in the Office of the State Comptroller.

With more than one million participants, the System is one of the largest public retirement systems in the nation.

The System offers service retirement benefits for members who reach specific ages or have completed a specified number of years of service, depending on the system and plan in which they are enrolled, as well as disability retirement and death benefits. At the end of fiscal year 2021-22, the System had a total of 1,193,373 members, retirees and beneficiaries, and 2,972 participating employers.

Funding

The Fund's assets come from three main sources: employee (member) contributions, employer contributions and investment income. The System is committed to meeting its long-term benefit obligations prudently and fairly. Member contributions are fixed by law. Annual employer contributions are actuarially determined, with a minimum contribution of 4.5 percent of member payroll.

For State fiscal year 2022-23, average contribution rates for participating employers will be lowered. The ERS average rate will decrease from 16.2 percent of payroll to 11.6 percent of payroll. The PFRS average rate will decrease from 28.3 percent of payroll to 27 percent of payroll. The expected total employer contributions for February 1, 2023, are \$4.4 billion, which is \$1.5 billion less than the expected employer contributions during the same period for 2022 — the lowest level since 2011.

While the reduction in employer contribution rates is welcome news for taxpayers, our investment decisions are always made based on what is best for our 1.1 million working and retired members and their beneficiaries. The markets remain unpredictable; that is why I lowered the long-term assumed rate of return on the Fund's investments from 6.8 percent to 5.9 percent last year. Previously, I lowered the Fund's assumed rate of return from 8 percent to 7.5 percent in 2010, to 7 percent in 2015 and to 6.8 percent in 2019. The median assumed rate of return among state public pension funds is 7 percent as of August 2021, according to the National Association of State Retirement Administrators.

We continue to be among the best-funded public pension plans in the nation, in part, because we set contribution rates based on sound actuarial principles and we collect what we bill our employers. For the fiscal year ended March 31, 2022, fiduciary net position represented 103.65 percent of total pension liability for ERS and 98.66 percent for PFRS. The funded ratios for ERS and PFRS appear in the Actuarial section, which also provides a detailed discussion of the System's funding.

Investments

The Fund's primary objective is to provide the means to pay benefits to the participants and beneficiaries of the System through an investment program designed to protect and enhance the long-term value of its assets. Fund investments are made consistent with the "prudence" and "exclusive benefit" fiduciary standards of investment. Our policies and practices ensure that the Fund is managed with high levels of ethical conduct and transparency. An independent fiduciary and conflict-of-interest review of the New York State Common Retirement Fund issued in February 2022 noted that "The Fund ... continues to be a leader amongst its peers for management and operational transparency."

Fiscal year 2021 – 2022, which ended on March 31, was volatile. In the third quarter, the Fund's estimated value reached a record high, but the turmoil in the markets since Russia's invasion of Ukraine has sent shockwaves through the financial world with repercussions that are ongoing. With inflation and supply chain issues continuing to impact the economy, we expect a challenging investment environment for the foreseeable future. Despite tremendous market volatility, the Fund remains strong and secure. In fact, the review, conducted by Kroll LLC, commended Fund staff for holding "themselves to the highest ethical, professional and conflict of interest standards." The report also notes that "The Fund was able to sustain operational integrity and meet their fiduciary duties despite the challenges presented by the pandemic."

In addition to providing the means to pay benefits, the Fund is responsible for implementing an asset allocation strategy with an appropriate balance between risk and return. As of March 31, 2022, our long-term target allocation for the investment portfolio is 24 percent in fixed income assets (cash, bonds, mortgages and Treasury Inflation-Protected Securities or "TIPS"), 47 percent in public equities, including domestic and international public equities, and 29 percent in alternative investments, including private equity, real estate, real assets, credit, and opportunistic/absolute return strategy funds.

Despite the pandemic, we have maintained our status as one of the strongest public funds in the nation. For the State fiscal year that ended March 31, 2022, the Fund's time-weighted investment return was 9.51 percent. The return on investments increased the Fund's value to \$272.1 billion.

I will continue to manage the Fund with prudence, and a focus on stable, long-term results that ensure continued retirement security for our members and retirees.

Sustainable Investing and Stewardship

The Fund continues to be a leader in sustainable investing because it is essential to protecting the Fund's long-term value.

I am deeply concerned about climate change. Around the world, we are seeing the impact of record temperatures, floods, rising sea levels, droughts and wildfires, but climate change is not just an environmental issue. It poses significant financial risks to the Fund's investments, to the economy and to society as a whole. One of the Fund's biggest challenges is investing in the opportunities while mitigating the risks that climate change poses to its long-term value.

In 2019 I announced a Climate Action Plan — a multifaceted, comprehensive and systematic set of actions to achieve our ambitious sustainable investment goals. The Fund also has a goal of net-zero greenhouse gas emissions by 2040.

My Climate Action Plan, along with our goal to transition the Fund's portfolio to net-zero greenhouse gas emissions by 2040, helps the Fund address the physical, transition and disclosure risks associated with climate change. A key component of the Fund's plan to position its portfolio for a low-carbon economy is the creation of a formal Sustainable Investments and Climate Solutions (SICS) program. As of March 31, 2022, the Fund has committed over \$17 billion to investments in SICS including green bonds, resource efficiency, green buildings, renewable energy, and climate indices, with a goal of \$20 billion to be realized over the next decade.

I take tremendous pride in being the Fund's steward. Protecting the value of our holdings by mitigating investment risks and seizing opportunities are of critical importance. We consider a variety of factors during the investment process including environmental, social, and governance factors that are material to investment outcomes.

Here at the Office of the State Comptroller, we take pride in the fact that a portion of the Fund's assets are managed by New York State-certified Minority and Women-Owned Business Enterprises and emerging managers (MWBE). Diversity has strengthened our bottom line, which demonstrates that expanding opportunities and access is not only the right approach; it's the best approach. Our commitment to our Minority and Women-Owned Business Enterprise managers grew from \$20 billion to approximately \$27 billion in State Fiscal Year 2020 – 21, bringing participation to an all-time high. The Fund's Emerging Manager program grew from \$6.7 billion to \$9 billion.

Accounting Practices

My staff is responsible for identifying control objectives for the protection of assets and the recording of all transactions to permit the preparation of financial statements in accordance with GAAP. The objective of internal controls is to provide reasonable assurance that the financial statements are free of material misstatements. We have designed, implemented and maintained internal controls to provide assurance that our control objectives are achieved.

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management. An internal control system includes the organization plan, the appropriate segregation of duties and responsibilities, the implementation of sound practices in the performance of duties, and the employment of personnel whose capabilities are commensurate with their responsibilities.

The System's financial information and internal controls are subject to examination by the New York State Department of Financial Services. Additionally, KPMG LLP, an independent, certified public accountant, audits the System's financial statements. KPMG's opinion appears on page 37 of this report. Lastly, pursuant to the New York State Government Accountability, Audit and Internal Control Act, the System is subject to an audit of its internal controls every three years.

We believe the internal controls in effect during the fiscal year ended March 31, 2022, adequately safeguard the System's assets and provide reasonable assurance regarding the proper recording of financial transactions.

Fighting Pension Fraud

Since taking office, detecting and preventing public corruption and fraud, including pension fraud, has been one of my top priorities. My office is committed to protecting the pension fund and holding anyone who would attempt to defraud the fund accountable including recouping money stolen from NYSLRS members and retirees. My anti-fraud and corruption initiative has led to over 270 arrests and the recovery of over \$80 million in stolen public funds. Over the past several years, my investigations of pension fraud have led to over 30 arrests and the recovery of over \$3 million. I continue to maintain close partnerships with law enforcement officials across the State and country to root out and prosecute those who attempt to defraud the retirement system. I will continue to safeguard pension funds from fraud and protect the financial security of retirees and beneficiaries.

More information about other key programs and initiatives can be found in the Overview of the New York State and Local Retirement System on page 25 and the Overview of Investments on page 89.

Acknowledgements

I wish to thank the dedicated staff of the Office of the State Comptroller for doing the important work of our agency day in and day out.

Throughout the pandemic, NYSLRS staff provided essential services to our customers by finding new ways of doing business, providing consultations by phone and webinars and putting new safety protocols in place. I am extremely proud of their commitment to serving our members, retirees, beneficiaries and employers.

I also wish to thank the members of the Advisory Council for the Retirement System, the Investment Advisory Committee, the Real Estate Advisory Committee, the Actuarial Advisory Committee and the Audit Advisory Committee for their commitment to the System's members, retirees and beneficiaries. We are deeply indebted to them for their continued support and counsel.

Lastly, I would like to thank the staff in our Division of Retirement Services and our Division of Pension Investment and Cash Management, who are responsible for preparing this report. Their professionalism and dedication are greatly appreciated.

I am confident you will find this report to be a complete and reliable accounting of the System.

Sincerely,



Thomas P. DiNapoli
State Comptroller

Administrative Organization

Advisory Committees

Advisory Council for the Retirement System

The Advisory Council for the Retirement System, appointed by the Comptroller pursuant to regulations of the Comptroller (2 NYCRR Part 320), advises and makes recommendations to the Comptroller on the formulation of policies in relation to the administration and management of the Common Retirement Fund and the Retirement System. At the annual meetings of the Council, the Comptroller and senior staff also exchange information and insights with the Council to help stakeholders understand the status and challenges of the Common Retirement Fund and the Retirement System.

Honorable Peter J. Abbate, Jr.

Chair
Assembly Governmental Employees Committee
New York State Assembly

Stephen J. Acquario

Executive Director
New York State Association of Counties

Peter A. Baynes

Executive Director
New York State Conference of Mayors

Heather Briccetti

President & CEO
Business Council of New York State, Inc.

Mario Cilento

President
New York State AFL-CIO

Sam Fresina

President
New York State Professional Fire Fighters Association

Gerry Geist

Executive Director
Association of Towns of the State of New York

Diana Hinchcliff

President
Retired Public Employees Association, Inc.

Honorable Robert Jackson

Chair
Senate Civil Service and Pensions Committee
New York State Senate

Bryant Kolner

President
Alliance of Public Retiree Organizations of New York

Thomas Mungeer

President
New York State Troopers
Police Benevolent Association

Michael O'Meara

Executive Director
Police Conference
of New York, Inc.

Andrew Pallotta

President
New York State United Teachers

Michael Powers

President
New York State Correctional Officers
& Police Benevolent Association

Raymond Santander

Assistant Director
AFSCME District Council 37

Robert Schneider

Executive Director
New York State School Boards Association

Wayne Spence

President
New York State Public Employees Federation

Fran Turner

Director of Political Action
Civil Service Employees Association Local 1000, AFSCME

Ronald J. Walsh, Jr.

President
Council 82, AFSCME

Richard Wells

President
Police Conference of New York, Inc.

Barbara Zaron

President
New York State Organization of
Management Confidential Employees

Investment Advisory Committee

The Investment Advisory Committee is appointed by the Comptroller pursuant to Section 423 of the Retirement and Social Security Law. The Investment Advisory Committee advises the Comptroller on general investment issues. The Investment Advisory Committee reviews the investment policy statement and any amendments to it, and reviews and provides a recommendation to the Comptroller on the proposed asset allocation plan developed by the Chief Investment Officer after the completion of an asset liability study. The Investment Advisory Committee also periodically reviews the strategic plan of each Common Retirement Fund asset class, and monitors the Common Retirement Fund's risk profile, investment activity and performance on a periodic basis.

Philippe Brugere-Trelat

Former Executive Vice President and Portfolio Manager
Franklin Templeton

William G. Clark

Chief Investment Officer
Federal Reserve Employees Benefits System

Timothy Collins

CEO & Senior Managing Director
Ripplewood Holdings, LLC

Hugh Johnson

Chairman & Chief Economist
Hugh Johnson Economics, LLC

Aren LeeKong

Chief Executive Officer
7 Acquisitions Corporation

Catherine A. Lynch, CFA (Chair)

Independent Director
BlackRock Fixed Income Funds Board

Valerie Mosley

Founder
BrightUp

Diane C. Nordin, CFA

Director
Fannie Mae

Catherine James Paglia

Director
Enterprise Asset Management

Dail St. Claire

President and Chief Executive Officer
St. Clair Consultants

Administrative Organization

continued

Real Estate Advisory Committee

The Real Estate Advisory Committee is appointed by the Comptroller, with the consent of the Investment Advisory Committee, pursuant to Section 423 of the Retirement and Social Security Law. The Real Estate Advisory Committee reviews proposed mortgage and real estate investments. In the event the Real Estate Advisory Committee disapproves of a proposed mortgage or real estate investment, the investment will not be presented to the Comptroller and cannot be made by the Common Retirement Fund.

Louis M. Dubin

Managing Partner
Redbrick LMD

G. Gail Edwards

Independent Director

Michael Giliberto

President
S. Michael Giliberto & Company, Inc.

James M. Gottstine

Chief Operating Officer
Ciminelli Real Estate Corporation

Jo Ann Hanson

President and Chief Executive Officer
Church Investment Group

L. Duane Jackson

Managing Member
Alinea Capital Partners, LLC

Rosey Miller

Chief Executive Officer
Regional Investment & Management

David H. Peirez, Esq. (Chair)

Partner
Reisman Peirez Reisman & Capobianco, LLP

Deborah Ratner Salzberg

Principal
Uplands Real Estate Partners

Peter Tilles

Developer

Administrative Organization

continued

Actuarial Advisory Committee

The Actuarial Advisory Committee, appointed by the Comptroller pursuant to regulation (11 NYCRR 136-2), reviews and advises the Comptroller on the actuarial soundness and financial condition of the Retirement System and the Common Retirement Fund, and annually reviews the proposed actuarial assumptions and employer contributions.

Edward W. Brown
(Retired)

Mark T. Koehne
(Retired)

Armand de Palo
(Retired)

Stanley Talbi
(Retired)

Michael Heller
(Retired)

Administrative Organization

continued

Audit Advisory Committee

The Audit Advisory Committee, appointed by the Comptroller pursuant to regulation (11 NYCRR 136-2), reviews and reports to the Comptroller on the annual internal and external audit process related to the Retirement System, the Common Retirement Fund and the Annual Comprehensive Financial Report.

Jennifer Mulligan (Chair)

Business Office Manager/Controller
Questar III BOCES

Ruben Cardona

Partner
WithumSmith + Brown, PC

Alan Lubin

(Retired)

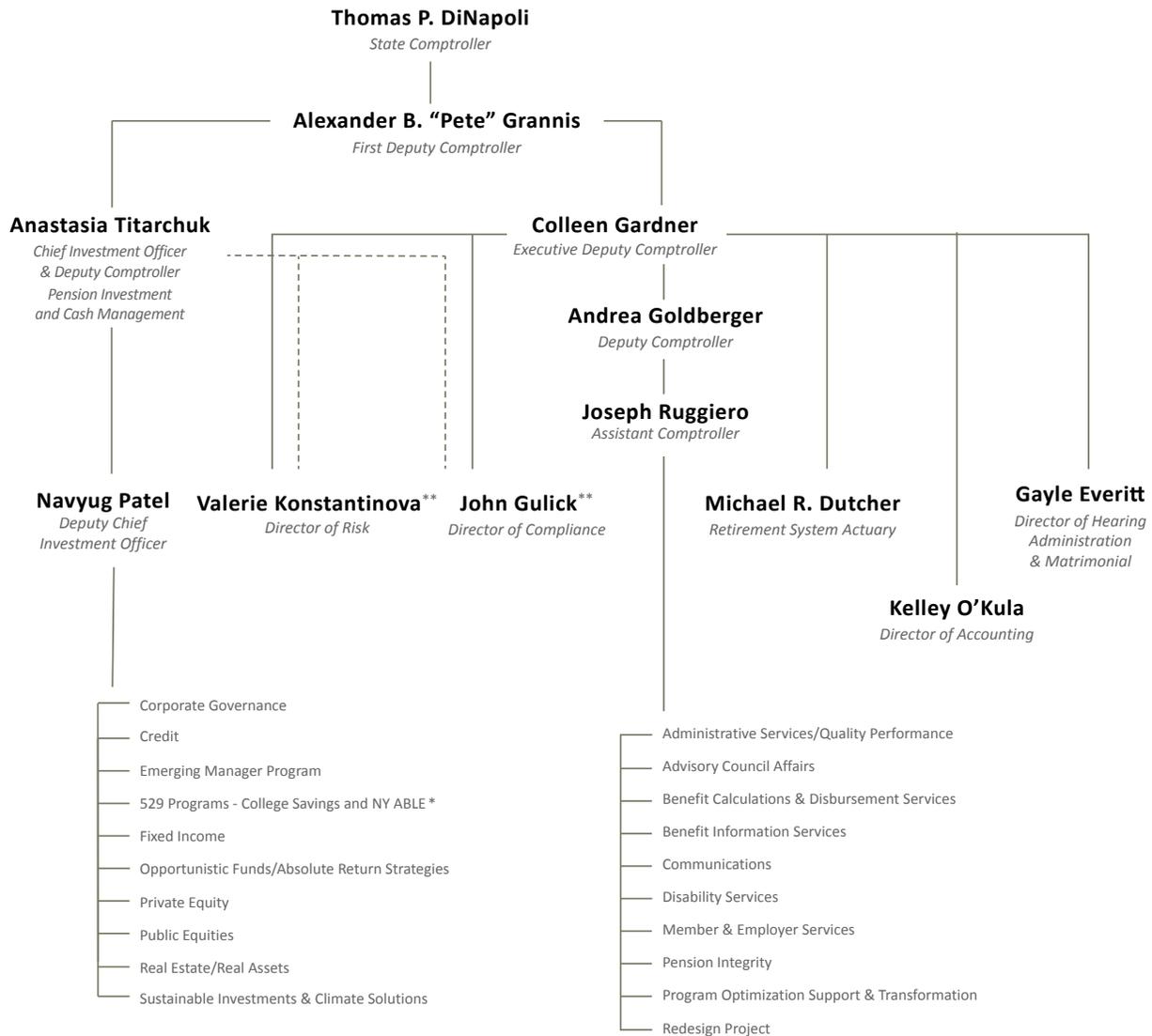
Julie McDonnell

Schenectady County Auditor

Paul Moore

Past President
Retired Public Employees Association, Inc.

New York State and Local Retirement System Organization Chart



*College Savings and NY ABLE are independent programs within OSC.

**Administrative reporting to the Chief Investment Officer.

Notes:

Information regarding investment managers and consultants can be found in the Investment Section on pages 120, 124, and 131-142. Information regarding consultants other than investment advisors can be found on page 84 in the Financial Section.

Overview of the New York State and Local Retirement System

Report from Executive Deputy Comptroller Colleen Gardner

I am proud of the work NYSLRS accomplished during the 2021-22 State fiscal year, and I am pleased to share highlights of that work with you.

Response to the Pandemic

Operations this past fiscal year were once again impacted by the COVID-19 pandemic, but NYSLRS staff continued their work with determination, flexibility and an unwavering commitment to our members, retirees, beneficiaries and employers.

That commitment was especially evident in the work they did for those families touched by COVID-19. Our staff expedited the payment of accidental death benefits to those loved ones and beneficiaries who suffered a loss because of this disease. Through outreach to employers and beneficiaries, we determined that 171 beneficiaries of 271 active members whose deaths were attributed to COVID were entitled to accidental death benefits.

We continued to keep our customers updated throughout the year about the post-retirement earnings limits that apply to NYSLRS retirees. By executive order, the usual earnings limit of \$35,000 a year for retirees in a public sector job who are under age 65 was suspended by the Governor for much of 2020 and 2021, and for 2022 through the end of the State fiscal year in March.

We are grateful to all our dedicated staff who enabled NYSLRS to continue to provide benefits to our customers throughout the pandemic without interruption.

Retirement Online

We launched *Retirement Online* in 2017. Since then, our members, retirees and beneficiaries have been using it for tasks that once required calling NYSLRS or mailing in a form — changing their address, managing beneficiary designations, creating a pension income verification letter, taking out a loan or receiving an estimate of their pension benefit. In the last calendar year alone, customers completed nearly 600,000 individual transactions and, in fiscal year 2021-22, we added 75,194 new users — a 22 percent increase over the previous year.

Over the last fiscal year, *Retirement Online* helped members:

- Complete 402,683 retirement benefit estimates,
- Submit 29,114 loan applications, which is more than three quarters of the applications received, and
- Request 3,376 new service credit purchases.

To date, members have used *Retirement Online* to:

- Submit 30,200 beneficiary updates, and
- Complete 13,813 retirement applications, more than half of all applications submitted.

Overview of the New York State and Local Retirement System

Report from Executive Deputy Comptroller Colleen Gardner

CONTINUED

Work is now underway on the final phase of our project to replace and upgrade the technology we use for our benefit administration system, which focuses on pension payments and disbursements, post-retirement employment, matrimonial review and legal review. When these features are complete, retirees will be able to see more information about their pension payments and manage direct deposit information online. They will also be able to update their federal tax withholding and view and print their 1099-R tax forms.

Customers will experience all the benefits of the new, comprehensive system with enhanced service and streamlined interactions.

Our Employer Partnership

The employers who participate in NYSLRS are critical to our success. We rely on them to accurately report information to us and deliver information to our members. More than that, we couldn't provide members the benefits they've earned without our participating employers. So, we're committed to assisting them in every way possible.

For example, over the past fiscal year, our Employer Partnership and Education Unit held 41 seminars for our employers with nearly 1,567 attending. They conducted outreach to eight new employers and also held two conferences.

Also, providing our employer partners with the online tools they need to work with us is a top priority. We developed our enhanced reporting process based on feedback from our employers. Introduced in 2020, enhanced reporting streamlines monthly time and earnings reports and automates member enrollments. Not only is enhanced reporting more efficient for employers, but it gives NYSLRS more of the information we need more quickly.

To help employers with the transition to enhanced reporting, we provide customized training and support, as well as reference tools and resources on our website. By the end of fiscal year 2021-22, 740 employers had transitioned to enhanced reporting while another 485 were in the process of transitioning — 40 percent of all our employers. We've stepped up our efforts to assist employers with upgrading to enhanced reporting since legacy reporting will be phased out in 2023.

Customer Service

NYSLRS puts a high premium on customer satisfaction. Each year, we measure key business metrics and compare them to those of peer retirement systems. We use this feedback to better serve our customers — to see where we perform well and reflect on areas that need improvement.

This is especially important as the number of participants we serve continues to grow. Tier 6, which includes all new members enrolled since April 1, 2012, is now the System's largest tier. The number of members filing for retirement also continues to grow. In the fiscal year ending in 2022, 28,440 members filed for retirement. In some months, we received a record number of applications. Over 99 percent of first pension payments were made within the statutory deadline and initial payments included earnings received by the date of retirement cases in the final average salary calculation.

As the System expands, it is essential to find new customer service solutions to meet the challenges ahead. Due to the high volume of retirements and reporting of earnings and retroactive payments received after the date of retirement, the timely adjustment and finalization of pensions have been a major challenge.

Overview of the New York State and Local Retirement System

Report from Executive Deputy Comptroller Colleen Gardner

CONTINUED

During the ongoing pandemic, consultation sites remained closed out of an abundance of caution for the health and safety of our customers and staff. However, we continue to offer retirement consultation services, most of which are done by phone, WebEx or video. Members expressed appreciation for the flexibility of virtual sessions, which enabled us to serve more members than we could with in-person consultations. During the last fiscal year, more than 24,100 members received phone consultations, while another 9,200 members were assisted through virtual consultations, presentations and seminars.

Administrative hearings for members were held virtually as well.

We developed a new online form that allows survivors to notify NYSLRS when a member or retiree dies. The form lets individuals send us their information about the deceased over a secure connection instead of mailing a form or calling a customer service representative.

Our goal is to respond to changing customer needs in a timely and agile manner. In doing so, we stay focused on improving our customers' experience.

Fighting Fraud

We take preventing and detecting pension fraud very seriously. Identifying unreported retiree and beneficiary deaths is one way we detect fraud. During the last fiscal year, NYSLRS recovered nearly \$460,000 in pension overpayments.

One of the duties of our Pension Integrity Bureau is to audit retirement data to verify that it has been reported accurately. In addition, each year a sampling of employers is selected to undergo an audit by our independent financial auditor of their reported data.

Retirement benefits are partially based on reported data, so these audits help ensure that the correct benefits are paid. The bureau also monitors *Retirement Online* for instances of online fraud and ensures appropriate internal controls are in place to protect the system and its data.

We will continue to search out unreported retiree deaths and online fraud. When inappropriate payments are identified, we will pursue full restitution.

Overview of the New York State and Local Retirement System

Report from Executive Deputy Comptroller Colleen Gardner

CONTINUED

New Laws Enacted in the Past Year that Impact NYSLRS

Accidental Disability Retirement Benefits for Nassau County Police Personnel

Chapter 524 of the Laws of 2021 provides certain accidental disability retirement benefits for Nassau County chief fire marshals, assistant chief fire marshals, division supervising fire marshals, supervising fire marshals and fire marshal trainees in Tiers 3 through 6 for injuries sustained due to the intentional or reckless act of a civilian visiting a Nassau County institution.

Performance of Duty Disability Retirement Benefits for Nassau County Police Personnel

Chapter 528 of the Laws of 2021 provides certain disability retirement benefits for Nassau County police medics, police medic supervisors, police medic coordinators, emergency ambulance bureau directors and emergency ambulance deputy bureau directors in Tiers 3 through 6 for injuries sustained in the performance of duty.

In-Service Death Benefit Modified for Nassau County Deputy Sheriffs

Chapter 529 of the Laws of 2021 modifies the in-service death benefit for Nassau County deputy sheriffs in Tiers 3 through 6 who are retirement eligible. The beneficiary may choose to receive an amount equal to the pension reserve as if the member had retired on the date of death, or the value of the death benefit, whichever is greater.

Disability Benefit Increased for Certain Division of Military Affairs Personnel

Chapter 533 of the Laws of 2021 grants an increased disability benefit to airport firefighters and training and safety officers in the Division of Military Affairs who sustain a disability related to heart disease, lung disease and certain forms of cancer.

In-Service Death Benefit Modified for Nassau County Correction Officers

Chapter 534 of the Laws of 2021 modifies the in-service death benefit for Nassau County correction officers in Tiers 3 through 6 who are retirement eligible. The beneficiary may choose to receive an amount equal to the pension reserve as if the member had retired on the date of death, or the value of the death benefit, whichever is greater.

In-Service Death Benefit Modified for Suffolk County Correction Officers

Chapter 535 of the Laws of 2021 modifies the in-service death benefit for Suffolk County correction officers in Tiers 3 through 6 who are retirement eligible. The beneficiary may choose to receive an amount equal to the pension reserve as if the member had retired on the date of death, or the value of the death benefit, whichever is greater.

Overview of the New York State and Local Retirement System

Report from Executive Deputy Comptroller Colleen Gardner

CONTINUED

Disability Benefits Provided for Nassau County Sheriff Personnel

Chapter 542 of the Laws of 2021 provides disability benefits for Nassau County sheriffs, deputy sheriffs, undersheriffs and correction officers in Tiers 3 through 6 for injuries sustained due to the intentional or reckless act of a civilian visiting a Nassau County institution.

In-Service Death Benefit Modified for Suffolk County Deputy Sheriffs

Chapter 543 of the Laws of 2021 modifies the in-service death benefit for Suffolk County deputy sheriffs in Tiers 3 through 6 who are retirement eligible. The beneficiary may choose to receive an amount equal to the pension reserve as if the member had retired on the date of death, or the value of the death benefit, whichever is greater.

Parkinson's Disease Presumption Provided for Paid Fire Personnel

Chapter 704 of the Laws of 2021 provides paid firefighters with a presumption that any disability or death resulting from impairments of health related to Parkinson's Disease are the result of an accident sustained in the performance of duty.

Heart Disease Presumption Provided for Nassau County Fire Personnel

Chapter 714 of the Laws of 2021 provides a heart disease presumption for fire marshals, supervising fire marshals, division supervising fire marshals, assistant fire chief marshals, chief fire marshals and fire marshal trainees employed by Nassau County.

Electronic Notarization Permitted With Use of Video & Audio Technology

Chapter 767 of the Laws of 2021 allows for notarization to be done electronically with the use of video and audio conference technology. This law took effect 180 days after December 22, 2021.

Although the last fiscal year continued to present challenges, we remained committed to providing quality service to our members, retirees, beneficiaries and employers. I look forward to reporting the results of our efforts in our next Annual Comprehensive Financial Report.

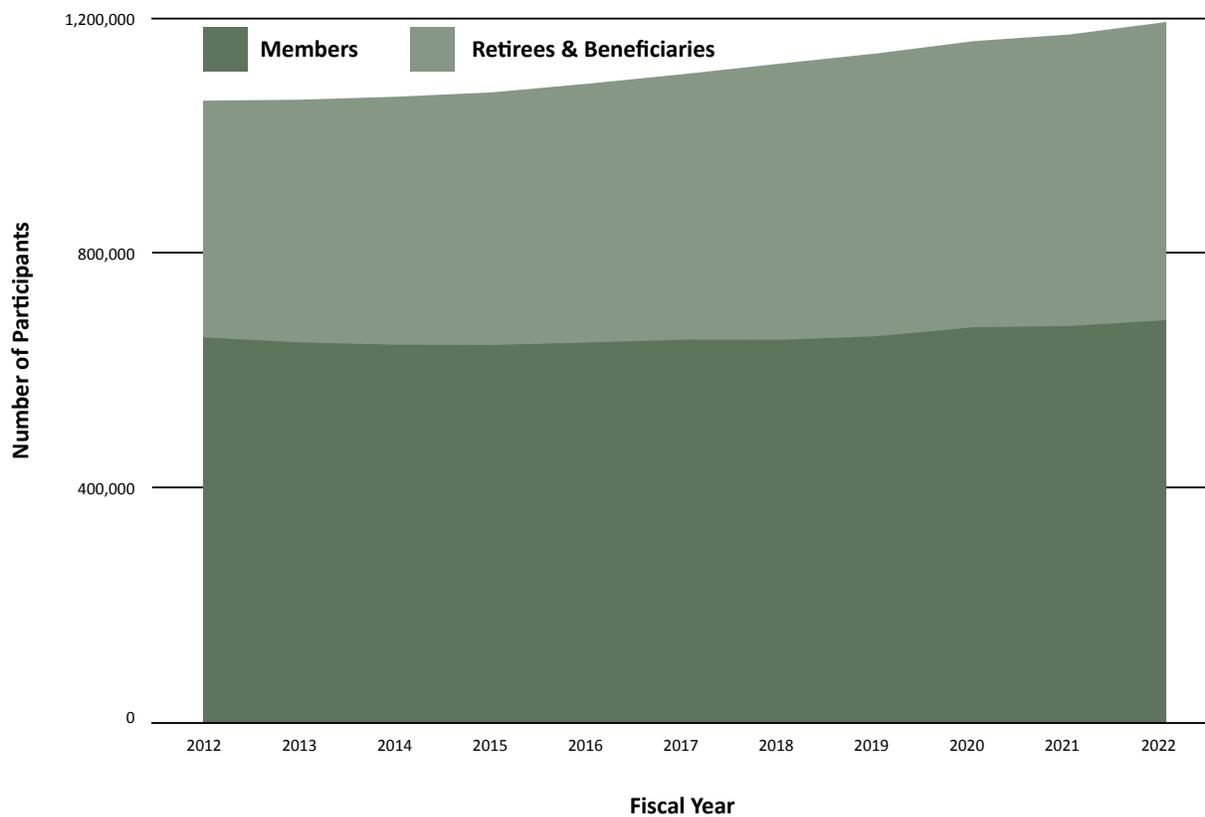
By the Numbers

Members and Retirees

There are 1,193,373 participants in the System, including 685,450 members and 507,923 retirees and beneficiaries.

The number of retirees is increasing more quickly than members. For example, in 2002 retirees and beneficiaries represented approximately 32 percent of the System’s participants. By fiscal year 2022, that number had increased to approximately 43 percent.

Benefit payments continue to rise, reflecting improvements in final average salaries over the past decades, cost-of-living adjustment (COLA) payments and benefit improvements enacted over the years.

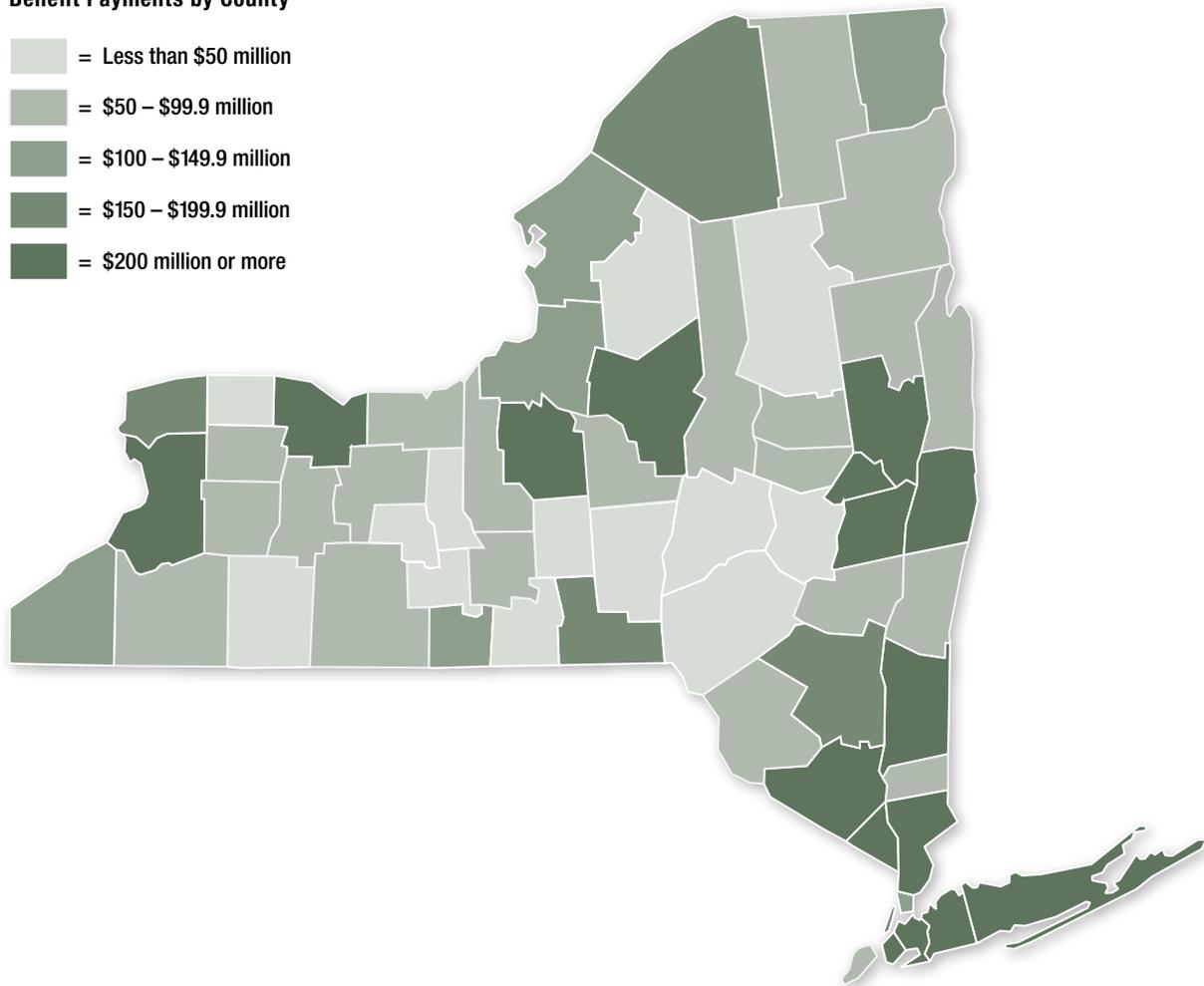


Retirees in New York State

Of the 507,923 retirees and beneficiaries in the System, 399,628 (approximately 79 percent) remain New York State residents. As such, benefit payments surpassing \$11.8 billion this year alone reach the State's communities and businesses, representing a significant stimulus to the State's economy.

Benefit Payments by County

-  = Less than \$50 million
-  = \$50 – \$99.9 million
-  = \$100 – \$149.9 million
-  = \$150 – \$199.9 million
-  = \$200 million or more



Annual Benefit Payments Within New York State

As of March 31, 2022.

County	Recipients	Annual Payments
Albany	20,225	\$ 695,377,757
Allegany	1,790	37,159,055
Bronx	3,882	121,474,754
Broome	8,516	187,010,599
Cattaraugus	3,699	84,963,930
Cayuga	3,613	92,884,326
Chautauqua	5,213	118,294,566
Chemung	3,910	102,547,421
Chenango	2,389	48,620,965
Clinton	4,918	138,414,914
Columbia	3,241	93,388,380
Cortland	1,911	42,479,777
Delaware	1,967	43,519,173
Dutchess	10,836	350,680,491
Erie	33,306	952,704,211
Essex	2,219	54,160,920
Franklin	3,530	93,276,887
Fulton	2,430	56,046,246
Genesee	2,644	64,351,021
Greene	2,724	75,365,710
Hamilton	505	11,507,729
Herkimer	2,678	59,349,318
Jefferson	4,068	101,634,325
Kings	6,337	212,597,977
Lewis	1,406	28,778,726
Livingston	3,250	78,827,536
Madison	2,833	64,626,684
Monroe	18,953	465,483,531
Montgomery	2,586	64,380,442
NY Military	9	165,844
Nassau	25,606	966,765,920
New York	4,593	169,327,110

County	Recipients	Annual Payments
Niagara	7,060	\$ 180,401,383
Oneida	10,748	284,334,282
Onondaga	15,142	386,869,600
Ontario	3,986	95,895,264
Orange	10,196	307,779,976
Orleans	1,751	40,360,070
Oswego	4,779	105,872,485
Otsego	2,332	48,210,668
Putnam	2,739	96,408,893
Queens	6,652	230,660,901
Rensselaer	9,953	320,937,531
Richmond	2,597	94,928,596
Rockland	7,302	253,781,935
Saratoga	12,201	383,986,045
Schenectady	9,228	294,044,596
Schoharie	1,807	45,533,581
Schuyler	908	20,819,088
Seneca	1,575	36,056,114
St. Lawrence	5,878	150,137,837
Steuben	3,642	83,334,352
Suffolk	38,534	1,403,820,993
Sullivan	3,159	86,969,786
Tioga	1,888	38,961,324
Tompkins	2,955	67,884,471
Ulster	6,595	176,124,178
Warren	3,242	84,223,642
Washington	3,049	76,429,247
Wayne	3,690	82,345,422
Westchester	17,009	620,661,988
Wyoming	2,316	57,891,063
Yates	928	20,722,597
Total	399,628	\$ 11,852,554,155

Note: The objective of this chart is to show the relative amounts paid to annuitants in the various locations within New York State. The numbers do not match the figures in the basic financial statements because the financial statement figures represent the sum of all benefit payments (including death benefits) made during the fiscal year, in accordance with Generally Accepted Accounting Principles (GAAP). The above numbers represent the sum of the annual benefits payable to all annuitants actively collecting as of the end of the fiscal year. The figures in the chart are easier to organize by county, as compared to figures found in the financial statements.

Annual Benefit Payments Within the United States

As of March 31, 2022.

State	Recipients	Annual Payments
Alabama	861	\$ 17,597,987
Alaska	57	1,351,306
Arizona	2,717	62,484,196
Arkansas	176	2,750,673
California	2,116	43,942,705
Colorado	852	19,052,954
Connecticut	2,577	72,870,017
Delaware	1,170	36,032,998
Florida	39,885	1,093,146,835
Georgia	4,191	94,265,515
Guam	1	10,027
Hawaii	115	2,774,367
Idaho	116	2,239,991
Illinois	372	7,557,284
Indiana	311	5,735,259
Iowa	81	1,171,476
Kansas	117	1,986,575
Kentucky	449	8,605,338
Louisiana	197	3,685,189
Maine	642	14,973,787
Maryland	1,551	33,209,415
Massachusetts	1,664	39,613,446
Michigan	362	6,637,759
Minnesota	176	2,944,519
Mississippi	204	4,336,298
Missouri	265	4,490,922
Montana	126	2,607,312

State	Recipients	Annual Payments
Nebraska	52	\$ 1,016,922
Nevada	1,360	36,005,459
New Hampshire	700	19,745,502
New Jersey	8,302	339,914,953
New Mexico	407	8,098,589
New York	399,628	11,852,554,155
North Carolina	10,011	244,352,254
North Dakota	20	419,834
Ohio	817	14,466,368
Oklahoma	165	2,703,707
Oregon	299	5,743,591
Pennsylvania	5,344	139,163,281
Puerto Rico	417	7,742,435
Rhode Island	266	6,994,042
South Carolina	7,285	202,018,063
South Dakota	96	2,966,950
Tennessee	2,429	64,060,174
Texas	2,522	57,827,117
Utah	159	3,221,939
Vermont	613	13,969,419
Virginia	3,923	86,841,181
Washington	548	11,508,921
Washington, D.C.	105	2,565,237
West Virginia	202	4,119,322
Wisconsin	177	3,200,064
Wyoming	79	1,951,301
Total	507,277	\$ 14,719,244,933

Annual Benefit Payments Outside the United States

As of March 31, 2022.

Recipients	Total Annual Payments
646	\$ 11,795,382

Note: The objective of this chart is to show the relative amounts paid to annuitants within the United States and outside the United States. The numbers do not match the figures in the basic financial statements because the financial statement figures represent the sum of all payments (including death benefits) made during the fiscal year, in accordance with Generally Accepted Accounting Principles (GAAP). The above numbers represent the sum of the annual benefits payable to all annuitants actively collecting as of the end of the fiscal year. The figures in the chart are easier to organize by state and country, as compared to figures found in the financial statements.

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Financial

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Independent Auditors' Report



KPMG LLP
515 Broadway
Albany, NY 12207-2974

Independent Auditors' Report

The Trustee
New York State and Local Retirement System:

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the New York State and Local Retirement System (the System) as of and for the year ended March 31, 2022, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of March 31, 2022, and the changes in its fiduciary net position for the year then ended in accordance with U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with U.S. generally accepted accounting principles, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

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In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis, schedule of changes in employers' net pension liability (asset) and related ratios, schedule of employer contributions, schedule of investment returns, and notes to required supplementary information be presented to supplement the basic financial statements. Such information is the responsibility of management and, 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 System's basic financial statements. The schedule of administrative expenses, schedule of investment expenses and schedule of consulting fees are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The 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 schedule of administrative expenses, schedule of investment expenses and schedule of consulting fees are fairly stated, in all material respects, in relation to the basic financial statements as a whole.



Other Information

Management is responsible for the other information included in the annual comprehensive financial report. The other information comprises the introduction, investment, actuarial and statistical sections but does not include the basic financial statements and our auditors' report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated July 22, 2022 on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System'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 the System's internal control over financial reporting and compliance.

KPMG LLP

July 22, 2022, except for the Other Information section of our report, as to which the date is September 28, 2022

Management's Discussion and Analysis (Unaudited)

March 31, 2022

The following overview of the financial activity of the New York State and Local Retirement System (the System) for the fiscal year ended March 31, 2022 is intended to provide the reader with an analysis of the System's overall financial position. The System is comprised of the New York State and Local Employees' Retirement System (ERS) and the New York State and Local Police and Fire Retirement System (PFRS). The net position of the System is held in the New York State Common Retirement Fund (the Fund), which was established to hold all assets and record changes in fiduciary net position allocated to the System. This management's discussion and analysis should be read in conjunction with the basic financial statements of the System, which follow.

Financial Highlights

The fiduciary net position of the System held in trust to pay pension benefits was \$273.7 billion as of March 31, 2022 and \$260.08 billion as of March 31, 2021. This amount reflects an increase of \$13.6 billion from the prior fiscal year. This change is primarily the result of the net appreciation of the fair value of the investment portfolio. The Fund continues to diversify and monitor downside risks. Net appreciation in fair value of investments for the fiscal years ended March 31, 2022 and 2021 was \$18.5 billion and \$67.6 billion, respectively.

- The System's investments reported a positive money-weighted rate of return, net of investment expense, of 9.44 percent for the fiscal year ended March 31, 2022 and a positive money-weighted rate of return, net of investment expense, of 33.43 percent for the fiscal year ended March 31, 2021.
- Retirement and death benefits paid during the fiscal year ended March 31, 2022 to 507,923 annuitants totaled \$14.7 billion, as compared to \$14.02 billion paid to 496,628 annuitants for the fiscal year ended March 31, 2021. The increase is primarily due to the number of new retirees.
- Contributions from employers increased to \$5.6 billion for the fiscal year ended March 31, 2022, from \$5.03 billion for the fiscal year ended March 31, 2021. The increase in employer contributions was related to an increase in covered employee payroll from the previous year.
- The Net Pension Asset (NPA) for ERS was \$8,174.6 million for the measurement period ended March 31, 2022 as compared to a Net Pension Liability (NPL) of \$99.6 million for the measurement period ended March 31, 2021. The fiduciary net position, restricted for pension benefits as of March 31, 2022, was \$232.05 billion, which represents 103.65 percent of the calculated total pension liability for ERS. This NPA is allocated to participating employers and reported in their financial statements pursuant to Governmental Accounting Standards Board (GASB) Statement 68.
- The NPL for PFRS was \$568 million for the measurement period ended March 31, 2022 as compared to \$1.73 billion for the measurement period ended March 31, 2021. The fiduciary net position, restricted for pension benefits as of March 31, 2022, was \$41.67 billion, which represents 98.66 percent of the calculated total pension liability for PFRS. This NPL is allocated to participating employers and reported in their financial statements pursuant to GASB Statement 68.

Management's Discussion and Analysis (Unaudited)

continued

Overview of the Financial Statements

The financial statements consist of the combining basic statement of fiduciary net position, the combining basic statement of changes in fiduciary net position, and the notes to the basic financial statements. The required supplementary information that appears after the notes to the basic financial statements is not a required part of the basic financial statements, but is supplementary information required by the GASB. The other supplementary information following the required supplementary information is not required, but management has chosen to include such information to increase transparency.

The combining basic statement of fiduciary net position reflects the resources available to pay members, retirees and beneficiaries at the close of the System's fiscal year. This statement also provides information about the fair value and composition of the System's fiduciary net position.

The combining basic statement of changes in fiduciary net position presents the changes to the System's fiduciary net position for the fiscal year, including net investment income (loss), which includes net appreciation (depreciation) in fair value of the investment portfolio, and contributions from members and employers. Benefits and administrative expenses paid by the System are included under the deductions section of the statement.

The notes to the basic financial statements are an integral part of the basic financial statements and provide additional information about the plans, policies, and performance of the System.

The required supplementary information includes: Management's Discussion and Analysis, Schedule of Changes in the Employers' Net Pension Liability and Related Ratios, Schedule of Employer Contributions and Schedule of Investment Returns and related notes to the required supplementary information.

The additional supplementary information includes: Schedule of Administrative Expenses, Schedule of Investment Expenses, and Schedule of Consulting Fees.

Management's Discussion and Analysis (Unaudited)

continued

Analysis of the Overall Financial Position of the System

The purpose of the System's investments is to provide for long-term growth, while also ensuring a reliable cash flow that meets the funding requirements of the near-term pension obligations. To achieve these goals, the investments are allocated to a variety of asset types and strategies in order to meet the System's current funding needs as well as future growth requirements. Equity-related investments are included for their long-term return and growth characteristics. While a majority of fixed income and debt-related investments are generally included in the allocation for their ability to control investment risk and provide for a reliable cash flow that meets the funding requirements, a portion is strategically invested in more actively traded markets. It is important to note that the change from year to year is due not only to changes in fair values but also to purchases, sales, and redemptions. Tables 1, 2, and 3 summarize and compare financial data for the current and prior years.

Table 1

Summary schedule of fiduciary net position as of March 31, 2022, as compared to March 31, 2021:

	(Dollars in Thousands)			Percentage Change
	2022	2021	Dollar Change	
Assets:				
Investments	\$ 272,121,262	\$ 258,135,801	\$ 13,985,461	5.4%
Securities lending collateral — invested	22,478,217	16,923,148	5,555,069	32.8
Receivables and other assets	<u>2,973,061</u>	<u>3,317,830</u>	<u>(344,769)</u>	<u>(10.4)</u>
Total assets	297,572,540	278,376,779	19,195,761	6.9
Liabilities:				
Securities lending obligations	22,506,168	16,930,860	5,575,308	32.9
Payables and other liabilities	<u>1,347,649</u>	<u>1,364,836</u>	<u>(17,187)</u>	<u>(1.3)</u>
Total liabilities	23,853,817	18,295,696	5,558,121	30.4
Net position, restricted for pension benefits	\$ 273,718,723	\$ 260,081,083	\$ 13,637,640	5.2%

The fiduciary net position of the System totaled \$273.7 billion as of March 31, 2022, an increase of \$13.6 billion from the prior fiscal year, primarily attributable to the net appreciation of invested assets.

Management's Discussion and Analysis (Unaudited)

continued

Table 2

Schedule of invested assets as of March 31, 2022, as compared to March 31, 2021:

	(Dollars in Thousands)			Percentage Change
	2022	2021	Dollar Change	
Domestic equity	\$ 94,271,236	\$ 90,263,828	\$ 4,007,408	4.4%
Global fixed income	52,497,456	47,722,955	4,774,501	10.0
International equity	39,188,932	43,480,400	(4,291,468)	(9.9)
Private equity	37,026,072	29,470,165	7,555,907	25.6
Real estate	22,873,140	17,647,993	5,225,147	29.6
Short-term investments	3,852,320	11,082,651	(7,230,331)	(65.2)
Real assets	6,051,188	3,929,594	2,121,594	54.0
Opportunistic funds/ARS investments	5,729,981	5,016,078	713,903	14.2
Mortgage loans	1,421,139	1,043,621	377,518	36.2
Credit	9,209,798	8,478,516	731,282	8.6
Total investments	\$ 272,121,262	\$ 258,135,801	\$ 13,985,461	5.4%

The largest percentage increase to the invested assets were in real assets and mortgage loans, which represent 2.2 percent and .52 percent of the total portfolio, respectively. In the real assets portfolio, the growth reflects asset appreciation and new allocations to bring this portfolio closer to the targeted allocation. For mortgage loans, the increase was due to increased activity in the portfolio.

The largest percentage decrease to the invested assets was in short term investments, which represents 1.4 percent of the total portfolio. The decrease in short-term investments reflects funding of three strategic partnerships and rebalancing activities.

Management's Discussion and Analysis (Unaudited)

continued

Table 3

Summary schedule of changes in fiduciary net position for the year ended March 31, 2022, as compared to the year ended March 31, 2021:

	(Dollars in Thousands)			Percentage Change
	2022	2021	Dollar Change	
Additions:				
Net investment income	\$ 22,374,115	\$ 70,649,606	\$ (48,275,491)	68.3%
Total contributions	<u>6,332,048</u>	<u>5,638,783</u>	<u>693,265</u>	<u>12.3</u>
Total additions	28,706,163	76,288,389	(47,582,226)	62.4
Deductions:				
Total benefits paid	14,905,023	14,121,971	783,052	5.5
Administrative expenses	<u>163,500</u>	<u>165,097</u>	<u>(1,597)</u>	<u>(1.0)</u>
Total deductions	15,068,523	14,287,068	781,455	5.5
Net increase	13,637,640	62,001,321	(48,363,681)	78.0
Net position, restricted for pension benefits — beginning of year	260,081,083	198,079,762	62,001,321	31.3
Net position, restricted for pension benefits — end of year	\$ 273,718,723	\$ 260,081,083	\$ 13,637,640	5.2%

The change in net investment income is primarily attributable to the net appreciation in fair value of investments from 2021 to 2022. The increase in total benefits paid is attributable to the number of new retirees.

Management's Discussion and Analysis (Unaudited)

continued

Economic Factors and Rates of Return

The Fund announced a positive investment performance for the fiscal year ended March 31, 2022, with a time-weighted rate of return of positive 9.51 percent. All asset classes were positive except for fixed income where rising rates weighed on returns. The year started especially strong for all other asset classes, but the markets gave back a lot of the returns in the last quarter due to continued supply/demand imbalances, high inflation, growth concerns and the energy/food disruptions over the war in Ukraine. We continue to monitor geopolitical tensions, the possibility of stagflation here in the US and elsewhere in the world, and the policies of Central Bank as they try to balance reining in inflation and encouraging growth.

Requests for Information

This financial report is designed to provide a general overview of the System's finances for all interested parties. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the New York State and Local Retirement System, 110 State Street, Albany, New York 12244-0001. The report can also be accessed on the Comptroller's website at: www.osc.state.ny.us/retirement/resources/financial-statements-and-supplementary-information.

Basic Financial Statements

Combining Basic Statement of Fiduciary Net Position

Year Ended March 31, 2022

	(Dollars in Thousands)		
	Employees' Retirement System	Police and Fire Retirement System	Total
Assets:			
Investments (notes 2(b), 4, 5, 8, and 11):			
Domestic equity	\$ 79,917,498	\$ 14,353,738	\$ 94,271,236
Global fixed income	44,504,193	7,993,263	52,497,456
International equity	33,222,025	5,966,907	39,188,932
Private equity	31,388,482	5,637,590	37,026,072
Real estate	19,390,476	3,482,664	22,873,140
Credit	7,807,514	1,402,284	9,209,798
Real assets	5,129,834	921,354	6,051,188
Opportunistic/ARS	4,857,534	872,447	5,729,981
Short-term	3,265,766	586,554	3,852,320
Mortgage loans	1,204,756	216,383	1,421,139
Total investments	230,688,078	41,433,184	272,121,262
Securities lending collateral — invested (notes 7 and 8)	19,055,684	3,422,533	22,478,217
Forward foreign exchange contracts (notes 6 and 8)	19,935	3,580	23,515
Receivables:			
Employers' contributions	295,901	173,296	469,197
Members' contributions	6,326	958	7,284
Member loans	886,370	7,879	894,249
Investment income	330,309	59,326	389,635
Investment sales	462,054	82,988	545,042
Other	55,223	11,684	66,907
Total receivables	2,036,183	336,131	2,372,314
Capital assets, at cost, net of accumulated depreciation	489,343	87,889	577,232
Total assets	252,289,223	45,283,317	297,572,540
Liabilities:			
Securities lending obligations (notes 7 and 8)	19,079,379	3,426,789	22,506,168
Forward foreign exchange contracts (notes 6 and 8)	19,889	3,572	23,461
Accounts payable — investments	587,891	105,589	693,480
Benefits payable	141,310	13,715	155,025
Other liabilities (note 2(f))	411,281	64,402	475,683
Total liabilities	20,239,750	3,614,067	23,853,817
Net position, restricted for pension benefits	\$ 232,049,473	\$ 41,669,250	\$ 273,718,723

See accompanying notes to basic financial statements.

Basic Financial Statements

continued

Combining Basic Statement of Changes in Fiduciary Net Position

Year Ended March 31, 2022

	(Dollars in Thousands)		
	Employees' Retirement System	Police and Fire Retirement System	Total
Additions:			
Income from investing activities:			
Interest income	\$ 1,047,813	\$ 187,090	\$ 1,234,903
Dividend income	1,403,267	250,557	1,653,824
Other income	1,597,578	285,251	1,882,829
Less: investment expenses	(803,511)	(143,469)	(946,980)
Net appreciation in fair value of investments	<u>15,713,358</u>	<u>2,805,665</u>	<u>18,519,023</u>
Total income from investing activities	18,958,505	3,385,094	22,343,599
Income from securities lending activities:			
Securities lending income	38,287	6,836	45,123
Less: securities lending rebates	(10,128)	(1,808)	(11,936)
Less: securities lending management fees	<u>(2,266)</u>	<u>(405)</u>	<u>(2,671)</u>
Total income from securities lending activities	25,893	4,623	30,516
Total net investment income	18,984,398	3,389,717	22,374,115
Contributions:			
Employers	4,528,207	1,099,539	5,627,746
Members	494,802	82,792	577,594
Interest on accounts receivable	49,697	8,468	58,165
Other, net	<u>60,177</u>	<u>8,366</u>	<u>68,543</u>
Total contributions	5,132,883	1,199,165	6,332,048
Total additions	24,117,281	4,588,882	28,706,163
Deductions:			
Benefits paid:			
Retirement benefits	12,187,451	2,294,394	14,481,845
Death benefits	227,566	10,225	237,791
Other, net	<u>89,246</u>	<u>96,141</u>	<u>185,387</u>
Total benefits paid	12,504,263	2,400,760	14,905,023
Administrative expenses	144,128	19,372	163,500
Total deductions	12,648,391	2,420,132	15,068,523
Net increase	11,468,890	2,168,750	13,637,640
Net position, restricted for pension benefits — beginning of year	220,580,583	39,500,500	260,081,083
Net position, restricted for pension benefits — end of year	\$ 232,049,473	\$ 41,669,250	\$ 273,718,723

See accompanying notes to basic financial statements.

Notes to Basic Financial Statements

March 31, 2022

1. Description of Plans

The Office of the New York State Comptroller administers the following plans: the New York State and Local Employees' Retirement System (ERS) and the New York State and Local Police and Fire Retirement System (PFRS), which are collectively referred to as the New York State and Local Retirement System (the System). The net position of the System is held in the New York State Common Retirement Fund (the Fund), which was established to hold all assets and record changes in fiduciary net position allocated to the System.

The Comptroller of the State of New York serves as the trustee of the Fund and is the administrative head of the System. The Comptroller is an elected official determined in a direct statewide election and serves a four-year term. Thomas P. DiNapoli has served as Comptroller since February 7, 2007. In November 2018, he was elected for a new term commencing January 1, 2019.

The external advisory committees appointed by the Comptroller meet periodically throughout the year and provide independent, expert assistance in guiding the Fund. These committees include: the Advisory Council for the Retirement System; the Investment Advisory Committee; the Real Estate Advisory Committee; the Actuarial Advisory Committee; and the Audit Advisory Committee.

System benefits are established under the provisions of the New York State Retirement and Social Security Law (RSSL). Once a public employer elects to participate in the System, the election is irrevocable. The New York State Constitution provides that pension membership is a contractual relationship and plan benefits cannot be diminished or impaired. Benefits can be changed for future members only by enactment of a State statute. Generally, members of the System are employees, other than teachers, of the State and its municipalities, other than New York City.

ERS and PFRS are cost-sharing, multiple-employer, defined benefit pension plans. The System is included in the State of New York's financial report as a pension trust fund. The Public Employees' Group Life Insurance Plan (GLIP) provides death benefits in the form of life insurance. In these statements, GLIP amounts are apportioned to and included in ERS and PFRS.

As of March 31, 2022, the number of participating employers for ERS and PFRS consisted of the following:

	ERS	PFRS
State	1	1
Counties	57	4
Cities	61	61
Towns	916	169
Villages	479	297
Other	765	38
School districts	690	—
Total	2,969	570

Basic Financial Statements

Notes to Basic Financial Statements

continued

As of March 31, 2022, the System membership for ERS and PFRS consisted of the following:

	ERS	PFRS
Retirees and beneficiaries currently receiving benefits	468,664	39,259
Active members	473,915	32,169
Inactive members*	176,336	3,030
Total members and benefit recipients	1,118,915	74,458

* Includes vested members not currently receiving benefits and nonvested members.

(a) Membership Tiers

Pension legislation enacted in 1973, 1976, 1983, 2009 and 2012 established distinct classes of membership. For convenience, the System uses a tier concept to distinguish these groups, generally:

ERS

- Tier 1** Those persons who last became members before July 1, 1973.
- Tier 2** Those persons who last became members on or after July 1, 1973, but before July 27, 1976.
- Tier 3** Generally, those persons who are State correction officers who last became members on or after July 27, 1976, but before January 1, 2010, and all others who last became members on or after July 27, 1976, but before September 1, 1983.
- Tier 4** Generally, except for correction officers, those persons who last became members on or after September 1, 1983, but before January 1, 2010.
- Tier 5** Those persons who last became members on or after January 1, 2010, but before April 1, 2012.
- Tier 6** Those persons who first became members on or after April 1, 2012.

PFRS

- Tier 1** Those persons who last became members before July 31, 1973.
- Tier 2** Those persons who last became members on or after July 31, 1973, but before July 1, 2009.
- Tier 3** Those persons who last became members on or after July 1, 2009, but before January 9, 2010.
- Tier 4** Not Applicable
- Tier 5** Those persons who last became members on or after January 9, 2010, but before April 1, 2012, or who were previously PFRS Tier 3 members who elected to become Tier 5.
- Tier 6** Those persons who first became members on or after April 1, 2012.

(b) Vesting

Members who joined the System prior to January 1, 2010 need five years of service to be 100 percent vested. Members who joined on or after January 1, 2010 (ERS) or January 9, 2010 (PFRS) require ten years of service credit to be 100 percent vested.

Subsequent to March 31, 2022, legislation was passed that reduced the number of years of service credit from ten years to five years. Therefore, all Members are vested when they reach five years of service credit.

(c) Employer Contributions

Participating employers are required under the RSSL to contribute to the System at an actuarially determined rate adopted annually by the Comptroller. The average contribution rate for ERS for the fiscal year ended March 31, 2022 was approximately 16.2 percent of covered employee payroll. The average contribution rate for PFRS for the fiscal year ended March 31, 2022 was approximately 28.3 percent of covered employee payroll. Delinquent annual bills for employer contributions accrue interest at the actuarial interest rate applicable during the year. For the fiscal year ended March 31, 2022, the applicable interest rate was 5.9 percent.

(d) Member Contributions

Generally, Tier 3, 4, and 5 members must contribute 3 percent of their salary to the System. As a result of Article 19 of the RSSL, eligible Tier 3 and 4 employees, with a membership date on or after July 27, 1976, who have ten or more years of membership or credited service with the System, are not required to contribute. Members cannot be required to begin making contributions or to make increased contributions beyond what was required when membership began. For Tier 6 members, the contribution rate varies from 3 percent to 6 percent depending on salary. Generally, Tier 5 and 6 members are required to contribute for all years of service.

(e) Benefits

Tiers 1 and 2

Eligibility: Tier 1 members, with the exception of those retiring under special retirement plans, must be at least age 55 to be eligible to collect a retirement benefit. There is no minimum service requirement for Tier 1 members. Tier 2 members, with the exception of those retiring under special retirement plans, must have five years of service and be at least age 55 to be eligible to collect a retirement benefit. The age at which full benefits may be collected for Tier 1 is 55, and the full benefit age for Tier 2 is 62.

Benefit Calculation: Generally, the benefit is 1.67 percent of final average salary for each year of service if the member retires with less than 20 years. If the member retires with 20 or more years of service, the benefit is 2 percent of final average salary for each year of service. Tier 2 members with five or more years of service can retire as early as age 55 with reduced benefits. Tier 2 members age 55 or older with 30 or more years of service can retire with no reduction in benefits. As a result of Article 19 of the RSSL, Tier 1 and Tier 2 members who worked continuously from April 1, 1999 through October 1, 2000 received an additional month of service credit for each year of credited service they have at retirement, up to a maximum of 24 additional months.

Final average salary is the average of the wages earned in the three highest consecutive years of employment. For Tier 1 members who joined on or after June 17, 1971, each year's compensation used in the final average salary calculation is limited to no more than 20 percent greater than the previous year. For Tier 2 members, each year of final average salary is limited to no more than 20 percent greater than the average of the previous two years.

Tiers 3, 4, and 5

Eligibility: Tier 3 and 4 members, with the exception of those retiring under special retirement plans, must have five years of service and be at least age 55 to be eligible to collect a retirement benefit. Tier 5 members, with the exception of those retiring under special retirement plans, must have ten years of service and be at least age 55 to be eligible to collect a retirement benefit. The full benefit age for Tiers 3, 4 and 5 is 62.

Benefit Calculation: Generally, the benefit is 1.67 percent of final average salary for each year of service if the member retires with less than 20 years. If a member retires with between 20 and 30 years of service, the benefit is 2 percent of final average salary for each year of service. If a member retires with more than 30 years of service, an additional benefit of 1.5 percent of final average salary is applied for each year of service over 30 years. Tier 3 and 4 members with five or more years of service and Tier 5 members with ten or more years of service can retire as early as age 55 with reduced benefits. Tier 3 and 4 members age 55 or older with 30 or more years of service can retire with no reduction in benefits.

Final average salary is the average of the wages earned in the three highest consecutive years of employment. For Tier 3, 4 and 5 members, each year's compensation used in the final average salary calculation is limited to no more than 10 percent greater than the average of the previous two years.

Basic Financial Statements

Notes to Basic Financial Statements

continued

Tier 6

Eligibility: Tier 6 members, with the exception of those retiring under special retirement plans, must have ten years of service and be at least age 55 to be eligible to collect a retirement benefit. The full benefit age for Tier 6 is 63 for ERS members and 62 for PFRS members.

Benefit Calculation: Generally, the benefit is 1.67 percent of final average salary for each year of service if the member retires with less than 20 years. If a member retires with 20 years of service, the benefit is 1.75 percent of final average salary for each year of service. If a member retires with more than 20 years of service, an additional benefit of 2 percent of final average salary is applied for each year of service over 20 years. Tier 6 members with ten or more years of service can retire as early as age 55 with reduced benefits.

Final average salary is the average of the wages earned in the five highest consecutive years of employment. For Tier 6 members, each year's compensation used in the final average salary calculation is limited to no more than 10 percent greater than the average of the previous four years.

Special Plans

The 25-Year Plans allow a retirement after 25 years of service with a benefit of one-half of final average salary, and the 20-Year Plans allow a retirement after 20 years of service with a benefit of one-half of final average salary. These plans are available to certain PFRS members, sheriffs, and correction officers.

Disability Retirement Benefits

Disability retirement benefits are available to ERS and PFRS members unable to perform their job duties because of permanent physical or mental incapacity. There are three general types of disability benefits: ordinary, performance of duty, and accidental disability benefits. Eligibility, benefit amounts, and other rules such as any offsets of other benefits depend on a member's tier, years of service, and plan.

Ordinary Death Benefits

Death benefits are payable upon the death, before retirement, of a member who meets eligibility requirements as set forth by law. The first \$50,000 of an ordinary death benefit is paid in the form of group term life insurance. The benefit is generally three times the member's annual salary. For most members, there is also a reduced post-retirement ordinary death benefit available.

Post-Retirement Benefit Increases

A cost-of-living adjustment is provided annually to: (i) all retirees who have attained age 62 and have been retired for five years; (ii) all retirees who have attained age 55 and have been retired for ten years; (iii) all disability retirees, regardless of age, who have been retired for five years; (iv) ERS recipients of an accidental death benefit, regardless of age, who have been receiving such benefit for five years; and (v) the spouse of a deceased retiree receiving a lifetime benefit under an option elected by the retiree at retirement. An eligible spouse is entitled to one-half the cost-of-living adjustment amount that would have been paid to the retiree when the retiree would have met the eligibility criteria. This cost-of-living adjustment is a percentage of the annual retirement benefit of the eligible retiree as computed on a base benefit amount not to exceed \$18,000 of the annual retirement benefit. The cost-of-living percentage shall be 50 percent of the annual Consumer Price Index as published by the U.S. Bureau of Labor, but cannot be less than 1 percent or exceed 3 percent.

2. Summary of Significant Accounting Policies

(a) Basis of Accounting

The System maintains records and accounts, and prepares financial statements using the accrual basis of accounting. Employer contributions are recognized when legally due, pursuant to statutory requirements, in accordance with the terms of each plan. Member contributions are based on earned member salaries and are recognized when due. Benefits, expenses, and refunds are recognized when due and payable.

(b) Investments

Investments are recorded on a trade-date basis and reported at fair value. Fair value is defined as the amount that can reasonably be expected to be received for an investment in a current sale between a willing buyer and a willing seller. Due to the nature of investments, it is reasonable that changes in the value of investments will occur in the near future, and such changes could materially affect the amounts reported. The amounts reported as investments on the financial statements are allocated between ERS and PFRS based on each system's monthly average equity in the Fund. See note 4(c) for detailed information on the System's policy on investment valuation and note 8 for more detail regarding the methods used to measure the fair value of investments.

(c) Member Loan Programs

Members who joined prior to January 1, 2018 are entitled to participate in a loan program that allows them to borrow up to 75 percent of their member contributions or \$50,000, whichever is less. Members who joined on or after January 1, 2018, may borrow up to 50 percent of their contribution balance or \$50,000, whichever is less. Repayment of outstanding amounts is generally made through payroll deductions within five years. The interest rate charged for COESC Member Loans is fixed at 1 percent below the actuarial interest rate at the time the loan is granted. The rate for loans issued during the fiscal year ended March 31, 2022 was 5.8 percent.

(d) Capital Assets

Capital assets are capitalized at cost and depreciated on a straight-line basis over the related assets estimated useful lives.

During the fiscal year ended March 31, 2014, the System began capitalizing outlays associated with the redesign of its pension administration system. As of March 31, 2022, capitalized outlays for the project total \$535.84 million. This project is currently ongoing and is expected to be completed in fiscal year 2023, at which time depreciation of the capitalized costs will begin.

Basic Financial Statements

Notes to Basic Financial Statements

continued

(e) Contributions Receivable

Employers' contributions receivable are presented net of withdrawals, refunds, advance employer payments, and credits due employers. Receivable amounts from participating employers include \$18.8 million for amortization of retirement incentives, new plan adoptions, and retroactive membership. The RSSL includes several provisions related to the amortization of employer contribution amounts. These include:

- Chapter 57 of the Laws of 2010 authorized the State and local employers to amortize a portion of their annual pension costs during periods when actuarial contribution rates exceed thresholds established by the statute. Amortized amounts will be paid in equal annual installments over a ten-year period including a rate of interest set by the Comptroller annually. Employers may prepay these amounts at any time without penalty. The first payment will be due in the fiscal year following the decision to amortize. Chapter 57 further provides that when contribution rates fall below legally specified levels and all outstanding amortizations have been paid, employers that elected to amortize will be required to pay additional moneys into reserve funds, specific to each employer, which will be used to offset their contributions in the future. These reserve funds will be invested separately from pension assets.

The following represents the amortized receivable balance from the State and Local participating employers as of March 31, 2022, including the statutory amortization threshold and interest rate, for each respective fiscal year:

Chapter 57, Laws of 2010

Year	(Percentage of Payroll)		Interest	(Dollars in Millions)	
	ERS	PFRS		Local	
2011	9.5%	17.5%	5.00%	\$	—
2012	10.5	18.5	3.75		—
2013	11.5	19.5	3.00		27.9
2014	12.5	2.5	3.67		35.1
2015	13.5	21.5	3.15		40.4
2016	14.5	22.5	3.21		26.0
2017	15.1	23.5	2.33		3.2
2018	14.9	24.3	2.84		2.7
2019	14.4	23.5	3.64		3.1
2020	14.2	23.5	2.55		—
2021	14.1	24.4	1.33		—
2022	15.1	25.4	1.76		1.1
				\$	139.5

Basic Financial Statements

Notes to Basic Financial Statements

continued

- The fiscal year 2014 Enacted Budget included an alternate contribution program (the Alternate Contribution Stabilization Program) that provided certain participating employers with a one-time election to amortize slightly more of their required contributions than would be available for amortization under the 2010 legislation. In addition, the maximum payment period was increased from ten years to twelve years. The election was available to: counties, cities, towns, villages, BOCES, school districts and the four public health care centers operated in the counties of Nassau, Westchester and Erie. The State was not eligible to participate in the Alternate Contribution Stabilization Program.

The following represents the amortized receivable balance from Local participating employers as of March 31, 2022, including the statutory amortization threshold and interest rate, for each respective fiscal year:

Chapter 57, Laws of 2013

Year	(Percentage of Payroll)		Interest	(Dollars in Millions)
	ERS	PFRS		Local
2014	12.0%	20.0%	3.76%	\$ 31.9
2015	12.0	20.0	3.50	59.5
2016	12.5	20.5	3.31	47.7
2017	13.0	21.0	2.63	38.6
2018	13.5	21.5	3.31	40.0
2019	14.0	22.0	3.99	10.3
2020	14.2	22.5	2.87	7.9
2021	14.1	23.0	1.60	31.1
2022	14.6	23.5	2.24	19.6
				\$ 286.6

(f) Postemployment Benefits Other than Pensions

Employees of the System participate in a Postemployment Benefits Other than Pensions (OPEB) Plan administered by the State. The State administers the OPEB plan on a pay-as-you-go basis. Substantially all of the System's employees may become eligible for postemployment benefits if they reach retirement age while working for the System. The costs of providing the postemployment benefits, which primarily consists of health insurance coverage, are shared between the System and the retired employee.

The System's total OPEB liability was measured as of March 31, 2021 and was determined by an actuarial valuation as of April 1, 2020 rolled forward to March 31, 2021. The total OPEB liability and related OPEB amounts were allocated to the System based on the percentage of the System's full-time equivalents to the total full-time equivalents of the State. The OPEB amounts recorded by the System include the total OPEB liability (\$260.5 million), deferred outflows of resources (\$33.3 million), deferred inflows of resources (\$52.8 million) and OPEB expense (\$36.1 million). OPEB expense is recorded as part of administrative expenses on the combining statement of changes in fiduciary net position. Due to immateriality of the OPEB amounts to the System as a whole, the total OPEB liability, deferred outflows of resources and deferred inflows of resources are netted and included in other liabilities on the combining statement of fiduciary net position. Additionally, due to immateriality, the System has not presented all disclosures and required supplementary information prescribed by GASB Statement No. 75. For the fiscal year ended March 31, 2022, the System paid \$9.0 million in benefit payments.

(g) Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingencies. These estimates are subject to a certain amount of uncertainty in the near term, which could result in changes in the values reported for those assets in the combined statement of fiduciary net position. Estimates also affect the reported amounts of income/additions and expenses/deductions during the reporting period. Actual results could differ from these estimates.

Basic Financial Statements

Notes to Basic Financial Statements

continued

3. System Reserves

The legally required reserves, as covered by provisions of the RSSL, are maintained by the System, are fully funded as of March 31, 2022, and are described below:

- *Annuity Savings Funds* – Funds in which contributions of Tier 1 and Tier 2 members are accumulated.
- *Annuity Reserve Funds* – Funds from which member contribution annuities are paid.
- *Pension Accumulation Funds* – Funds in which employer contributions and income from the investments of the System are accumulated.
- *Pension Reserve Funds* – Funds from which pensions are paid.
- *Designated Annuitant Funds* – Funds from which beneficiary annuities are paid.
- *Loan Insurance Funds* – Funds that provide loan insurance coverage for members with existing no default loan balances at time of death.
- *Group Life Insurance Plan Reserve* – Reserves that provide group term death benefits not to exceed \$50,000, payable upon the death of eligible members.
- *Coescalation (COESC) Contribution Funds* – Funds in which member contributions are accumulated. These funds are transferred to the Pension Accumulation Fund at retirement.

As of March 31, 2022, the System reserves for ERS and PFRS consisted of the following:

	(Dollars in Thousands)	
	ERS	PFRS
Annuity savings	\$ 2,063	\$ 70,932
Annuity reserve	49,751	27,778
Pension accumulation	97,491,331	15,256,309
Pension reserve	125,786,490	26,035,267
Designated annuitant	51,984	25,309
Loan insurance	—	118
Group Life Insurance Plan reserve	140,290	2,136
COESC contribution	8,527,564	251,401
Total	\$ 232,049,473	\$ 41,669,250

4. Investments

(a) Investment Policy

The State Comptroller, currently Comptroller Thomas P. DiNapoli, is Trustee of the Fund. He is directly accountable for the investment of Fund assets and for the oversight and management of the Fund. Comptroller DiNapoli is responsible for implementing an asset allocation with an appropriate balance of risk and return. The Trustee has put in place investment policies and practices designed to ensure that investments are made for the exclusive benefit of the participants and beneficiaries of the System, on whose behalf the assets of the Fund are invested, and that Fund investments are made with the care that a prudent person serving in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims — the “prudence” and “exclusive benefit” fiduciary standards of investment. Additionally, the Trustee has adopted policies and practices to ensure that the Fund is managed with high levels of ethical conduct and transparency.

The Comptroller seeks the input of a wide range of internal and external advisors to determine the allocation of assets and the appropriate investment choices for the Fund. The Comptroller appoints a Chief Investment Officer to oversee the Division of Pension Investment and Cash Management (PICM) operations, manage staff, and supervise investments on a day-to-day basis. The Fund also relies on advice from a network of outside advisors, consultants, and legal counsel, as well as the members of independent external advisory committees appointed by the Comptroller. Outside advisors and internal investment staff are part of the chain of approval that must recommend all investment decisions before they reach the Comptroller for final approval.

The asset allocation is not intended to be an absolute limit on the type of investments that can be made by the Comptroller or considered by staff. The Comptroller is expressly permitted to invest the assets of the Fund pursuant to various provisions of State law, including, among others, Article 4-A of the RSSL, which also contains limitations on the amount and quality of investments the Fund may hold in certain asset categories. Investments purchased pursuant to these provisions are so-called “legal list” investments. In addition to the foregoing, section 177(9) of the RSSL contains a provision that currently provides that up to 25 percent of the Fund’s assets may be placed in investments not specifically authorized by any other provision of law. In making investments under this provision, the Comptroller is subject to the exclusive benefit and prudence standards in the statute. Subject to such standards, investments made under this provision must also, to the extent reasonably possible, benefit the overall economic health of the State. Investments made pursuant to section 177(9) of the RSSL are so-called “basket clause” investments.

(b) Asset Allocation (done)

The following was the adopted asset allocation policy as of March 31, 2022:

Asset Class	Target Allocation
Domestic equity	32.0%
International equity	15.0
Private equity	10.0
Real estate	9.0
Opportunistic/Absolute Return Strategy	3.0
Credit	4.0
Real assets	3.0
Fixed Income	23.0
Cash	1.0
	100.0%

(c) Methods Used to Value Investments

Equity securities traded on a national or international exchange are reported at current quoted fair values.

Bonds and other fixed income assets are primarily reported at fair values obtained from independent pricing services.

Mortgages are valued on the basis of future principal and interest payments and are discounted at prevailing interest rates for similar instruments.

Direct investments in real estate are valued based on independent appraisals made every three years or according to the contract.

Real estate partnerships, global fixed income funds, commingled international equity funds and various alternative investments (private equity, opportunistic/ARS funds, real assets, and credit) are reported at net asset values as provided by the general partners or investment managers.

Information on securities lending is available in note 7. Information on foreign currency risks and derivative financial instruments can be found in note 5(f) and note 6, respectively.

The Fund trades in foreign exchange contracts in the normal course of its investing activities in order to manage exposure to market risks. Such contracts, which are generally for a period of less than one year, are used to purchase and sell foreign currency at a guaranteed future price. These contracts are recorded at fair value using foreign currency exchange rates.

(d) Rates of Return

In accordance with U.S. generally accepted accounting principles, the money-weighted rate of return on plan investments, net of investment expenses, was 9.44 percent for the year ended March 31, 2022. For internal purposes, the System evaluates investment performance using the time-weighted rate of return, gross of certain investment fees, which was 9.51 percent for the year ended March 31, 2022.

5. Deposit and Investment Risk Disclosure

(a) Custodial Credit Risk for Investments

Investment securities are exposed to custodial credit risk if the securities are not registered in the name of the Fund, or are held either by the counterparty or the counterparty's trust department or agent, but not in the name of the Fund.

Equity and fixed income investments owned directly by the Fund, which trade in the United States (U.S.) markets, are generally held by the Fund's custodian, in separate accounts, in the name of the Comptroller of the State of New York in Trust for the Fund. These securities are typically held in electronic form through the Federal Book Entry System and by the Depository Trust Company (DTC) and its subsidiaries acting as an agent of the Fund's custodian bank. Securities held directly by the Fund that trade in markets outside the U.S. are held by a subsidiary of the Fund's custodian bank in the local market, a bank performing custodial services in the local market acting as an agent for the Fund's custodian bank, and in some foreign markets, the securities are held in electronic form by a DTC subsidiary or an organization similar to DTC.

Equity investments held indirectly by the Fund via limited partnerships, commingled investment funds, joint ventures, and other similar vehicles are held in custody by an organization contracted by the general partner and/or the investment management firm responsible for the management of each investment organization.

Title to real estate invested in by the Fund is held either by a real estate holding company or a real estate investment fund. Ownership of mortgage assets is documented by the Fund's holding of original mortgage and note documents by the Office of the State Comptroller's PICM.

(b) Custodial Credit Risk for Deposits

Deposits are exposed to custodial credit risk if the deposits are not covered by depository insurance or the deposits are uncollateralized, collateralized with securities held by the pledging financial institution, or collateralized with securities held by the pledging institution's trust department or agent, but not in the name of the Fund.

In accordance with existing policies and procedures, the PICM in the Office of the State Comptroller monitors deposit balances for the purpose of determining collateralization levels. Collateral sufficient to cover all uninsured deposits is held at the State's custodial bank.

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(c) Interest Rate Risk

The System is subject to interest rate risk, which is the risk that changes in market interest rates will adversely affect the fair value of the Fund's fixed income securities. Pursuant to the Fund's investment policies and procedures and to address changing economic factors and their impact on various sectors of the economy, PICM staff meets regularly to discuss the investment strategy for the fixed income portfolio. Several factors are taken into account when formulating this strategy, including sector weightings and the current duration of the portfolio.

The price volatility of the Fund's fixed income holdings is measured by duration. Effective duration is a measure of the price sensitivity of a bond to interest rate movements. Effective duration follows the concept that interest rates and bond prices move in opposite directions.

As of March 31, 2022, the duration of the fixed income portfolio is as follows (dollars in thousands):

Category	Fair Value	Percentage of Portfolio	Effective Duration (In Years)
Global fixed income:			
Core Portfolio:			
Treasury	\$ 19,946,139	38.0%	8.92
Treasury Inflation-Protected Securities (TIPS)	362,827	0.7	8.21
Federal agency	472,077	0.9	4.30
Corporate	16,478,603	31.4	6.12
Asset-backed	2,084,596	4.0	3.09
Commercial mortgage-backed	1,492,384	2.8	2.76
Mortgage-backed	5,521,798	10.4	5.70
Collateralized loan obligations	3,036,836	5.8	0.09
Municipal bonds	<u>582,028</u>	<u>1.1</u>	<u>13.59</u>
Core Portfolio	49,977,288	95.1	6.65
Externally managed funds:			
Advent Capital	454,650	0.9	3.6
Calvert Research and Management	247,822	0.5	6.03
DoubleLine Capital	266,680	0.5	15.29
Morgan Stanley Investment Management	246,056	0.5	8.63
New Century Advisors	524,391	1.0	5.49
Schroder Investment Management	250,905	0.5	6.79
Teachers Advisors (Nuveen)	245,270	0.5	6.34
Wellington Management Company	<u>284,394</u>	<u>0.5</u>	<u>6.81</u>
Total global fixed income	\$ 52,497,456	100.0%	
Mortgage loans:			
Berkadia	1,053,469	74.1	
CPC	<u>367,670</u>	<u>25.9</u>	
Total Mortgage loans	\$ 1,421,139	100.0%	
Total	\$ 53,918,595		

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(d) Credit Risk of Debt Securities

Fixed income obligations purchased pursuant to section 177(1-a) of the RSSL must be investment grade at the time of their acquisition. A bond is considered investment grade if its credit rating is Baa or higher by Moody's or BBB- or higher by Standard & Poor's. Fixed income obligations purchased pursuant to section 177(9) of the RSSL, the "basket clause," are subject to a standard of prudence. As of March 31, 2022, credit ratings, obtained from several industry rating services, for the fixed income portfolio are as follows (dollars in thousands):

Quality Rating	Fair Value	Percentage of Fair Value
Global fixed income:		
AAA	\$ 32,022,286	61.00%
AA	3,876,470	7.38
A	7,845,645	14.95
BBB	8,218,125	15.65
BB	124,744	0.24
B	35,163	0.07
CCC	17,403	0.03
C	3,541	0.01
Not Rated	354,079	0.67
Total Global fixed income	\$ 52,497,456	100.0%
Mortgage loans:		
Not Rated	\$ 1,421,139	100.0%
Total	\$ 53,918,595	
* These externally managed funds are considered investments under the "basket clause," subject to the standards of prudence. All or a part of the holdings can be non-investment grade. While this fund is not rated, the underlying securities credit ratings range from AAA to CCC & Not Rated.		

(e) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the Fund's investment in a single issuer.

As of March 31, 2022, the System did not hold any investments in any one issuer that totaled 5 percent or more of the pension plan's fiduciary net position. Investments issued or explicitly guaranteed by the U.S. government and pooled investments are excluded.

Issuer limits for investments held by the Fund are established by law and by policy guidelines adopted by the PICM.

Short-term fixed income investments not purchased pursuant to section 177(9) of the RSSL are generally limited to the following investment types maturing in one year or less:

- Obligations for which the full faith and credit of the U.S. government is pledged to provide payment of interest and principal.
- Obligations issued by any Federal Home Loan Bank or obligations fully guaranteed as to principal and interest by the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation.
- Commercial paper that has received the highest rating from two nationally recognized rating services. A maximum of \$1 billion of the short-term portfolio may be invested in any one commercial paper issuer.
- Simultaneous purchase and sale of U.S. Treasury obligations may be executed with Primary Government dealers. A maximum of \$200 million may be invested with any one Primary Government dealer.
- Corporate and asset-backed securities (ABS) that are rated investment grade by two nationally recognized rating services. ABS must have a weighted average life of one year or less.

Fixed income investments not purchased pursuant to section 177(9) of the RSSL are generally limited to the following investment types with maturities longer than one year:

- Obligations for which the full faith and credit of the U.S. government is pledged to provide payment of principal and interest.
- Obligations payable in U.S. dollars issued by any department, agency, or political subdivision of the U.S. government or issued by any corporation, company, or other issuer of any kind or description created or existing under the laws of the U.S., any state of the U.S., the District of Columbia, or the Commonwealth of Puerto Rico, and obligations payable in U.S. funds of Canada or any province or city of Canada, provided each obligation at the time of investment shall be rated investment grade by two nationally recognized rating services (or by one nationally recognized rating service in the event only one such service rates such obligation). The aggregate investment by the Fund in the obligations of any one issuer shall not exceed 2 percent of the assets of the Fund or 5 percent of the direct liabilities of the issuer.
- Interest-bearing obligations payable in U.S. funds, which at the time of investment are rated in one of the three highest rating grades by each rating service approved by the New York State Department of Financial Services that has rated such obligations. The aggregate amount invested in the obligations of any single issuer may not exceed 1 percent of the assets of the Fund.
- Bonds issued or guaranteed by the State of Israel and approved by the United States Comptroller of the Currency, payable in U.S. dollars, not to exceed 5 percent of the assets of the Fund.
- Obligations issued or guaranteed by the International Bank for Reconstruction and Development (not to exceed 5 percent of the assets of the Fund), the Inter-American Development Bank, the Asian Development Bank, or the African Development Bank.

Fixed income investments purchased pursuant to section 177(9) of the RSSL are subject to standards of prudence and the exclusion benefit rules. Subject to such standards, investments made under section 177(9) must, to the extent reasonably possible, benefit the overall economic health of the State.

(f) Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The Fund has exposure through direct investments in international equities, international equity commingled funds, international real estate investments, international private equity investments, international opportunistic/ARS funds, international real asset funds and international credit funds. The Fund's asset allocation and investment policies allow for active and passive investments in international securities. The Fund permits the managers of direct investments in international equities to use forward currency contracts to manage their exposure to foreign currencies relative to the U.S. dollar. Where the Fund participates in commingled funds, limited partnerships, or other investment arrangements, the decision whether or not to use forward currency contracts to manage their foreign currency exposure is left up to the individual investment managers. To address the impact of changes in exchange rates, only forward foreign exchange contracts of one year or less are allowed when used to lessen portfolio volatility or hedge the portfolio's currency exposure.

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Foreign investments included in the combining basic statement of fiduciary net position as of March 31, 2022 are as follows:

(Dollars in Thousands)

	Equity	Cash	Real Estate	Private Equity, OARS, Real Assets, and Credit	Total
Angolan Kwanza	\$ —	\$ —	\$ —	\$ 5,933	\$ 5,933
Argentine Peso	—	1	28	16,673	16,702
Australian Dollar	442,025	3,940	85,135	391,927	923,027
Bahamian Dollar	—	—	—	5,159	5,159
Bahraini Dinar	—	—	—	13,893	13,893
Barbadian Dollar	—	—	—	257	257
Belarusian ruble	—	—	—	698	698
Bermudian Dollar	—	—	—	259,265	259,265
Botswana Pula	—	—	—	4,790	4,790
Brazilian Real	403,805	914	38,178	617,606	1,060,503
British Pound Sterling	3,096,113	6,375	685,656	3,370,066	7,158,210
Bulgarian Lev	—	—	93	8,326	8,419
Burmese Kyat	—	—	—	10,563	10,563
Cambodian Riel	—	—	—	178	178
Canadian Dollar	717,866	8,868	222,563	936,616	1,885,913
Cayman Islands Dollar	—	—	—	1,324,643	1,324,643
Central African CFA Franc	—	—	—	2,139	2,139
Chilean Peso	18,585	59	—	112,322	130,966
Chinese Renminbi (Yuan)	280,940	—	239,694	1,215,657	1,736,291
Colombian Peso	5,128	29	2	95,128	100,287
Costa Rican Colon	—	—	—	3,867	3,867
Czech Koruna	2,378	5	59,972	5,338	67,693
Danish Krone	539,553	583	36,719	193,186	770,041
Dominican Peso	—	—	—	16,629	16,629
Egyptian Pound	1,367	20	—	86,169	87,556
Euro	5,396,385	207	2,666,119	7,260,863	15,323,574
Ghanaian Cedi	—	—	—	26,424	26,424
Guatemalan Quetzal	—	—	—	10,046	10,046
Hong Kong Dollar	1,585,126	941	72,954	183,225	1,842,246
Hungarian Forint	22,240	210	—	5,923	28,373
Indian Rupee	697,626	688	268,588	1,205,472	2,172,374
Indonesian Rupiah	105,567	3	—	120,727	226,297
Iraqi Dinar	—	—	—	371	371
Israeli New Shekel	84,791	952	—	804,621	890,364
Jamaican Dollar	—	—	1,918	—	1,918
Japanese Yen	2,969,764	9,468	156,366	437,209	3,572,807
Kazakhstani Tenge	—	—	—	(816)	(816)
Kenyan Shilling	—	—	—	31,781	31,781
Kuwaiti Dinar	—	—	—	755	755
Lebanese Pound	—	—	—	974	974
Malaysian Ringgit	59,287	263	—	32,892	92,442
Maldivian Rufiyaa	—	—	9,097	6,482	15,579

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	Equity	Cash	Real Estate	Private Equity, OARS, Real Assets, and Credit	Total
Mauritian Rupee	\$ —	\$ —	\$ 39	\$ 29,837	\$ 29,876
Mexican Peso	72,463	253	7,125	132,872	212,713
Mongolian Togrog	—	—	—	1,447	1,447
Moroccan Dirham	—	—	—	19,206	19,206
Mozambican Metical	—	—	—	834	834
New Taiwan Dollar	694,861	2,028	3	42,766	739,658
New Zealand Dollar	1,100	18	7,996	59,498	68,612
Nigerian Naira	—	—	—	98,606	98,606
Norwegian Krone	117,865	333	15,698	155,737	289,633
Omani Rial	—	—	—	8,993	8,993
Pakistan Rupee	—	—	—	1,276	1,276
Panamanian Balboa	—	—	—	10,981	10,981
Paraguayan Guaraní	—	—	—	9,769	9,769
Peruvian Sol	—	1	—	65,503	65,504
Philippine Peso	10,251	10	—	77,844	88,105
Polish Zloty	48,510	308	88,574	114,237	251,629
Qatari Riyal	6,711	4	—	5,111	11,826
Romanian Leu	—	—	1,055	750	1,805
Russian Ruble	—	—	2,214	58,151	60,365
Rwanda Franc	—	—	—	283	283
Saudi Riyal	40,727	445	—	3,381	44,553
Serbian Dinar	—	—	1	5,263	5,264
Singapore Dollar	273,483	3,305	55,147	239,123	571,058
South African Rand	87,121	2,083	69	529,032	618,305
South Korean Won	858,073	50	37,754	204,022	1,099,899
Sri Lankan Rupee	—	—	69	14,287	14,356
Swedish Krona	618,009	847	126,976	769,588	1,515,420
Swiss Franc	1,334,493	1,103	3,126	448,799	1,787,521
Tanzanian Shilling	—	—	—	3,102	3,102
Thai Baht	102,993	—	—	36,124	139,117
Tunisian Dinar	—	—	—	586	586
Turkish Lira	21,931	338	—	69,730	91,999
Ugandan Shilling	—	—	—	2,931	2,931
Ukrainian Hryvnia	—	—	3,269	38,568	41,837
United Arab Emirates Dirham	13,249	—	9,051	91,292	113,592
Uruguayan Peso	—	—	—	1,635	1,635
Venezuelan Bolívar Soberano	—	—	—	4,263	4,263
Vietnamese Dong	—	—	125	90,011	90,136
West African CFA Franc	—	—	—	10,345	10,345
Zambian Kwacha	—	—	—	4,204	4,204
Other	—	—	18,873	16	18,889
Total subject to foreign currency risk	20,730,386	44,652	4,920,246	22,283,980	47,979,264
Commingled international equity in U.S. Dollars	12,986,208	—	—	—	12,986,208
Foreign investments in U.S. Dollars	5,472,338	—	8,130	12,017,936	17,498,404
Total foreign investments	\$ 39,188,932	\$ 44,652	\$ 4,928,376	\$ 34,301,916	\$ 78,463,876

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6. Derivatives

A derivative is generally defined as an investment contract or security with a value that depends on, or is derived from, the value of an underlying asset, reference rate, or financial index.

Forward Currency Contracts

The System may enter into forward currency contracts to manage exposure to fluctuations in foreign currency exchange rates on portfolio holdings. The System also enters into forward exchange contracts to settle future obligations. A forward exchange contract is a commitment to purchase or sell a foreign currency at a future date at a negotiated forward rate. A contract is classified as a forward contract when the settlement date is more than two days after the trade date. Risk associated with such contracts includes movement in the value of a foreign currency relative to the U.S. dollar. The contracts are valued at forward exchange rates and include net appreciation/depreciation in the combining statement of fiduciary net position. Realized gain or loss on forward currency contracts is the difference between the original contract and the closing value of such contract and is included in the combining basic statement of changes in fiduciary net position.

The table below summarizes the fair value of foreign currency contracts as of March 31, 2022 (dollars in thousands):

Currency	Forward Currency Contracts	Spot Currency Contracts	Totals
Australian Dollar	\$ —	\$ 1,189	\$ 1,189
Brazilian Real	—	(3,419)	(3,419)
British Pound Sterling	20,720	(4,957)	15,763
Canadian Dollar	—	5,664	5,664
Chinese Yuan Renminbi	—	474	474
Colombian Peso	—	700	700
Danish Krone	—	(1,006)	(1,006)
Euro	—	(1,797)	(1,797)
Hong Kong Dollar	1,444	(6,376)	(4,932)
Hungarian Forint	—	622	622
Indonesian Rupiah	—	6,195	6,195
Israeli New Shekel	—	5,753	5,753
Japanese Yen	—	5,034	5,034
Malaysian Ringgit	—	(432)	(432)
Mexican Peso	—	(416)	(416)
New Taiwan Dollar	—	(12,492)	(12,492)
New Zealand Dollar	—	(7)	(7)
Norwegian Krone	—	(191)	(191)
Polish Zloty	—	(714)	(714)
Qatari Riyal	(214)	—	(214)
Singapore Dollar	—	(542)	(542)
South African Rand	(984)	(545)	(1,529)
South Korean Won	—	(11,687)	(11,687)
Swedish Krona	—	(281)	(281)
Swiss Franc	—	7,180	7,180
Thai Baht	—	366	366
Turkish Lira	—	1,230	1,230
U.S Dollar	(20,912)	10,358	(10,554)
United Arab Emirates Dirham	—	46	46
Total	\$ 54	\$ (51)	\$ 3

7. Securities Lending Program

Section 177-d of the RSSL authorizes the Fund to enter into security loan agreements with broker/dealers and state or national banks. The Fund has two providers to manage a securities lending program. These programs are subject to written contracts between the Fund and the Contractor who acts as securities lending agent for the Fund. The securities lending agents are authorized to lend securities within the borrower limits and guidelines established by the Fund. Types of collateral received from borrowers for securities loaned are cash, government securities, and obligations of federal agencies. The securities lending providers are authorized to invest the cash collateral in short-term investments that are legal for the Fund. These include domestic corporate and bank notes, U.S. Treasury obligations, obligations of federal agencies, repurchase agreements, and specific asset-backed securities. All rights of ownership to securities pledged as collateral remain with the borrower except in the event of default. As of March 31, 2022, there were no violations of legal or contractual provisions. The Fund has not experienced any losses resulting from the default of a borrower or lending agent during the year ended March 31, 2022.

The Fund lends fixed income, domestic equity, and international equity securities to approved broker/dealers. Collateral for securities loaned equals 102 percent of fair market value for domestic securities and 105 percent for international securities. Credit risk associated with the investment of cash collateral pledged by borrowers is mitigated by the maturity restrictions, percentage limitations, and rating requirements for individual asset classes included in the Fund's reinvestment guidelines. Each Contractor acknowledges responsibility to reimburse the Fund for losses that might arise from managing the program in a manner inconsistent with the contract. The Fund manages its market risk by recording investments at market value daily and maintaining the value of the collateral held by the Fund in excess of the value of the securities loaned. As of March 31, 2022, the fair value of securities on loan was \$23.6 billion. The associated collateral was \$24.09 billion, of which \$22.51 billion was cash collateral and \$1.58 billion was securities. The cash collateral has been reinvested in other instruments, which had a fair value of \$22.48 billion as of March 31, 2022. The securities lending obligations were \$22.51 billion. The unrealized loss in invested cash collateral on March 31, 2022 was \$27.95 million, which is reported in the combining basic statement of changes in fiduciary net position as part of "Net appreciation in fair value of investments."

All open security loans can be terminated on demand by either the Fund or the borrower. To provide sufficient liquidity, the policy of the Fund is to maintain a minimum of 5 percent collateral in overnight investments, 10 percent must mature within seven days, and 20 percent must mature within 30 days. While the Fund's Securities Lending Investment Guidelines allow investments up to a maximum of three years for U.S. Treasury and federal agency obligations and one year for all other investments, the average term of open security loans at March 31, 2022 was 23 days. All loans were open loans. There were no direct matching loans.

The collateral pool is valued at fair value obtained from independent pricing services.

8. Fair Value Measurement

The System's investments, measured and reported at fair value, including securities lending collateral and obligations and forward foreign exchange contracts, are classified according to the following hierarchy in which the levels are based on the nature of inputs used to measure the fair value of the investment:

Level 1 – Investment fair values based on prices quoted or published in active markets for identical assets.

Level 2 – Investment fair values based on observable inputs for the assets either directly or indirectly, other than those considered Level 1 inputs, which may include quoted or published prices for identical assets in markets that are not considered to be active, and quoted or published prices of similar assets in active or inactive markets.

Level 3 – Investment fair values based on unobservable inputs.

The categorization of investments within the hierarchy above is based solely upon the objectivity of the inputs used in the measurement of the fair value of the investments and does not reflect the level of risk associated with the investments. Investments classified in Level 1 of the fair value hierarchy are valued from predetermined external pricing vendors or primary dealers who source quoted or published prices in active markets which are readily attainable exit values of these securities. Investments classified in Level 2 are subject to alternative pricing sources, including a combination of price sources, descriptive data and pricing models based on attributes such as spread data, sector, quality, duration, and prepayment characteristics. Investments classified as Level 3 are valued using best available sources such as property appraisals, discounted cash flow models and public market comparables of similar assets where applicable. The values are supplied by advisors or general partners who hold those or similar assets in investment vehicles they oversee. These pricing sources may or may not be indicative of realizable exit values attainable for the assets.

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The table below summarizes assets and liabilities carried at fair value based on levels from the fair value hierarchy as of March 31, 2022, with certain assets carried at net asset value (NAV) and cost also included to allow reconciliation to the statement of fiduciary net position (dollars in thousands):

	Total	Level 1	Level 2	Level 3
Assets:				
Investments by fair value level:				
Fixed income securities:				
Short-term instruments	\$ 2,911,080	\$ —	\$ 2,911,080	\$ —
Global fixed income securities	52,497,456	174,432	52,323,024	—
Total fixed income securities	55,408,536	174,432	55,234,104	—
Equity securities:				
Domestic equities	88,591,324	88,590,820	9	495
International equities	36,343,658	36,340,671	31	2,956
Total equity securities	124,934,982	124,931,491	40	3,451
Credit	358,223	—	—	358,223
Mortgages	1,421,139	—	—	1,421,139
Private equity	614,463	—	—	614,463
Opportunistic/ARS	196,967	—	—	196,967
Real assets	98,163	—	—	98,163
Real estate	1,684,629	—	—	1,684,629
Securities lending collateral	18,633,511	—	18,633,511	—
Forward foreign exchange contracts	23,515	—	23,515	—
Total investment assets by fair value level	\$ 203,374,128	\$ 125,105,923	\$ 73,891,170	\$ 4,377,035
Investments measured at cost:				
Securities lending collateral	\$ 3,844,706			
Total investments measured at cost	\$ 3,844,706			
Investments measured at Net Asset Value (NAV):				
Domestic equities ¹	\$ 5,679,912			
International equities ²	2,845,274			
Alternative investments:³				
Credit	8,851,575			
Private equity	36,411,609			
Opportunistic/ARS	5,533,014			
Real assets	5,953,025			
Real estate	21,188,511			
Total alternative investments	77,937,734			
Total investments measured at NAV	\$ 86,462,920			
Investment related cash and cash equivalents not included in above	941,240			
Total investment assets	\$ 294,622,994			
Liabilities:				
Investments by fair value level:				
Forward foreign exchange contracts	(23,461)	—	(23,461)	—
Total investment liabilities by fair value level	\$ (23,461)	\$ —	\$ (23,461)	\$ —

Basic Financial Statements

Notes to Basic Financial Statements

continued

The table below summarizes liquidity information for investments valued at NAV (dollars in thousands):

Investments measured at NAV	Amount	Unfunded Commitments	Redemption Frequency	Notice Period
Domestic equities ¹	\$ 5,679,912	\$ N/A	N/A, Weekly, Monthly, Annually	N/A, 2-90 days
International equities ²	2,845,274	N/A	Daily, Monthly, Quarterly	15-120 days
Alternative investments ³				
Credit	8,851,575	6,366,101	N/A, monthly	N/A, 1-30 days, 18 months
Private equity	36,411,609	15,367,713	N/A	N/A
Opportunistic/ARS	5,533,014	1,371,307	N/A, Monthly, Quarterly	NA, 5-120 days
Real assets	5,953,025	5,461,646	N/A	N/A
Real estate	21,188,511	7,494,012	N/A	N/A
Total investments measured at NAV	\$ 86,462,920	\$ 36,060,779		

¹ Domestic equities consist of two commingled investment vehicles and one fund for which the System is the only investor. The funds invest primarily in publicly traded domestic equity securities. The investments are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

² International equities consist of six commingled investment vehicles and one fund for which the System is the only investor. The funds invest primarily in publicly traded international equity securities. The investments are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.

³ Alternative investments include private equity, opportunistic/ARS funds, real assets, credit and real estate through various fund structures. Private equity (12.6 percent* at March 31, 2022) consists of buyout, growth equity, co-investments, special situations, distressed/turnaround, venture capital and fund of funds. Opportunistic/ARS (1.9 percent* at March 31, 2022) consists of investments in strategies including hedged equity, credit, global macro, closed-end funds, and investments that don't fit the mandates of the other asset classes. Real assets (2.0 percent* at March 31, 2022) consist of commodities, farmland, capital assets, infrastructure, and renewables. Credit (3.1 percent* at March 31, 2022) consists of non-investment grade public and private credit strategies in direct lending, distressed and special situations, specialty finance, structured credit and real assets credit through closed-end and open-end funds, co-investments, separately managed accounts and fund-of-funds. Real estate (7.8 percent* at March 31, 2022) consists of investments in separate accounts, joint ventures and commingled funds. The fair values of the alternative investments have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partner's capital. NAV is used as a practical expedient to estimate fair value. Private equity, real assets, and real estate are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over a span of 5-10 years.

*percentages are stated relative to total investments and securities lending collateral invested.

See note 7 for detailed securities lending information and note 6 for detail forward foreign currency information.

Basic Financial Statements

Notes to Basic Financial Statements

continued

9. Net Pension Liability (Asset) of Participating Employers

The components of the net pension liability (asset) of the employers participating in the System as of March 31, 2022, were as follows:

	(Dollars in Thousands)		
	Employees' Retirement System	Police and Fire Retirement System	Total
Employers' total pension liability	\$ 223,874,888	\$ 42,237,292	\$ 266,112,180
Fiduciary net position	232,049,473	41,669,250	273,718,723
Employers' net pension liability (asset)	\$ (8,174,585)	\$ 568,042	\$ (7,606,543)
Ratio of fiduciary net position to the employers' total pension liability	103.65%	98.66%	102.86%

(a) Actuarial Assumptions

The total pension liability at March 31, 2022 was determined by using an actuarial valuation as of April 1, 2021, with update procedures used to roll forward the total pension liability to March 31, 2022. The actuarial valuation used the following actuarial assumptions:

	ERS	PFRS
Inflation	2.7%	2.7%
Salary increases	4.4	6.2
Investment rate of return (net of investment expense, including inflation)	5.9	5.9
Cost-of-living adjustments	1.4%	1.4%

Annuitant mortality rates are based on April 1, 2015 – March 31, 2020 System experience with adjustments for mortality improvements based on the Society of Actuaries' Scale MP-2020. The previous actuarial valuation as of April 1, 2020 used the same assumptions for the measure of total pension liability.

The actuarial assumptions used in the April 1, 2021 valuation are based on the results of an actuarial experience study for the period April 1, 2015 – March 31, 2020.

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

Basic Financial Statements

Notes to Basic Financial Statements

continued

Best estimates of arithmetic real rates of return for each major asset class included in the target asset allocation as of March 31, 2022 (see Investment policy – note 4(a)) are summarized below:

Asset Class	Long-Term Expected Real Rate of Return
Domestic equity	3.30%
International equity	5.85
Private equity	6.50
Real estate	5.00
Opportunistic/ARS portfolio	4.10
Credit	3.78
Real assets	5.58
Fixed Income	0.00
Cash	(1.00)

The real rate of return is net of the long-term inflation assumption of 2.50 percent.

(b) Discount Rate

The discount rate used to calculate the total pension liability was 5.9 percent. The projection of cash flows used to determine the discount rate assumes that contributions from plan members will be made at the current contribution rates and that contributions from employers will be made at statutorily required rates, actuarially. Based upon the assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

(c) Sensitivity of the Net Pension Liability (Asset) to the Discount Rate Assumption

The following presents the current period net pension liability (asset) of the employers calculated using the current-period discount rate assumption of 5.9 percent, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is one percentage-point lower (4.9 percent) or one percentage-point higher (6.9 percent) than the current assumption (dollars in thousands):

	One Percent Decrease (4.9%)	Current Assumption (5.9%)	One Percent Increase (6.9%)
ERS net pension liability (asset)	\$ 21,041,295	\$ (8,174,585)	\$ (32,612,260)
PFRS net pension liability (asset)	\$ 6,318,619	\$ 568,042	\$ (4,191,904)

10. Federal Income Tax Status

ERS and PFRS are qualified defined benefit retirement plans under section 401(a) of the Internal Revenue Code (IRC) and are exempt from federal income taxes under section 501(a) of the IRC. ERS and PFRS last received favorable determination letters from the Internal Revenue Service dated August 28, 2014 stating that ERS and PFRS are in compliance with the applicable requirements of the Internal Revenue Code. Therefore, no provision for income taxes has been included in the System's financial statements.

11. Commitments

As of March 31, 2022, the System had contractual commitments totaling \$15.9 billion to fund future private equity investments, \$7.53 billion to fund future real estate investments, \$1.88 billion to fund future investments in opportunistic/ARS funds, \$5.68 billion to fund future real asset investments and \$7.94 million to fund future credit investments. When compared to note 8 the variances that exist are due to the above representing total commitments of the investment type inclusive of investments measured at fair value and net asset value. Future commitments will be funded over the commitment period through transaction income including distributions, redemptions, and maturities.

12. Contingencies

The System is a defendant in litigation proceedings involving individual benefit payments, participant eligibility, and other issues arising from its normal activities. Management of the System believes there will be no material adverse effect on the basic financial statements as a result of the outcome of these matters.

Required Supplementary Information (Unaudited)

Schedule of Changes in the Employers' Net Pension Liability (Asset) and Related Ratios (Unaudited)

(Dollars in Thousands)

	2022 Employees' Retirement System	2021 Employees' Retirement System	2020 Employees' Retirement System	2019 Employees' Retirement System	2018 Employees' Retirement System
Total pension liability:					
Service cost	\$ 4,046,170	\$ 4,157,172	\$ 3,365,522	\$ 3,218,553	\$ 3,004,697
Interest	12,656,540	11,133,759	12,529,672	12,463,933	12,063,525
Difference between expected and actual experience	(1,003,716)	299,922	745,602	704,393	1,235,058
Changes in assumptions	—	22,441,226	(575,504)	888,656	—
Benefit payments	(12,415,017)	(11,850,537)	(11,207,761)	(10,781,781)	(10,200,205)
Refunds of contributions	(89,246)	(97,646)	(64,699)	(90,915)	(103,071)
Net change in total pension liability	3,194,731	26,083,896	4,792,832	6,402,839	6,000,004
Total pension liability — beginning	220,680,157	194,596,261	189,803,429	183,400,590	177,400,586
Total pension liability — ending (a)	223,874,888	220,680,157	194,596,261	189,803,429	183,400,590
Fiduciary net position:					
Contributions — employer	4,528,207	4,062,302	3,920,360	3,890,215	3,949,873
Contributions — member	494,802	427,032	395,338	345,846	318,439
Net investment income (loss)	18,984,398	59,964,043	(7,470,542)	9,140,487	18,128,993
Benefit payments	(12,415,017)	(11,850,537)	(11,207,761)	(10,781,781)	(10,200,205)
Refunds of contributions	(89,246)	(97,646)	(64,699)	(90,915)	(103,071)
Administrative expense	(144,128)	(144,234)	(121,694)	(119,304)	(106,972)
Other additions	109,874	103,941	(53,444)	160,431	181,725
Net change in fiduciary net position	11,468,890	52,464,901	(14,602,442)	2,544,979	12,168,782
Fiduciary net position — beginning	220,580,583	168,115,682	182,718,124	180,173,145	168,004,363
Fiduciary net position — ending (b)	232,049,473	220,580,583	168,115,682	182,718,124	180,173,145
Net pension liability — ending (a) – (b)	\$ (8,174,585)	\$ 99,574	\$ 26,480,579	\$ 7,085,305	\$ 3,227,445
Ratio of fiduciary net position to total pension liability	103.65%	99.95%	86.39%	96.27%	98.24%
Covered- employee payroll	\$ 28,772,307	\$ 27,976,135	\$ 28,169,321	\$ 27,374,387	\$ 26,686,412
Net pension liability as a percentage of covered-employee payroll	(28.41)%	0.36%	94.01%	25.88%	12.09%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.
See accompanying independent auditors' report and notes to required supplementary information.

Required Supplementary Information (Unaudited)

continued

Schedule of Changes in the Employers' Net Pension Liability (Asset) and Related Ratios (Unaudited)

(Dollars in Thousands)

	2017 Employees' Retirement System	2016 Employees' Retirement System	2015 Employees' Retirement System
Total pension liability:			
Service cost	\$ 2,951,979	\$ 2,916,374	\$ 2,989,807
Interest	11,723,859	11,198,823	11,581,437
Difference between expected and actual experience	226,737	(2,378,116)	135,177
Changes in assumptions	—	5,350,157	—
Benefit payments	(9,740,272)	(9,224,904)	(8,829,751)
Refunds of contributions	(65,261)	(150,294)	(77,388)
Net change in total pension liability	5,097,042	7,712,040	5,799,282
Total pension liability — beginning	172,303,544	164,591,504	158,792,222
Total pension liability — ending (a)	177,400,586	172,303,544	164,591,504
Fiduciary net position:			
Contributions — employer	3,949,710	4,347,619	4,893,110
Contributions — member	306,218	289,332	272,004
Net investment income (loss)	17,194,267	(327,068)	10,582,102
Benefit payments	(9,740,272)	(9,224,904)	(8,829,751)
Refunds of contributions	(65,261)	(150,294)	(77,388)
Administrative expense	(93,943)	(93,012)	(93,357)
Other additions	200,379	198,333	193,176
Net change in fiduciary net position	11,751,098	(4,959,994)	6,939,896
Fiduciary net position — beginning	156,253,265	161,213,259	154,273,363
Fiduciary net position — ending (b)	168,004,363	156,253,265	161,213,259
Net pension liability — ending (a) – (b)	\$ 9,396,223	\$ 16,050,279	\$ 3,378,245
Ratio of fiduciary net position to total pension liability	94.70%	90.68%	97.95%
Covered- employee payroll	\$ 26,200,001	\$ 25,644,078	\$ 24,480,045
Net pension liability as a percentage of covered-employee payroll	35.86%	62.59%	13.80%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available. See accompanying independent auditors' report and notes to required supplementary information.

Required Supplementary Information (Unaudited)

continued

Schedule of Changes in the Employers' Net Pension Liability (Asset) and Related Ratios (Unaudited)

(Dollars in Thousands)

	2022 Police and Fire Retirement System	2021 Police and Fire Retirement System	2020 Police and Fire Retirement System	2019 Police and Fire Retirement System	2018 Police and Fire Retirement System
Total pension liability:					
Service cost	\$ 951,585	\$ 970,797	\$ 743,762	\$ 713,480	\$ 674,079
Interest	2,363,162	2,020,024	2,252,536	2,236,527	2,154,117
Difference between expected and actual experience	86,530	180,496	76,209	106,384	241,387
Changes in assumptions	—	4,930,229	147,086	118,521	—
Benefit payments	(2,304,619)	(2,172,230)	(2,038,392)	(1,959,831)	(1,827,136)
Refunds of contributions	(96,141)	(1,558)	(284)	(1,404)	1,493
Net change in total pension liability	1,000,517	5,927,758	1,180,917	1,213,677	1,243,940
Total pension liability — beginning	41,236,775	35,309,017	34,128,100	32,914,423	31,670,483
Total pension liability — ending (a)	42,237,292	41,236,775	35,309,017	34,128,100	32,914,423
Fiduciary net position:					
Contributions — employer	1,099,539	967,488	862,346	854,094	873,434
Contributions — member	82,792	65,309	58,360	40,673	30,950
Net investment income (loss)	3,389,717	10,685,563	(1,328,229)	1,621,289	3,209,040
Benefit payments	(2,304,619)	(2,172,230)	(2,038,392)	(1,959,831)	(1,827,136)
Refunds of contributions	(96,141)	(1,558)	(284)	(1,404)	1,493
Administrative expense	(19,372)	(20,863)	(17,356)	(17,173)	(15,834)
Other additions/deductions	16,834	12,711	(23,402)	9,723	33,889
Net change in fiduciary net position	2,168,750	9,536,420	(2,486,957)	547,371	2,305,836
Fiduciary net position — beginning	39,500,500	29,964,080	32,451,037	31,903,666	29,597,830
Fiduciary net position — ending (b)	41,669,250	39,500,500	29,964,080	32,451,037	31,903,666
Net pension liability — ending (a) – (b)	\$ 568,042	\$ 1,736,275	\$ 5,344,937	\$ 1,677,063	\$ 1,010,757
Ratio of fiduciary net position to total pension liability	98.66%	95.79%	84.86%	95.09%	96.93%
Covered- employee payroll	\$ 4,043,065	\$ 3,862,735	\$ 4,024,660	\$ 3,730,337	\$ 3,683,960
Net pension liability as a percentage of covered-employee payroll	14.05%	44.95%	132.80%	44.96%	27.44%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available. See accompanying independent auditors' report and notes to required supplementary information.

Required Supplementary Information (Unaudited)

continued

Schedule of Changes in the Employers' Net Pension Liability (Asset) and Related Ratios (Unaudited)

(Dollars in Thousands)

	2017 Police and Fire Retirement System	2016 Police and Fire Retirement System	2015 Police and Fire Retirement System
Total pension liability:			
Service cost	657,407	\$ 628,863	\$ 625,648
Interest	2,065,752	1,935,222	1,997,215
Difference between expected and actual experience	302,375	(537,163)	39,833
Changes in assumptions	—	1,531,662	—
Benefit payments	(1,708,410)	(1,683,580)	(1,606,417)
Refunds of contributions	5,632	(1,694)	(158)
Net change in total pension liability	1,322,756	1,873,310	1,056,121
Total pension liability — beginning	30,347,727	28,474,417	27,418,296
Total pension liability — ending (a)	31,670,483	30,347,727	28,474,417
Fiduciary net position:			
Contributions — employer	837,253	792,585	904,339
Contributions — member	22,609	17,297	12,789
Net investment income (loss)	3,030,977	(57,765)	1,862,789
Benefit payments	(1,708,410)	(1,683,580)	(1,606,417)
Refunds of contributions	5,631	(1,694)	(158)
Administrative expense	(13,191)	(13,608)	(13,794)
Other additions/deductions	36,021	134,548	37,623
Net change in fiduciary net position	2,210,890	(812,217)	1,197,171
Fiduciary net position — beginning	27,386,940	28,199,157	27,001,986
Fiduciary net position — ending (b)	29,597,830	27,386,940	28,199,157
Net pension liability — ending (a) – (b)	\$ 2,072,653	\$ 2,960,787	\$ 275,260
Ratio of fiduciary net position to total pension liability	93.46%	90.24%	99.03%
Covered- employee payroll	\$ 3,633,237	\$ 3,526,980	\$ 3,257,100
Net pension liability as a percentage of covered-employee payroll	57.05%	83.95%	8.45%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available. See accompanying independent auditors' report and notes to required supplementary information.

Required Supplementary Information (Unaudited)

continued

Schedule of Employer Contributions (Unaudited)

(Dollars in Millions)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
ERS										
Actuarially determined contribution (1)	\$ 4,528	\$ 4,062	\$ 3,920	\$ 3,890	\$ 3,950	\$ 3,950	\$ 4,348	\$ 4,893	\$ 5,138	\$ 4,524
Contributions in relation to the actuarially determined contribution (2)	4,528	4,062	3,920	3,890	3,950	3,950	4,348	4,893	5,138	4,524
Contribution deficiency (excess)	-	-	-	-	-	-	-	-	-	-
Covered-employee payroll	28,772	27,976	28,169	27,374	26,686	26,200	25,644	24,480	24,361	24,405
Contributions as a percentage of covered-employee payroll	15.74%	14.52%	13.92%	14.21%	14.80%	15.08%	16.96%	19.99%	21.09%	18.54%
PFRS										
Actuarially determined contribution (1)	\$ 1,100	\$ 968	\$ 862	\$ 854	\$ 873	\$ 837	\$ 793	\$ 904	\$ 926	\$ 812
Contributions in relation to the actuarially determined contribution (2)	1,100	968	862	854	873	837	793	904	926	812
Contribution deficiency (excess)	-	-	-	-	-	-	-	-	-	-
Covered-employee payroll	4,043	3,863	4,025	3,730	3,684	3,633	3,527	3,257	3,233	3,163
Contributions as a percentage of covered-employee payroll	27.21%	25.06%	21.42%	22.90%	23.70%	23.04%	22.48%	27.76%	28.64%	25.67%
(1) The actuarially determined contribution includes normal costs, the GLIP amounts, adjustments made to record the reconciliation of projected salary to actual salary, and miscellaneous accounting adjustments.										
(2) The contributions in relation to the actuarially determined contribution reflects actual payments and installment payment plans.										

See accompanying independent auditors' report and notes to required supplementary information.

Schedule of Investment Returns (Unaudited)

	2022	2021	2020	2019	2018	2017	2016	2015
Annual money-weighted rate of return, net of investment expenses ¹	9.44%	33.43%	(2.64)%	5.14%	11.29%	11.40%	0.03%	6.98%
¹ Investment expenses include management fees, investment and accounting staff salaries and benefits, and other investment-related expenses.								

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available. See accompanying independent auditors' report and notes to required supplementary information.

Required Supplementary Information (Unaudited)

continued

Notes to Required Supplementary Information (Unaudited)

Year Ended March 31, 2021

Changes in Benefit Terms

There were no significant legislative changes in benefits for the April 1, 2021 actuarial valuation.

Changes of Assumptions

2021: The demographic assumptions (pensioner mortality and active member decrements) were updated based on the System's experience from April 1, 2015 through March 31, 2020, the mortality improvement assumption was updated to Society of Actuaries' Scale MP-2020, inflation was updated to 2.7%, cost-of-living updated to 1.4%, salary scale updated to 4.4% (ERS) and 6.2% (PFRS), and the interest rate assumption was reduced to 5.9% for the April 1, 2020 actuarial valuation.

2020: The interest rate assumption was reduced to 6.8% and the mortality improvement assumption was updated to Society of Actuaries' Scale MP-2018 for the April 1, 2019 actuarial valuation.

2019: The salary scale for both plans used in the April 1, 2018 actuarial valuation were increased by 10%.

2016: There were changes in the economic (investment rate of return, inflation, COLA, and salary scales) and demographic (pensioner mortality and active member decrements) assumptions used in the April 1, 2015 actuarial valuation.

Methods and Assumptions Used in Calculations of Actuarially Determined Contributions

The April 1, 2020 actuarial valuation determines the employer rates for contributions payable in fiscal year 2022. The following actuarial methods and assumptions were used:

Actuarial cost method	The System is funded using the Aggregate Cost Method. All unfunded actuarial liabilities are evenly amortized (as a percentage of projected pay) over the remaining worker lifetimes of the valuation cohort.
Asset valuation period	5-year level smoothing of the difference between the actual gain and the expected gain using the assumed investment rate of return.
Inflation	2.5%
Salary scale	4.5% in ERS, 5.7% in PFRS, indexed by service
Investment rate of return	6.8% compounded annually, net of investment expenses, including inflation.
Cost-of-living adjustments	1.3% annually
Active member decrements	Based upon FY 2016-2022 experience
Pensioner mortality	Gender/Collar specific tables based upon FY 2016-2020 experience
Mortality improvement	Society of Actuaries' Scale MP-2019

Other Supplementary Information (Unaudited)

Schedule of Administrative Expenses (Unaudited)

Year Ended March 31, 2022

(Dollars in Thousands)

Personal services:	
Salaries	\$ 79,720
Overtime salaries	3,146
Fringe benefits	<u>34,335</u>
Total personal services	117,201
Building occupancy expenses:	
Building, lease, and condominium fees	5,122
Utilities and municipal assessments	89
Office supplies and services	347
Telephone	<u>469</u>
Total building occupancy expenses	6,027
Computer expenses:	
IT shared services*	<u>32,526</u>
Total computer expenses	32,526
Personal and operating expenses:	
Training	28
Travel and auto expenses — includes pre-retirement seminars	185
Postage — includes member and retiree communication	2,214
Depreciation expense — Imaging System	1,832
Printing — includes member and retiree communication	22
Subscriptions/memberships	<u>292</u>
Total personal and operating expenses	4,573
Professional expenses:	
Audit services	510
Medical/clinical services	1,885
Miscellaneous consulting services	<u>778</u>
Total professional expenses	3,173
Total	\$ 163,500
* The System has implemented a shared service, information technology (IT) model within the New York State Office of the State Comptroller, wherein all IT costs, including personal services, will be incorporated into the IT shared services and reflected as nonpersonal service expenditures.	

See accompanying independent auditors' report.

Other Supplementary Information (Unaudited)

continued

Schedule of Investment Expenses (Unaudited)

Year Ended March 31, 2022

(Dollars in Thousands)

Investment expenses:	
Investment management and incentive fees:	
Private equity	\$ 218,331
International equity	217,071
Absolute return strategy funds (ARS)	145,337
Real estate	86,561
Domestic equity	78,951
Real assets	60,350
Credit assets	58,946
Opportunistic funds	27,465
Multi-Asset Class	9,959
Fixed income	4,889
Total investment management and incentive fees	907,860
Investment-related expenses:	
Miscellaneous expenses	10,446
Data processing expenses/licenses	7,315
Custodial fees	6,157
Mortgage loan servicing fees	3,370
Legal fees	2,374
Private equity consulting and monitoring	2,199
General consulting	1,367
Compliance/Risk monitoring	1,248
Administrative expenses	1,060
Real estate consulting and monitoring	983
Research services	716
Audit and audit-related fees	397
Opportunistic consulting and monitoring	600
Real assets consulting and monitoring	440
Fixed income consulting	271
Domestic equity consulting and monitoring	80
Emerging manager program consulting and monitoring	62
Global equity consulting	35
Total investment-related expenses	39,120
Total investment expenses	\$ 946,980

See accompanying independent auditors' report.

Other Supplementary Information (Unaudited)

continued

Schedule of Consulting Fees (Unaudited)

Year Ended March 31, 2022

Fees in excess of \$50,000 paid to outside professionals other than investment advisors.

	Amount	Nature
JP Morgan Chase Bank	\$ 6,156,677	Custodial Banking Services
FIS Capital Markets US LLC	3,840,379	EDP Expense/Licenses
Bloomberg Finance LP	1,361,155	EDP Expense/Licenses
Morgan Lewis & Bockius LLP	728,657	Legal Services
DLA Piper LLP	643,080	Legal Services
KPMG LLP	627,415	Audit Services
Intex Solutions, Inc.	584,400	Compliance/Risk Monitoring
FactSet Research Systems, Inc.	491,812	EDP Expense/Licenses
eFront Financial Solutions, Inc.	479,100	EDP Expense/Licenses
Foster Garvey PC	460,959	Legal Services
JP Morgan Chase Bank	455,719	Retail Banking Services
Kroll, LLC	425,000	Consulting
National Claim Evaluations, Inc.	406,248	Medical/Clinical Services
Jurisolutions, Inc.	323,006	Medical/Clinical Services
Moody's Analytics, Inc.	321,747	EDP Expense/Licenses
Standard & Poors	318,796	EDP Expense/Licenses
Certified Management Consultants	295,448	Medical/Clinical Services
First Advantage Back Track Reports, LLC	247,870	Compliance/Risk Monitoring
Verizon Business Network Services LLC	223,020	IT Consulting Services
First Choice Evaluations LLC	220,000	Medical/Clinical Services
Arthur J Gallagher Risk Management	206,073	Audit Services
Strategas Securities, LLC	200,000	Research
K&L Gates LLP	184,792	Legal Services
D & D Medical Associates PC	175,050	Medical/Clinical Services
Corporate Resolutions, Inc.	143,500	Compliance/Risk Monitoring
MSCI ESG Research Inc.	136,500	Research
Brigar X-Press Solutions, Inc.	133,088	Medical/Clinical Services
Institutional Shareholder Services	125,136	Administrative Expense
Integral Consulting Services, Inc.	113,704	Medical/Clinical Services
Lenox Park Solutions LLC	110,000	Administrative Expense
Cox, Castle & Nicholson LLP	109,995	Legal Services
Lexisnexis Risk Solutions FL, Inc.	103,757	Miscellaneous Consulting Services
EFL Associates	101,675	Staff Recruitment Services
Ernst & Young LLP	100,485	Tax Services
Cornerstone Macro LLC	100,000	Research
Glass Lewis & Co, LLC	99,794	Administrative Expense
CoStar Group Inc.	97,812	Research
London Stock Exchange PLC	93,261	EDP Expense/Licenses
Johnson Controls Security Solutions LLC	91,524	Miscellaneous Consulting Services
Groom Law Group	86,396	Legal Services
Marcum Accountants/Advisors	79,440	Compliance/Risk Monitoring
Bloomberg Index Services Limited	77,500	EDP Expense/Licenses
NPC, Inc.	71,696	Medical/Clinical Services
Seyfarth Shaw LLP	65,000	Legal Services
Castine Consulting LLC	62,260	Compliance/Risk Monitoring
Eurasia Group	60,000	Research
FTSE International LTD	59,491	EDP Expense/Licenses
BCA Research, Inc.	56,375	Research
Capital Economics	55,000	Research
CEM Benchmarking	50,000	Miscellaneous Consulting Services
Labaton Sucharow LLP	50,000	Legal Monitoring Services

See accompanying independent auditors' report.

Independent Auditors' Report on Internal Control



KPMG LLP
515 Broadway
Albany, NY 12207-2974

Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

The Trustee
New York State and Local Retirement System:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the New York State and Local Retirement System (the System), which comprise the combining basic statement of fiduciary net position as of March 31, 2022, and the related combining basic statement of changes in fiduciary net position for the year then ended, and the related notes to the basic financial statements, and have issued our report thereon dated July 22, 2022.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

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

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

Compliance and Other Matters

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

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Independent Auditors' Report on Internal Control

continued



Purpose of this Report

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

KPMG LLP

July 22, 2022

Investment

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Overview of Investments

Overall Objectives and Performance

The Division of Pension Investment and Cash Management (PICM) in the Office of the State Comptroller (OSC) is responsible for the management of the assets of the New York State Common Retirement Fund (Fund or CRF). The Fund's primary objective is to provide the means to pay benefits to the participants in the New York State and Local Retirement System (System or NYSLRS) through an investment program designed to protect and enhance the long-term value of the assets. We are responsible for implementing an asset allocation strategy with an appropriate balance of risk and return. Investments in equities, although historically volatile, provide superior long-term performance and growth characteristics, while fixed income investments provide less volatility and more predictable cash flow to meet the System's funding requirements and pension obligations. Alternative investments provide diversification and incremental returns.

The Fund's investment performance for the fiscal year ended March 31, 2022 was 9.51 percent, gross of certain investment fees. The investment performance information provided in this section of the Annual Comprehensive Financial Report was calculated by the Fund's custodian, J.P. Morgan, using a daily time-weighted rate of return based on the market value of assets.

Fiscal Year Capital Market Overview

In the first quarter of fiscal year 2022, markets were defined by optimism stemming from reopening efforts, an accelerating global vaccine rollout, continued accommodative global central bank policy, and expectations for further fiscal stimulus in the United States (U.S.). Outside the U.S., the European Central Bank (ECB) also continued stimulative policies. The ECB maintained the status quo of asset purchases under its Pandemic Emergency Purchase Program and a zero-based interest rate policy. Only the Bank of England reduced its stimulative policy stance, announced a tapering of its asset purchase program amid robust growth and above-target inflation.

The optimism that marked the first fiscal quarter slowed over the next two quarters. The surge in coronavirus infections caused by the delta variant further complicated the global supply chain and, when combined with the resurgent demand spawned by continued monetary and fiscal stimulus in the U.S. and globally, contributed to a higher-than-desired level of U.S. inflation at 7.00 percent by the end of December 2021. While equity markets continued to move upward during this period, the rise in inflationary pressure began to push bond yields up and thus prices downward.

As the fiscal year progressed, the U.S. and the global economy also faced a negative supply-side shock from pandemic-related issues such as factories closing in Asia and periodic shortages of available workers in Europe and the U.S. Both factors slowed global trade. Importantly, these factors combined to produce additional upward pressure on prices throughout much of the global economy. As signs of inflation became more evident in the third and, particularly, the fourth quarters of the fiscal year, the Federal Reserve signaled that it intended to make several interest rate hikes starting by the end of March 2022, which is the end of the Fund's fiscal year; the rate hikes would likely accelerate the shrinking of its balance sheet. In February 2022, these economic and capital markets trends were joined by the Russian Federation's full-scale military invasion of neighboring Ukraine, roiling the commodities and agricultural markets. This unanticipated geopolitical event added further upward pressure to both U.S. and global inflation. Both equity and fixed income markets began to decline as the reversal of government stimulus, the adverse effects of inflation and rising interest rates on long duration investments such as long-dated bonds and growth equities pushed valuations downward. Overall volatility increased at the same time. By the close of the fiscal year, both global equities and fixed income valuations had declined, and headline U.S. Consumer Price Index (CPI) finished the fiscal year at 8.50 percent, the highest level since 1981.

Public Equities

The role of the Fund's public equities portfolio is to provide the largest source of returns over the long-term through diversified, global equity market exposure. The public equities asset class continues to rely on broad passive index funds in the more efficient segments of the equity markets. This allows the Fund to maintain exposure to market returns at very low costs. The staff continues to employ a variety of active strategies in less efficient markets where active management is more likely to outperform.

The Fund employs internally managed passive index funds for the bulk of the exposure in domestic equities. Active allocations in domestic equities are primarily in small capitalization strategies in a variety of styles. International and global allocations place more of an emphasis on active mandates in a variety of strategies. Recent strategic efforts include allocations to active international small cap and investing in low carbon, transition-ready index funds for the domestic and international portfolios. To pay benefits, the public equities portfolio was a major source of Fund liquidations over the past fiscal year.

Stubbornly higher than expected inflation moved Central Banks around the globe to initiate interest rate hikes. The invasion of the Ukraine by Russia exacerbated the inflation problems by raising global oil and gas prices severely leading to even higher inflation and the need for more drastic Federal Reserve action. Expectations of continued higher interest rates as well as fears of weakening global economic growth threatened the earnings outlook and lowered equity returns for the final quarter of the fiscal year.

For the fiscal year, the domestic equities portfolio generated a return of 11.39 percent, underperforming the benchmark Russell 3000 return of 11.92 percent. The international equities portfolio returned negative 3.77 percent, underperforming the MSCI All Country World Index ex. U.S. IMI benchmark return of negative 1.27 percent. The global equities portfolio, in which active managers allocate between domestic and international equities, returned 2.98 percent, underperforming the MSCI All Country World Index return of 7.3 percent. The sharp market decline in the final quarter of the fiscal year was particularly hard on active managers in all areas of the market. Sector returns were dramatically disparate. Technology and consumer discretionary stocks led the market lower while energy stocks soared as the war in Ukraine escalated. Active managers who had previously benefitted from overweights to technology and underweights to energy now saw their returns suffer in the recent quarter.

The public equities portfolio's target allocation, as of March 31, 2022, is 47.00 percent while the actual allocation is 49.70 percent. Over the five-year period, the public equities portfolio has generated a return of 13.03 percent, in contrast to the benchmark return of 11.64 percent over the same time frame. Long-term public equity returns remain strong despite the recent market decline.

Fixed Income

The fixed income portfolio is designed to provide a consistent source of funds to help address the cash flow needs of the Fund. Additionally, these assets provide downside protection against the volatility of the overall portfolio's equity-like strategies, while achieving efficiency in the risk/return profile for fixed income. The Fund accomplishes these goals by investing internally in long-term and short-term assets, while external managers focus on increasing returns and diversification, primarily through higher-yielding fixed income investments. The short-term fixed income portfolio offers liquidity to meet monthly pension fund liabilities, as well as providing funding for the other asset classes within the Fund.

Over the first half of the past fiscal year, the fixed income market was relatively stable as the market continued to adjust to the reopening of the economy. Interest rates remained in a narrow trading range and credit spreads were supported by the continuing economic recovery. Although there were some early signs of inflation, this was considered by many to be transitory, and the Federal Reserve remained accommodative by keeping short-term interest rates low and continuing to purchase financial assets. Total returns for fixed income were modestly positive during this six-month period, with the broad market benchmark returning just under 2.00 percent.

This stability continued for another quarter, but by the start of the fiscal fourth quarter there was a dramatic shift in sentiment. Inflation had risen to 7.00 percent and was no longer seen as transitory. The Federal Reserve began to hike short-term rates, and expectations for a long period of rising interest rates became the market consensus. In this new paradigm, interest rates rose sharply, and the yield curve flattened. The 2-year Treasury yield increased by about 200 basis points and the 10-year Treasury rose by about 100 basis points over the second half of the fiscal year. In addition, the market began to price in concerns that the Federal Reserve would tighten financial conditions so much that a recession would result, which began to put pressure on credit spreads and negatively impacted the performance of credit-sensitive sectors. The fourth fiscal quarter for fixed income was one of the worst on record, with the broad market return for the fourth fiscal quarter approximately negative 6 percent.

For the fiscal year, the fixed income portfolio produced a total return of negative 2.93 percent. In comparison, the benchmark (the Bloomberg US Aggregate Bond Index) returned negative 4.15 percent. Although the asset class produced a negative return, the portfolio outperformed its benchmark by 1.22 percent. The portfolio generated incremental return largely through sector allocation. Specifically, an underweight to mortgage-backed securities proved to be a benefit as the mortgage sector produced returns worse than the broad fixed income market. In addition, a modest overweight to corporate bonds with relatively short maturities added incremental return to the portfolio relative to the benchmark.

Over a longer horizon, the fixed income portfolio has produced positive returns and added incremental return versus the benchmark. The portfolio's target allocation, as of March 31, 2022, is 23.00 percent while the actual allocation is 20.46 percent. Over the five-year period, the fixed income portfolio has generated a return of 2.58 percent, in contrast to the benchmark return of 2.14 percent over the same time frame. Going forward, we expect to continue to manage the fixed income portfolio with a focus on adding value through sector rotation and security selection.

Private Equity

The Fund's private equity portfolio is designed to generate long-term returns that exceed those of public equities through participation in private equity investments. Closed-end funds and co-investments managed by specialized investment managers are the two primary structures utilized to invest in private companies. The Fund seeks to partner with the very best private equity investors, including emerging and diverse managers, across various investment strategies and geographies, international managers who have expertise to source attractive opportunities in global markets, and with local managers that focus their investments within New York State (In-State Investment Program). The Fund also seeks to commit capital to industry sectors, such as technology, that show high potential for economic growth and capital appreciation, and that will further enhance the diversification of the portfolio.

Because private equity investments involve long-term contractual commitments to a manager, the Fund will seek to invest with managers who have demonstrated the capacity to consistently deliver superior returns. The Fund can better achieve such superior returns through active portfolio monitoring, which requires frequent and direct interaction with investment managers to monitor performance and ensure proper alignment of interests between manager and investor.

During FY 2022, the CRF private equity portfolio invested in 22 private equity funds for a total of \$4.28 billion in total commitments. In addition to fund investments, the private equity program seeks to exploit those long-term commitments and alignments of interests by making co-investments alongside select managers on improved economic terms. The Fund made 55 co-investments totaling over \$706 million in invested capital in portfolio companies alongside Fund managers. The Fund has established equity co-investment programs focused on opportunities sourced from its core private equity portfolio, the Emerging Manager Program, the In-State Investment Program and its Israel investment program.

For the fiscal year, the CRF private equity program generated a 37.57 percent return as compared to the benchmark return of 39.92 percent. While the performance trails the Cambridge U.S. Private Equity Index benchmark (1Q Lag), the CRF's Private Equity Program is a global investment program, so the Cambridge benchmark is an imperfect comparison.

The private equity portfolio's target allocation, as of March 31, 2022, is 10.00 percent while the actual allocation is 13.64 percent. Over the five-year period, the private equity portfolio has generated a return of 19.93 percent, in contrast to the benchmark return of 20.44 percent over the same time frame. As noted above, this is due to the imperfect benchmark comparison.

Real Estate

The real estate portfolio seeks to create a diversified real estate portfolio across various property sectors, geographic locations, and risk profiles, including core and non-core (core-plus/value-add and opportunistic) strategies. At this point in the economic cycle, the Real Estate team is focused on managing volatility while meeting its long-term investment objectives. The real estate allocation's mandate to the overall Fund is to provide the following:

- Long-term net annualized internal rate of return of 7.20 percent composed of a steady stream of income through less risky, core investments, and excess returns through riskier, core-plus/value-add and opportunistic investments;
- Low correlation to other asset classes within CRF's portfolio;
- Periodic liquidity; and
- Inflation hedge.

Overview of Investments

continued

The real estate market performed very well during the fiscal year. The portfolio returned 27.40 percent versus the NCREIF NFI ODCE (Net) Index benchmark of 27.26 percent. In general, the apartment sector and industrial/warehouse sectors were outperformers, while the retail and office sector lagged. This was because online shopping took market share from stores during COVID and the future of office use remains uncertain, with many companies still evaluating a potential transition to a long-term hybrid work environment. The availability of debt and equity in addition to low interest rates supported real estate fundamentals (i.e., rent and occupancy) and property values during fiscal year 2022.

The real estate sector, particularly the industrial and multifamily sectors, saw high levels of demand that translated into strong rent growth and low vacancy rates. Combined with historically low interest rates, it resulted in the highest annual return for the real estate market in 40 years. Increased returns were accompanied with higher construction volumes, which can cause oversupply and weaken valuations. However, the recent increase in interest rates and lower debt availability, combined with high inflation in construction materials and labor, are driving up replacement costs and keeping supply and demand in balance. It is unclear at this point whether the recent increase in interest rates will have a negative impact on real estate valuations, which have remained strong through the second quarter of calendar year 2022.

The real estate portfolio's target allocation, as of March 31, 2022, is 9.00 percent, while the actual allocation is 7.86 percent. Over the five-year period, the real estate portfolio has generated a return of 9.27 percent, in contrast to the benchmark return of 8.11 percent over the same time frame. The near-term out performance is due to the portfolio's overweight to industrial and self-storage.

Real Assets

Real assets are a classification of investment opportunities that have unique characteristics that can serve multiple functions in an institutional portfolio. Typically described as tangible assets with strong barriers to entry, inflation participation, Gross Domestic Product (GDP) sensitivity, and low correlations to traditional markets; they cover a wide spectrum of opportunities ranging from agriculture, infrastructure, natural resources, and renewable assets. These opportunities will have duration attributes like that of most pension funds. The Fund uses these assets to provide inflation sensitivity, with strong downside protection, and low correlations to traditional equity markets, while maintaining a strong minimum return objective superior to that of traditional income-generating assets.

Strategy and style selection has been critical to meeting the portfolio's objectives with a tilt towards infrastructure assets and smaller allocations to capital assets and natural resources. Given the stated investment parameters, the Fund has adopted the U.S. CPI plus 500 basis points as its overall policy benchmark.

The real assets portfolio has remained resilient posting a 16.12 percent return versus a one-year benchmark return of 14.08 percent for the fiscal year ended March 31, 2022. The allocation tilt towards core/core plus infrastructure strategies has helped preserve value in the portfolio despite supply chain disruptions, the post-lockdown GDP surge, and, most recently, the Ukrainian/Russian conflict, which has brought the largest inflation increases seen in decades.

The real assets portfolio's target allocation, as of March 31, 2022, is 3.00 percent while the actual allocation is 2.14 percent. Over the five-year period, the real assets portfolio has generated a return of 9.76 percent, in contrast to the benchmark return of 8.54 percent over the same time frame. The real assets portfolio's outperformance during this time period was due to an overweight in infrastructure and exposure to energy.

Credit

The Credit portfolio's mandate is to significantly outperform the Fund's actuarial return target while maintaining a relatively low correlation to other asset classes outside the traditional fixed income markets. To accomplish this objective, the team invests through external managers across the fixed income universe and seeks attractive risk-adjusted returns using a diverse set of investments. These investments focus on credit opportunities arising from: a lack of availability of credit due to inefficient markets or market dislocations; structural market changes (e.g., those driven by a shifting regulatory landscape); market or industry-specific mispricing; and availability of illiquidity premium relative to liquid market investments. The strategies deployed to accomplish the team's mandate fall into the following categories: Direct Lending, Distressed & Special Situations, Mezzanine Finance, Specialty Finance, Structured Credit, Real Assets Credit, and Real Estate Credit. In addition, the Liquid Credit sub-strategy focuses on non-investment grade markets globally and includes high-yield bonds, leveraged loans, structured credit, and emerging market debt.

Last year's solid performance of the private credit asset class benefitted from global economies and corporate re-openings following the height of the pandemic and the resulting demand for private capital. Outside of the more severely affected sectors (e.g., travel, leisure, hospitality), credit losses were limited by the short-lived nature of the pandemic's economic impact. The sponsors' willingness to support their portfolio companies further contributed to the strong performance. Technology and healthcare-focused strategies, relatively insulated from the worst effects of pandemic-induced economic volatility, emerged as winners coming out of 2020.

For the fiscal year, the credit portfolio produced a total return of 7.44 percent. In comparison, the benchmark (the Credit Suisse Leveraged Loan Index +2.5 percent) returned 5.79 percent. The overall return reflects returns generated from temporary overallocation to high yield strategies which did not perform as well as other credit strategies. The individual private credit sub-strategy Internal Rates of Return (IRRs) reflected the COVID-recovery dynamics dominating the market. With almost every sub-strategy delivering double-digit IRRs, the highest return contributions were attributed to Distressed Debt & Special Situations, Specialty Finance, Structured Credit, Direct Lending and Mezzanine Finance.

The credit portfolio's target allocation, as of March 31, 2022, is 4.00 percent while the actual allocation is 3.39 percent. Over the five-year period, the credit portfolio has generated a return of 6.58 percent, in contrast to the benchmark return of 6.67 percent over the same time frame. The underperformance is due to the overallocation to high yield strategies. The team continues to source investments as opportunities arise to achieve the 4.00 percent allocation to this strategy.

Opportunistic and Absolute Return Strategies (OARS)

The OARS portfolio's mandate is to add alpha to the Fund's overall portfolio while maintaining a relatively low correlation to other asset classes and enhancing CRF's overall portfolio diversification. The portfolio invests across the capital structures of public and private companies and other strategies that may be distinguished from the mandates of other asset classes by their history, investment structures, terms, duration, risk/return profiles, portfolio construction requirements, or other relevant characteristics. OARS investments may not fit other asset classes' mandates or portfolio construction needs. The portfolio may invest with managers in various formats, including Funds of One, Separately Managed Accounts, Commingled Funds, Co-investments, and Fund of Funds. OARS consists of two sub-portfolios, the Opportunistic portfolio and a legacy Hedge Fund portfolio titled Absolute Return Strategies (ARS). All investments since 2015 have been in the Opportunistic sub-portfolio, with no new ARS investments since 2015. The portfolio targets an absolute return of at least 8.80 percent.

The backdrop of substantial fiscal and monetary policy support at the beginning of the fiscal year sharply contrasts with the market dynamics that evolved by the end of the fiscal year. The dispersion of returns from the various strategies within the portfolio was significant. Hedged equity, macro, and relative value strategies struggled the most during the year. Event-driven strategies had mixed results due to heightened IPO (Initial Public Offerings) issuance and SPAC (Special Purpose Acquisition Corporations) activity during the early part of the year, and this significantly slowed down by the third quarter of the fiscal year. Multi-Strategy and Commodity Trading Advisor (CTA) managers delivered some of the highest return strategies over the year. Managers who could be nimble and tactically change strategies or anticipate momentum were the most successful as the market dynamics evolved. While most Long/Short equity managers had a challenging year, the OARS portfolio saw significant gains within this strategy.

For the fiscal year, the OARS portfolio returned 11.25 percent versus the absolute return benchmark of 8.80 percent. The Opportunistic portion of the OARS portfolio consists of strategies including Buyouts, Growth Equity, Multi-Asset Managers, Venture Capital, and others. This portion of the portfolio returned 15.0 percent for the fiscal year. The most significant positive attribution came from the Growth Equity, Multi-Asset Managers, and Buyout strategies. The ARS sub-portfolio invests in various strategies, including Event-Driven, Relative Value, Tactical Trading, Multi-Strategy managers, and Long/Short Equity. The fiscal year return of this portion of the portfolio was 9.5 percent. The Tactical Trading, Multi-Strategy managers, and Long/Short Equity provided the highest return attribution. This was driven by significant dispersion in the equity markets, particularly in the value versus growth factors. The Relative Value and Event Driven Strategies provided the lowest return; however, their returns were still positive for the fiscal year.

The OARS portfolio's target allocation, as of March 31, 2022, is 3.00 percent while the actual allocation is 2.09 percent. The ARS portion of the portfolio makes up 68 percent, while the Opportunistic portion is 32 percent of the overall portfolio. Over the five-year period, the OARS portfolio has generated a return of 6.92 percent, in contrast to the benchmark return of 8.84 percent over the same time frame. This underperformance was mainly driven by legacy investments in hedge funds that have since been redeemed. The team continues to source investments as opportunities arise to achieve the 3.00 percent allocation to this strategy.

Other Programs

Pursuit

The Fund seeks to diversify its investments and achieve a risk-adjusted rate of return through a commitment to Pursuit, formerly known as the New York Business Development Corporation (NYBDC). Pursuit underwrites loans to small businesses in New York State, often with guarantees from the U.S. Small Business Administration, for working capital, equipment, the acquisition of real property, capital improvements and the refinancing of existing loans. Pursuit has successfully completed loans to a wide range of business enterprises, including retailers, restaurants, small manufacturers, and a variety of other service businesses across the State. By focusing exclusively on small business lending, Pursuit can frequently offer more favorable terms than other lenders. Pursuit has an active Veteran's Loan Program where New York business owners who serve in the National Guard or Reserve, along with honorably discharged former active-duty members, can access small business loans.

Pursuit also has a goal of making at least 25 percent of its loans to Minority and Women-Owned Business Enterprises (MWBs). In 2021, 20 percent of Pursuit loans that were due to Fund investments were made to women-owned businesses and 28 percent were made to minority-owned businesses.

The Common Retirement Fund has been an investor in NYBDC since 1987, with commitments totaling \$500 million. In 2018, the Fund approved a fifth \$100 million commitment to support NYBDC's small business loan program. Since this program began in 1987, Pursuit (NYBDC) has made 1,227 loans totaling \$462 million to businesses that employ over 25,000 New Yorkers. During the fiscal year ended March 31, 2022, Pursuit made 15 loans totaling \$22.6 million.

Financing for Businesses in New York State

In 2000, the Fund initiated the New York (In-State) Private Equity Investment Program. The In-State Program is designed to generate a market rate of return consistent with the risk of private equity while increasing the diversification of the Fund's investment portfolio and expanding the availability of capital for New York State businesses. By making sound strategic investments in new and expanding New York companies and making equity and debt capital available to small businesses often overlooked by investment professionals in this asset class, the program is also proving to be an important contributor to the State's economy. The In-State Program provides a model for how the pension fund can identify profitable investment opportunities and generate market rate returns, while supporting business development and job growth in New York State.

On March 31, 2022, the Fund's private equity portfolio included investments in over 537 New York businesses with a market value of \$2.7 billion. This figure reflects only the Fund's share of these investments; the total value of New York companies held by the Fund's partnerships was more than \$50.6 billion.

Included in the Fund's New York State portfolio are: LeverPoint in Clifton Park, Real Eats in Geneva, Delorios in Utica, Corelle Brands in Corning, Movable Ink in New York City, AeroSafe in Rochester, and ACV Auctions in Buffalo.

Overview of Investments

continued

As of March 31, 2022, the Fund had over \$500 million of remaining commitments available for investment in the In-State Program. Commitments to this program totaled \$2.2 billion. These commitments are devoted exclusively to New York State investment opportunities. The 18 managers in the program are:

- *Armory Square Ventures*, an early-stage venture capital fund located in Syracuse.
- *Ascent Biomedical Ventures NY*, a New York City-based venture capital fund focusing on life sciences.
- *Grosvenor Capital Management*, a fund that makes investments alongside other private equity funds investing in New York State.
- *Contour Venture Partners*, an early-stage venture fund based in New York City.
- *DeltaPoint Capital*, a growth equity fund located in Rochester.
- *Gotham Ventures (fka DFJ Gotham)*, a New York City-based fund focused on early-stage venture capital investments.
- *Easton Hunt Capital Partners*, a New York City-based fund that pursues a broad strategy of investing in companies in a wide range of industries and stages of development.
- *Founders Equity*, a New York City-based fund that makes growth equity investments.
- *Graycliff Partners*, a New York City-based fund that targets buyout and growth equity investments.
- *Tribeca Venture Partners*, a New York City-based early-stage applied technology venture firm focused on investing in business information and technology-enabled services companies.
- *Primary Venture Partners (fka High Peaks Ventures)*, an early-stage venture capital fund based in New York City and Albany.
- *Hamilton Lane*, three special situations funds that make equity and credit investments alongside other private equity managers investing in New York State.
- *Activate Venture Partners (fka Milestone Venture Partners)*, a New York City-based fund that focuses on companies providing technology-enhanced businesses services.
- *Paladin Homeland Security Fund (NY)*, a Washington, D.C.-based fund that opened a New York office to invest in companies that address a broad range of government and commercial security needs.
- *SoftBank Capital NY*, a New York City and Buffalo-based fund that invests in digital media and technologies that leverage broadband.
- *Summer Street Capital Partners*, a growth equity investment fund located in Buffalo.
- *Trillium Lakefront Partners NY*, a Rochester-based fund that focuses on investing in technology companies in upstate New York.
- *Wheatley Partners*, a technology venture fund with a focus on information and medical technology located in New York City and Long Island.

Emerging Manager Program

The goal of the Emerging Manager Program is to identify newer and smaller investment managers that have the potential to add value to the CRF's investment portfolio across all asset classes. Due to the size of assets under management, these managers would not typically be identified as an investment opportunity in the CRF's standard institutional investment manager search process. The Emerging Manager Program also provides the CRF with opportunities to invest with qualified business enterprises that are majority owned or are substantially owned and operated by women or minority managers (MWBEs).

Smaller investment management funds may generate superior performance returns because of their entrepreneurial nature and increased investment flexibility. Historically, several CRF emerging managers have outperformed their more established peers, a trend the CRF staff expects to continue. Graduates of the Emerging Manager Program are a natural source of new relationships for the CRF's investment portfolio, allowing the program to organically structure and form new relationships that can evolve to meet institutional investment mandates.

The CRF has established a policy framework for the Emerging Manager Program's operational guidelines and procedures to achieve the following objectives:

- To increase the CRF's utilization of emerging managers, including MWBE managers, consistent with applicable investment and fiduciary standards.
- To proactively identify best-in-class emerging managers who demonstrate the capacity and return profile to become viable long-term partners of the Fund.
- To employ prudent selection processes and practices consistent with the high fiduciary standards for all the CRF's investment management decisions and processes.
- To maintain guidelines and funding strategies that will encourage inclusion and ongoing support for the development of emerging managers.
- To generate appropriate risk-adjusted investment returns by identifying new investment opportunities with the potential for strong performance and by further diversifying the portfolio, and
- To cultivate, develop and incubate the next generation of external portfolio managers that would be candidates for transition into the CRF's core pool of investment managers.

As of March 31, 2022, the Fund has approximately \$31 billion invested with or committed to minority-owned or women-owned firms. MWBEs now represent approximately 21.77 percent of our externally managed active mandates.

Sustainable Investments and Climate Change Solutions Program

Sustainable Investments and Climate Solutions Program (SICS) is a thematic, multi-asset class investment program designed to strengthen CRF’s portfolio by capitalizing on opportunities and mitigating risks through investments that advance one or more of nine themes split equally into three categories: *Resources & Environment*, *Human Rights & Social Inclusion*, and *Economic Development*. The SICS program works across asset classes to source, identify, and collaboratively adjudicate prospective investments with CRF asset class teams. CRF investments classified in the SICS program are subject to the same fiduciary and risk and return requirements applicable to investments in the subject asset classes.

CRF SICS CATEGORIES AND THEMES

Resources and Environment	Human Rights and Social Inclusion	Economic Development
Climate and Environment	Education	Financial inclusion
Resource efficiency	Demographic empowerment	Sustainable infrastructure
Pollution and waste management	Health and wellbeing	Affordable housing

Sustainable investments target inescapable secular trends. The SICS program improves the diversification of the CRF portfolio and is intended to enhance risk-adjusted returns.

In its November 2020 Financial Stability Report, the Federal Reserve Board illustrates financial system vulnerabilities caused by climate change. Awareness of various risks (disclosure, physical, and transition risks) has become an increasing expectation of modern fiduciaries. For example, inadequate disclosures can lead to regulatory investigations and shareholder claims; assets can become damaged by weather and climate-related events; and resource-based assets can become devalued due to low-carbon norms. Moreover, inadequate disclosures can impair fully informed investment decision making.

SICS is a key component of the Fund’s plan to position its portfolio for a low-carbon economy. SICS builds on the Fund’s initial \$10 billion commitment to sustainable investment strategies, with a goal of \$20 billion to be realized over the next decade.

SICS provides CRF with a systematic platform to opportunistically expand investment opportunities across assets that are consistent with the goals of the Climate Action Plan. As of March 31, 2022, CRF has committed over \$17 billion to investments in SICS including green bonds, resource efficiency, green buildings, renewable energy, and climate indices.

Pension Risk Management

Risk Oversight

Prudent risk-taking in line with strategic priorities is fundamental to providing adequate returns and affordable pension plan funding. The primary objective of Pension Risk Management (PRM) is to provide an investment risk framework for the Fund as a whole, and across asset classes, to help maintain the economic viability of the System. PRM also works to monitor liquidity and other non-investment risks, to the extent that these risks may affect the overall objectives of the Fund. The Fund's risk management framework is based on transparency, management accountability and independent oversight. CRF's approach to risk taking is supported by the following principles:

- Establish a clear risk appetite that sets out the types and levels of risk we are prepared to take;
- Have in place risk management and compliance policies that set out authorities and responsibilities for taking and managing risk across CRF and its asset classes;
- Seek to establish resilient risk constraints that promote multiple perspectives on risk; and
- Actively monitor risks and take mitigating actions when they fall outside of acceptable levels.

Central to the Fund's risk framework is the Risk Appetite Statement, which was approved by the Fund's Trustee, Comptroller DiNapoli, in 2018:

The CRF is dedicated to providing a secure pension for generations of NYSLRS members, retirees and beneficiaries. In the pursuit of this mission, the CRF is committed to the highest standards of ethics and prudent investment management. In their decision making, the Trustee and staff of the CRF may take prudent investment risks when compensated by higher expected returns in order to generate stronger long-term performance. Regardless of potential returns, the CRF endeavors to avoid the risk of a loss of asset value that could compromise the economic viability of the current plan structure or call into question the integrity and responsibility of the CRF or its staff. Therefore, the CRF diligently seeks to identify and avoid such risk.

Risk Governance

Effective governance sets a solid foundation for comprehensive risk management discipline. CRF's risk governance is based on the "Three Lines of Defense" model, where each line has a specific role within defined responsibilities and works in close collaboration to identify, assess and mitigate risks.

The First Line of Defense is the hands-on, active risk management that portfolio management teams practice during day-to-day management of a portfolio or trading position. Examples of first-line risk activities include analyzing risks in support of investment decisions, adjusting portfolio positions in anticipation of developing risks, or analyzing all aspects of risks in support of written investment proposals. First-line activities are generally restricted to one portfolio or to one asset class and are put into practice by personnel whose collective, routine function is to make investment decisions.

The Second Line of Defense includes functions such as Risk Management and Compliance which are a step removed from active asset management. The functions within the second line articulate standards and expectations for the effective management of risk and controls, including providing institutional leadership on CRF-wide risk issues, and advising on, establishing and maintaining related policies. They are responsible for producing an independent risk assessment and risk reporting for senior management and regulatory authorities. Risk Management and Compliance is also responsible for articulating and designing the risk appetite framework across CRF.

The Third Line of Defense is an audit function. This function monitors the effectiveness of risk management, compliance and governance practices.

CRF's operations, financial information and internal controls are subject to examination by the New York State Department of Financial Services. Additionally, KPMG LLP, an independent, certified public accountant, audits the System's financial statements annually. The Comptroller's Office of Internal Audit also regularly reviews various aspects of PICM's operations, investment procedures, and internal controls.

CRF's governance includes a committee structure and a comprehensive set of policies which are reviewed and approved by the Comptroller and his respective committees in accordance with their responsibilities and level of authority.

The Fund's Trustee

The Comptroller, as the Fund's Trustee, is responsible for our strategic direction, supervision and control, and for defining our overall tolerance for risk. In particular, the Comptroller approves the risk management framework and sets overall risk appetite among other responsibilities.

Investment Advisory Committee

The Investment Advisory Committee advises the Comptroller on general investment issues. The Investment Advisory Committee periodically reviews the strategic plan and monitors the CRF's risk profile. The Director of Risk is a participant at each Investment Advisory Committee meeting and provides a formal presentation to the Investment Advisory Committee on liquidity and market risk on an annual basis. Investment Advisory Committee members also receive quarterly risk updates in conjunction with the Investment Advisory Committee meeting.

Risk Committee

The Director of Risk has responsibilities for advising the Chief Investment Officer (CIO), the Executive Deputy Comptroller for Retirement Services (EDCRS) and the Comptroller on risk issues and making formal recommendations to the CIO, the EDCRS and the Comptroller on investment risk and investment-related risk issues. In addition, recognizing that risk is multidimensional, and that risk cannot be reduced to a single measure or be fully encompassed by any one professional discipline, the Director of Risk seeks advice from the Committee. The purposes of the Committee are (1) to provide support and advice to the Director of Risk on risk issues and (2) to provide multidisciplinary advice on risk and risk management programs at PICM.

Rebalance Committee

The Rebalance Committee, chaired by the Director of Risk, makes sure the CRF's invested exposure is aligned with its approved asset allocation targets. The Rebalance Committee meets at least monthly to review and analyze the Fund's current asset allocation, cash flow projections including benefit payments and capital calls, and current capital markets conditions and outlook. In addition, the Rebalance Committee ensures that CRF's short-term liquidity needs are adequate. The Rebalance Committee may also discuss the basket bill position, as necessary for the purposes of monitoring the overall allocation per statutory guidelines.

Compliance

The primary purpose of the Compliance Program is to monitor compliance by PICM staff and external managers with applicable statutes, policies and procedures, conflicts of interest and other ethical standards governing the Fund. In an effort to meet this objective, the activities of the Compliance Office primarily include the reporting, development or monitoring of: the Fund's investment-related policies and procedures; statutory and policy mandates for trading by both internal staff and external equity managers; personal trading activities of employees pursuant to the Comptroller's "Insider Trading Policies;" Annual Compliance Questionnaire and investigative due diligence for external managers, broker-dealers and consultants; and regulatory filings required under Section 13 of the Securities and Exchange Act of 1934.

It is the policy of the Fund to conduct a complete broker review every five years and annual update to make adjustments as deemed necessary by staff. The Fund conducted the most recent annual broker application process in 2021, requiring new applying brokers to submit a questionnaire which was evaluated by Compliance and other PICM staff. As a result of the Fund's annual broker approval process, the Fund now has 24 approved fixed income and 18 approved equity broker-dealer firms to execute trades for the internally managed portfolios. A total of six of these trading partners are MWBEs or owned by Disabled American Veterans firms. For the fiscal year, these MWBE and Disabled Veteran brokers accounted for 40 percent of the internally managed public equity commissions, while executing approximately 10 percent of all long-term and 15 percent of all short-term fixed income broker trades.

Corporate Governance

Corporate Governance Program and Environmental, Social and Governance (ESG) Strategy

The Fund's investment philosophy requires the consideration of ESG factors in the investment process because they can influence both risks and returns. Assessing company and external manager performance with respect to ESG factors, and encouraging both to embrace ESG best practices, can help protect the long-term value of the Fund's investments.

The Fund has publicly released its ESG Strategy which delineates its ESG beliefs, practices, and key factors, and outlines expectations for asset managers and public equity portfolio companies. The Fund's ESG Strategy can be accessed on the Comptroller's website at www.osc.state.ny.us/files/common-retirement-fund/2020/pdf/ESG-strategy-report-2020.pdf.

The Fund's Corporate Governance Program is tasked with executing the Fund's ESG Strategy, with a focus on the following key ESG factors:

- **Environment (E):** climate risks and opportunities, natural resource and raw material usage, and pollution and waste management.
- **Social (S):** human capital management, labor relations, human rights, health and safety, supply chain labor standards, privacy and data security, product safety and quality, and community impact.
- **Governance (G):** risk oversight, board and governance practices, corporate strategy and capital allocation, executive compensation, inclusion and diversity, and lobbying and political spending.

Implementation of the Fund's ESG commitment and priorities includes promoting sound ESG practices through active ownership — using the CRF's voice and votes to address investment risks. The Fund's active ownership work takes many forms, including voting on nearly 30,000 proxy ballot items annually, engaging directly with portfolio companies, conducting external manager ESG due diligence and risk assessments, and advocating for public policies that will help protect the long-term value of our investments.

Proxy voting at public equity portfolio companies' meetings is an effective means of engaging and communicating with boards of directors and management about the Fund's ESG priorities and can be a powerful tool for enhancing long-term value. The Fund's independent proxy voting is an important fiduciary obligation that is executed pursuant to its Proxy Voting Guidelines, which are updated biennially. Not only do these guidelines provide direction for our voting decisions, but they also guide other corporate engagements and policy initiatives, articulating to the capital markets the Fund's view of what constitutes good corporate governance and ESG best practices. Guidelines can be accessed on the Comptroller's website at www.osc.state.ny.us/files/common-retirement-fund/corporate-governance/pdf/proxy-voting-guidelines-2022.pdf.

Stewardship, in its many forms, can serve to protect and enhance the value of the Fund's investments. The Fund's stewardship work utilizes various engagement strategies, including shareholder proposals, written correspondence, investor statements, press strategies and private dialogues. The Fund's stewardship engagements result in companies providing improved disclosures and taking important actions to enhance ESG policies and practices. Further background on the Fund's stewardship work can be accessed on the Comptroller's website at www.osc.state.ny.us/common-retirement-fund/corporate-governance.

ESG Integration incorporates ESG factors into the Fund's analysis of investment risk and manager performance. Risk assessments that evaluate material ESG factors are systematically applied across all asset classes. Due diligence of external managers includes an assessment of their ESG policies, and in the last year, those assessments have been customized for each asset class. In addition, annual surveys of and engagements with the Fund's managers can provide updated information about their ESG policies and practices.

Public Policy and Advocacy supports policies, laws and regulations that promote the overall stability, transparency and functionality of financial markets and the economy generally, which can improve returns and reduce risks for the Fund. The Fund's public policy activities take many forms, including meetings and correspondence with elected representatives, regulators and other public officials, testimony at hearings and forums, comments on regulatory and legislative proposals, and participation in State, national, and international forums and initiatives.

Climate-Related Financial Disclosures

The purpose of this section is to report on the Fund's efforts to address climate risk in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), an organization established by the Financial Stability Board of the G20 (a forum convened by 19 leading industrial nations and the European Union) to guide the financial community in its understanding and reporting of climate risks. The Fund supports the TCFD recommendations.

Governance

As Trustee, the Comptroller is responsible for the prudent investment of the Fund. The Comptroller believes that climate change presents significant risks to the Fund's investments, as well as unique investment opportunities. With leadership and direction from the Comptroller, the Fund has established a team to implement its 2019 Climate Action Plan. This team includes the Chief Investment Officer, investment professionals representing all asset classes, the Director of the Sustainable Investment and Climate Solutions Program, the Bureau of Corporate Governance, legal, risk, and operations staff. The team is tasked with developing action plans and executing strategies to address climate risks and identify investment opportunities for the Fund. In addition, the Fund has contracted with consultants and data providers to provide unique research and analysis services.

Strategy

The Fund recognizes that there are different short-, medium-, and long-term risks posed by climate change. Because the Fund expects to exist in perpetuity, it must consider all of these time horizons. The transition to a low-carbon economy is already underway and accelerating globally; it is likely to affect virtually every investment in the Fund's broadly diversified portfolio.

The Fund has identified significant short- and medium-term transition risks in developed markets due to implementation of the Paris Agreement, technological advances and changing market demand. In 2021, the Fund entered a new strategic partnership that enabled it to undertake a Carbon Value-at-Risk (VaR) assessment of its public equity and corporate fixed income investments. Carbon VaR, a form of scenario analysis, analyzes transition risks by employing a range of key assumptions in the following areas: carbon prices (\$50, \$100, \$125 per ton); technology development; and fossil fuel demand. The VaR model assesses the effects of these key assumptions on a company's cost structure, industry prices, and cash flows, and integrates a company's direct and supply chain carbon dioxide (CO₂) emissions into its analyses. The 2021 Carbon VaR analysis results showed that under all three carbon price scenarios, the Fund's combined public equity and fixed income portfolios' Carbon VaRs are lower than its benchmarks' Carbon VaRs. While high-emitting sectors such as energy and utilities demonstrated higher Carbon VaR from higher carbon price scenarios, there is significant variation in Carbon VaR within those high-risk sectors.

The Fund also believes physical risks are significant in all time frames. Extreme weather events are already affecting businesses around the world and pose a growing threat to the Fund's investments. Measuring these risks is challenging due to difficulties in accurately projecting weather events at the local level, but the Fund expects that better climate, weather and financial modeling will allow for improved assessments in the near term. The Fund expects to see greater physical risks in the long run if the world fails to limit temperature rise.

Risk Management

The 2019 Climate Action Plan provides a framework for the Fund to formally integrate climate considerations into risk assessments, investment decision making, engagements, and public policy advocacy. The Fund's staff reviews studies to stay informed about the science associated with climate change, and actively seeks to identify advanced climate risk assessments to inform investment strategies.

Pursuant to the Climate Action Plan, the Fund committed to establishing a series of assessment frameworks and minimum standards to review the transition-readiness of companies in high impact sectors. Beginning in 2019, the Fund commenced assessments of thermal coal mining companies, and then reviewed oil sands companies in 2020, followed by shale oil and gas companies in 2021. A total of 83 such energy companies have been engaged and assessed, with divestments resulting for a total of 52 companies that could not demonstrate readiness for the transition to the low carbon economy. The Fund reviews all such divestment policies biennially and reassesses individual companies annually, engaging with each one to garner any new or additional information about their transition strategies. Moving forward, in addition to conducting annual reviews of thermal coal, oil sands, and shale oil and gas companies, the Fund will next evaluate the transition readiness of companies in the integrated oil and gas sector.

The Fund continues to utilize the ESG scorecards to evaluate prospective investments with external managers, incorporating climate-specific criteria into this key risk assessment tool. The criteria used to evaluate each manager's climate capabilities include governance, risk assessments, engagements, proxy voting, and climate reporting in line with TCFD recommendations. In addition, the Fund has been engaging with existing managers regarding these criteria to better understand their approach to addressing climate risks, investing in climate opportunities, and their net-zero alignments and strategies. The Fund also continues to utilize the Global Real Estate Sustainability Benchmark (GRESB) to measure the sustainability performance of the Fund's real estate and infrastructure assets in areas such as energy, greenhouse gas and water.

The SICS Program is a key component of the Fund's plan to position its portfolio to address climate risks and opportunities across asset classes. By the end of fiscal year 2021-22, the Fund had committed more than \$17 billion toward its total \$20 billion goal to specific investment opportunities in the SICS Program across all asset classes, including actively and passively managed public equity strategies, green bonds, clean and green infrastructure funds, and private equity, as well as green building real estate funds.

The Fund has undertaken significant corporate engagement as described in its annual Corporate Governance Stewardship Report and its Climate Action Plan Progress Report. This includes filing over 160 climate-change-related shareholder resolutions since 2008 and reaching more than 80 agreements with portfolio companies on climate issues such as setting greenhouse gas (GHG) emissions reduction targets and renewable energy and energy efficiency goals. The Fund continues to engage with high-risk companies directly and in collaboration with other investors through the global Climate Action 100+ initiative. In 2021, the Fund updated its Proxy Voting Guidelines to incorporate the Fund's expectations for portfolio companies related to the transition to a net-zero economy, alignment with a 1.5-degree future, and the integration of climate risks and opportunities into financial accounting. The Fund's proxy voting guidelines also incorporate criteria to evaluate each company's climate performance, including climate transition targets, strategies, capital allocation alignment, and TCFD disclosures, which inform the Fund's director votes. In 2021, the Fund withheld support from or voted against over 400 individual directors at over 80 portfolio companies that lacked robust climate risk management.

Finally, the Fund continues to provide public policy leadership at the international, federal, and state levels on climate change issues that may impact its returns on a variety of issues, including implementation of the Paris Agreement, tax credits for solar and wind power, low-carbon fuel standards, carbon pricing, the Regional Greenhouse Gas Initiative, and Securities and Exchange Commission (SEC) requirements for corporate disclosure of material carbon risks. Moving forward, as the Biden administration has established climate change as one of its top priorities, the Fund will continue to work on key legislative and regulatory issues including corporate climate disclosures, emissions standards, meaningful carbon pricing, clean energy infrastructure funding, and tax incentives that drive climate solution investments. Specifically, in 2022, the SEC released its proposed climate disclosure rule. The Fund staff has reviewed the proposed rule and will submit a public comment to the SEC.

Metrics and Targets

In December 2020, the Fund announced its goal to reduce greenhouse gas emissions from the Fund's entire portfolio to net-zero by 2040. The Fund is pursuing its ambitious goal through a combination of sustainable investments, engagements with portfolio companies and managers, public policy advocacy and, in limited instances where it is consistent with fiduciary duty, divestment. To measure the Fund's progress towards net zero, the Fund set an interim goal of attaining 50 percent alignment with a 1.5-degree scenario by 2030. Currently, 13 percent of the Fund's public equity and fixed income holdings are aligned with a 1.5-degree future. In addition, the Fund adopted other interim engagement and investment goals for 2030 that include actively engaging with 50 percent of the Fund's publicly traded assets in high-impact sectors on achieving net-zero emissions by 2040 and allocating at least 75 percent of the \$20 billion committed to the SICS Program to investments in climate solutions.

In addition, the Fund currently uses the following metrics to assess climate risks and opportunities:

- Annual average weighted emissions intensity assessment of public equity holdings (including Scope 1 and 2 greenhouse gas emissions). In 2021, the Fund's emissions intensity was 17.9 percent lower than its benchmark (68 percent Russell 3000/32 percent MSCI ACWI ex-U.S.). It was 28.8 percent lower than its 2020 intensity. The Fund believes that this metric is useful in assessing transition risks, especially regulatory risks, but does not capture trends over time or the future direction of companies. The Fund also recognizes the significance of Scope 3 emissions as a risk metric in investment analyses but faces challenges in assessing these emissions due to the limited availability of accurate data.
- Portfolio exposure to assets that are significantly affected by climate change and the low-carbon transition as recommended by the TCFD.
- Capital allocation to the SICS Program. The Fund has committed \$20 billion in total to the SICS Program and has deployed more than \$17 billion toward that goal to date.
- Transition assessment and minimum standards to evaluate companies in the high impact sectors recommended by the TCFD, with assessments of thermal coal mining, oil sands production and shale oil and gas companies completed to date.

Investment Results

Based on Fair Market Values as of March 31, 2022.

	Annualized Rate of Return ⁽¹⁾			
	1 Year	3 Years	5 Years	10 Years
Total Fund	9.51%	12.49%	10.77%	9.55%
Public Equity	6.52	15.21	13.03	11.90
MSCI All Country World Index	7.28	13.75	11.64	10.00
Private Equity ⁽²⁾	37.57	23.89	19.93	15.38
Cambridge U.S. Private Equity Index (1Q Lag) ⁽³⁾	39.92	24.67	20.44	16.67
Real Estate ⁽²⁾	27.40	10.05	9.27	11.00
Real Estate Benchmark ⁽⁴⁾	21.66	8.97	8.11	9.51
Credit ⁽²⁾	7.44	6.99	6.58	–
Credit Suisse Leveraged Loan Index + 2.5%	5.79	6.69	6.67	–
Opportunistic/Absolute Return Strategy Funds (O/ARS) ⁽²⁾	11.25	8.40	6.92	4.50
CRF Actuarial Return + 2%	8.80	8.80	8.84	9.07
Real Assets ⁽²⁾	16.12	10.11	9.76	–
U.S. CPI + 5%	14.08	9.46	8.54	–
Fixed Income ⁽²⁾	(2.93)	2.19	2.58	2.45
Bloomberg Barclays Aggregate Bond Index	(4.15)	1.69	2.14	2.24
Short-Term Investments	0.33	1.07	1.50	1.03

(1) Investment return calculations were prepared by the Custodian using a time-weighted rate of return. These figures are for investment management purposes and may not agree with audited statements. Due to reporting timing differences, actual results may differ from reported results.

(2) Generally, Private Equity, Real Estate and Real Assets are reported on a three-month lag (adjusted by cash flows); Credit and O/ARS are reported on a one-month lag (adjusted by cash flows). Alternative asset classes and non-core fixed income are generally reported net of fees.

(3) The vendor's official results are presented as annualized Internal Rate of Returns (IRRs). However, the Custodian reports the vendor's index as quarterly delinked returns on a three-month lag. This time-weighted and lagged methodology is most comparable to the Custodian returns for the Private Equity composite.

(4) Effective April 1, 2019, the Real Estate benchmark is an asset-weighted blend of quarter lagged benchmarks. Core Real Estate is proxied to the NCREIF NFI ODCE (Net) Index. Non-Core Real Estate is proxied to the same index with a 100 basis point annual premium. The Real Estate benchmark returns prior to April 1, 2019 follow the NCREIF Property (Gross) Index on a one-quarter lag.

Investment Summary

The following table summarizes the fair values of Fund investments by asset type for March 31, 2022 and 2021. (Dollars In Thousands)

Asset Type	Fair Value March 31, 2022	Percentage of Total Fair Value	Fair Value March 31, 2021	Percentage of Total Fair Value
Domestic Equity	\$ 94,271,236	34.7%	\$ 90,263,828	35.0%
Global Fixed Income	52,497,456	19.3	47,722,955	18.5
International Equity	39,188,932	14.4	43,480,400	16.9
Private Equity	37,026,072	13.6	29,470,165	11.4
Real Estate	22,873,140	8.4	17,647,993	6.8
Short-Term Investments	3,852,320	1.4	11,082,651	4.3
Real Assets	6,051,188	2.2	3,929,594	1.5
Opportunistic/ARS	5,729,981	2.1	5,016,078	1.9
Mortgage Loans	1,421,139	0.5	1,043,621	0.4
Credit	9,209,798	3.4	8,478,516	3.3
Total Investments	\$ 272,121,262	100.0%	\$ 258,135,801	100.0%

Note: This table reflects percentages derived from financial statement figures and may differ slightly from the asset allocation figures because certain investments have been reclassified.

Asset Allocation — March 31, 2022

The Fund diversifies its assets among various classes including domestic and international equity, fixed income, private equity, real estate, opportunistic and absolute return strategy funds, credit and real assets.

Asset liability studies, conducted periodically with help from an investment consultant, identify the optimal mix of assets to meet the growth requirements of pension obligations while controlling risk as measured by return volatility. In the fiscal year ended March 31, 2020, the Fund conducted an asset liability analysis and adopted a Long-Term Policy Allocation which was implemented on April 1, 2020.

The Fund has formal rebalancing guidelines which ensure a disciplined process for meeting asset allocation goals, as well as allocation ranges for individual asset classes which minimize unnecessary turnover.

Asset Type	Allocation as of March 31, 2022	Long-Term Policy Allocation
Equity		
Domestic Equity	36.15%	32.0%
International Equity	13.55	15.0
Alternative Assets		
Private Equity	13.64%	10.0%
Real Estate	7.86	9.0
Opportunistic/Absolute Return Strategy	2.09	3.0
Credit	3.39	4.0
Real Assets	2.14	3.0
Fixed Income	20.46%	23.0%
Cash	0.72%	1.0%

Note: A detailed listing of the New York State and Local Retirement System's assets as of March 31, 2022, is on our website at www.osc.state.ny.us.

Public Equity Performance

For the Fiscal Year Ending March 31, 2022.

	Total Assets (Dollars in Millions)	Annualized Rate of Return				Portfolio Since Inception	Benchmark Since Inception*	Inception Date
		1 Year	3 Years	5 Years	10 Years			
Total Public Equity	\$ 132,447.8	6.52%	15.21%	13.03%	11.90%			
MSCI All Country World Index		7.28%	13.75%	11.64%	10.00%			
Total Domestic Equity Composite	\$ 87,927.5	11.39%	17.92%	15.25%	14.04%	11.07%	11.07%	1/1/91
Russell 3000 Index		11.92%	18.24%	15.40%	14.28%			
Total Passive Domestic Equity	\$ 71,163.9	13.19%	18.68%	15.79%	14.43%	11.23%	10.91%	11/1/86
CRF Large Cap Index Fund	49,615.9	15.61	20.07	17.01	15.14	12.23	12.20	8/1/78
CRF Midcap Index Fund	10,198.8	6.94	14.82	12.60	12.58	12.04	12.05	11/1/91
CRF Small Cap Index Fund	1,930.0	(5.47)	11.88	9.79	11.42	9.16	9.04	10/1/05
CRF Low Emission Index Fund	7,503.6	12.48	18.71	15.82	–	15.53	15.62	1/1/16
CRF TPI Climate Transition Index	1,915.7	–	–	–	–	(3.25)	(3.20)	1/18/22
Russell Top 200 (S&P 500 To 1/1/16)		15.66%	20.14%	17.04%	15.17%			
Russell Midcap (S&P 400 Mid Cap To 1/1/16)		6.92	14.89	12.62	12.53			
Russell 2000 Index		(5.79)	11.74	9.74	11.04			
Russell 1000 Index		13.27%	18.71%	15.82%	14.53%			
Total Multi Factor Composite	\$ 6,660.5	15.80%	17.36%	15.42%	–%	15.20%	14.91%	1/1/16
CRF High Efficiency Defensive Index Fund	2,555.8	13.80	17.16	16.19	–	15.81	15.61	1/1/16
AQR Capital Management	4,104.7	17.14	17.10	–	–	13.95	16.18	6/1/18
Russell 1000 Index		13.27%	18.71%	15.82%	14.53%			
Total Active Large Cap Composite	\$ 1,563.7	5.94%	16.34%	13.16%	12.63%	11.16%	11.81%	2/1/83
Eagle Capital Management	1,563.7	5.94	17.03	14.81	–	12.84	13.51	9/1/14
S&P 500 Index		15.65%	18.92%	15.99%	14.64%			
Total Active SMID Cap Composite	\$ 1,133.7	2.87%	19.49%	17.35%	14.28%	13.28%	10.47%	3/1/08
Fiera Capital	858.8	3.86	21.34	18.24	14.63	13.53	11.13	3/1/08
Lisanti Capital	274.9	(5.08)	18.62	19.78	–	14.86	10.90	6/30/14
Russell 2500 Index		0.34%	13.79%	11.57%	12.09%	–	–	
Total Active Small Cap Composite	\$ 5,723.0	(3.99)%	14.22%	13.33%	13.31%	10.55%	10.03%	8/1/91
Artisan Partners	611.8	(20.22)	12.58	16.37	–	13.29	9.86	8/26/13
Brown Capital Management	1,224.5	(9.43)	10.69	14.79	16.11	14.94	9.31	9/1/94
Channing Capital Management	656.2	3.84	15.34	9.68	–	9.33	8.77	4/1/15
EARNEST Partners	1,290.5	0.09	14.79	10.93	12.66	10.76	8.94	6/1/01
Leading Edge Investment Advisors	649.3	(3.44)	16.02	13.00	–	10.84	8.87	4/1/15
Palisade Capital Management	650.6	(0.94)	12.54	–	–	9.52	7.74	6/1/18
PENN Capital Management	640.1	10.00	19.82	14.35	–	10.23	9.31	9/27/13
Russell 2000 Index		(5.79)%	11.74%	9.74%	11.04%	–	–	
Total Long-Only Alpha Composite	\$ 1,575.2	0.50%	11.11%	9.05%	10.96%	11.95%	15.48%	9/1/11
Triam Partners Strategic Investment Fund-N, L.P.	852.3	0.34	10.87	8.31	–	8.61	10.01	2/1/15
ValueAct Capital Partners II, LP	722.9	1.08	12.16	10.31	11.48	12.36	12.61	9/1/11
S&P 500 Index		15.65%	18.92%	15.99%	14.64%	–	–	
Total Domestic Transition Accounts	\$ 107.5							

* Benchmarks for all accounts will vary according to mandate.

Public Equity Performance

continued

For the Fiscal Year Ending March 31, 2022.

	Total Assets (Dollars in Millions)	Annualized Rate of Return				Portfolio Since Inception	Benchmark Since Inception*	Inception Date
		1 Year	3 Years	5 Years	10 Years			
Total Non U.S. Equity Composite	\$ 30,197.6	(3.77)%	8.68%	7.49%	6.42%	6.19%	5.38%	10/1/89
MSCI ACWI Ex U.S. IMI (MSCI ACWI Ex U.S. to 1/1/17)		(1.27)%	7.87%	6.92%	5.87%			
Total Non U.S. Passive Composite	\$ 9,541.8	(1.12)%	8.12%	6.70%	5.84%	6.18%	5.94%	11/1/04
BlackRock ACWI Ex U.S. IMI	9,541.8	(1.12)	8.12	7.21	5.90	6.22	5.94	11/1/04
Total Active ACWI Ex U.S. Composite	\$ 8,243.8	(4.32)%	11.67%	10.55%	8.27%	7.48%	5.89%	11/1/04
Acadian Asset Management	2,186.1	2.35	10.44	9.24	8.36	7.63	5.89	11/1/04
Ariel Investments	356.9	5.14	6.68	–	–	6.74	8.49	11/1/18
Baillie Gifford	2,302.3	(15.67)	10.29	8.96	8.56	6.43	4.52	2/1/99
GQG Partners	781.4	12.07	16.24	–	–	13.13	4.45	4/1/18
LSV Asset Management	709.0	5.69	–	–	–	28.66	24.70	10/1/20
Wellington Management	1,908.1	(6.53)	10.71	11.64	–	12.14	9.96	3/1/16
MSCI ACWI Ex U.S.		(1.48)%	7.51%	6.76%	5.55%			
Total EAFE Composite	\$ 6,480.9	(1.04)%	8.64%	7.02%	7.29%	6.23%	4.71%	10/1/89
Capital Group	2,293.2	(4.86)	10.48	10.57	8.55	7.68	4.84	9/1/89
Mondrian Investment Partners	1,949.6	2.48	5.00	4.89	5.63	6.40	5.05	1/1/98
Xponance	1,117.2	(0.97)	–	–	–	4.03	4.96	2/1/21
Total EAFE Small Cap Composite	\$ 1,119.3	(2.36)%	9.04%	–	–	5.47%	4.43%	7/1/18
Acadian Asset Management	403.5	4.87	13.27	–	–	9.04	4.43	7/1/18
Barings International	324.7	(11.96)	4.78	–	–	1.56	4.35	8/1/18
Global Alpha Capital Management	391.1	(0.42)	9.64	9.93	–	10.82	6.74	10/1/13
MSCI EAFE Index		1.16%	7.78%	6.72%	6.27%			
Total Emerging Markets Composite	\$ 4,593.1	(13.22)%	5.32%	5.63%	3.59%	7.87%	7.04%	1/1/92
Genesis Investment Management	854.9	(18.58)	2.87	5.61	4.15	3.87	2.98	3/1/12
Martin Currie	612.9	(15.25)	–	–	–	8.98	7.83	10/8/19
Morgan Stanley	1,248.2	(10.45)	5.93	5.65	4.09	6.93	5.74	11/1/93
PGIM Quantitative Solutions	964.9	(5.34)	6.59	6.41	4.15	4.44	3.73	2/1/12
RockCreek Group	649.9	(16.81)	6.09	5.84	–	3.12	4.35	10/18/13
Wellington Management	262.2	(19.39)	–	–	–	(10.85)	(10.00)	1/1/21
MSCI Emerging Markets Index		(11.37)%	4.94%	5.98%	3.36%			
Cevian Capital II, LP	\$ 1,338.0	2.46%	12.62%	6.70%	7.94%	9.71%	6.29%	9/1/11
HFRI Event Driven Activist Index		3.51%	8.23%	6.92%	6.27%			
Total Global Equity Composite	\$ 14,296.2	2.98%	14.28%	12.55%	11.73%	9.00%	7.91%	9/1/94
CRF FTSE Environmental Technology 50	\$ 284.8	3.12%	30.71%	19.76%	14.03%	9.43%	9.63%	11/1/09
ARGA Investment Management	290.2	(1.95)	13.38	–	–	10.43	11.50	5/1/17
Brandes Investment Partners	1,780.4	7.39	11.59	8.41	8.87	7.13	5.80	11/1/99
Generation Investment Management	2,400.9	4.16	16.94	17.93	16.92	17.77	12.68	4/8/09
Goldman Sachs Asset Management	4,006.9	2.69	13.69	12.87	–	10.92	10.30	1/1/15
RockCreek Global	738.7	3.34	–	–	–	29.91	28.78	4/1/20
Rockefeller & Company Asset Management	530.8	0.54	11.55	10.62	–	8.72	9.25	2/23/15
T. Rowe Price	2,243.9	(3.63)	20.13	19.25	15.87	14.38	9.47	3/1/11
Templeton Investments	2,019.7	7.16	9.60	6.93	8.50	7.72	9.47	3/1/11
MSCI All Country World Index		7.28%	13.75%	11.64%	10.00%			
Global Transition Account	\$ 26.5							

* Benchmarks for all accounts will vary according to mandate. Composite market values include transition accounts and accrued management fees.

Public Equity Fund of Fund Performance

For the Fiscal Year Ending March 31, 2022.

	Total Assets (Dollars in Millions)	Annualized Rate of Return				Portfolio Since Inception	Benchmark Since Inception*	Inception Date
		1 Year	3 Years	5 Years	10 Years			
Total RockCreek Global Composite	\$ 738.7	3.34%	–	–	–	29.91%	28.78%	4/1/20
Ativo Capital Management	132.1	7.05	13.14%	–	–	12.69	12.31	5/1/17
Bell Asset Management	123.3	11.67	15.59	–	–	14.15	12.31	5/1/17
QTRON Investments	122.6	12.18	–	–	–	16.31	15.08	5/22/19
Strategic Global Advisors	234.2	10.37	13.44	–	–	11.15	12.31	5/1/17
Trinity Alps Capital	127.6	(17.20)	9.09	–	–	12.35	16.03	1/8/19
MSCI All Country World Index		7.28%	13.75%	–	–			
Total Xponance EAFE Composite	\$ 1,117.2	(0.97)%	–	–	–	4.03%	4.96%	2/1/21
ARGA Investment Mgmt.	163.3	(2.09)	–	–	–	16.71	8.57	8/5/19
Foresight Global	169.3	0.28	–	–	–	4.53	4.96	2/1/21
Frontier Global Partners	157.1	(5.28)	–	–	–	12.00	9.37	8/5/19
Martin Investment Mgmt.	179.5	8.51	–	–	–	10.73	4.96	2/1/21
Osmosis Investment Mgmt.	200.4	9.17	10.42%	7.79%	–	7.80	6.03	11/1/15
Redwood Investment Mgmt.	158.3	–	–	–	–	–	–	3/31/22
Trinity Alps Capital Mgmt.	90.0	(22.44)	–	–	–	(13.74)	4.96	2/1/21
MSCI EAFE Index		1.16%	7.78%	6.72%	–			
Total Leading Edge Investment Advisors Composite	\$ 649.3	(3.44)%	16.02%	13.00%	–	10.84%	8.87%	4/1/15
Altravue Capital	66.7	5.77	–	–	–	28.67	34.63	7/29/20
Bridge City Capital	75.2	(4.44)	–	–	–	17.74	18.84	2/28/20
Denali Advisors	87.1	7.32	–	–	–	18.66	16.21	8/28/19
Granahan Investment Management	90.5	(20.26)	16.73	–	–	21.14	8.92	9/29/17
Granite Investment Partners	98.6	(6.71)	16.39	14.44	–	12.02	8.87	4/1/15
Nicholas Investment Partners	76.7	(5.18)	23.41	19.61	–	13.54	8.52	4/1/15
Palisades Investment Partners	70.7	(4.23)	23.43	16.96	–	13.70	8.87	4/1/15
Phocas Financial Corporation	85.0	9.93	15.61	9.89	–	9.23	8.77	4/1/15
Russell 2000 Index		(5.79)%	11.74%	9.74%	–			
Total GSAM Composite	\$ 4,006.9	2.69%	13.69%	12.87%	–	10.92%	10.30%	1/1/15
GSAM AIMS Global Account Cayuga	535.6	1.75	18.52	16.53	–	14.62	9.45	12/23/14
GSAM AIMS Global Account Iroquois	350.8	(10.45)	13.72	13.80	–	11.58	9.30	11/20/14
GSAM AIMS Global Account Mohawk	384.2	(0.89)	8.79	8.10	–	6.17	9.37	11/26/14
GSAM AIMS Global Account Mohican	414.5	4.68	10.70	11.42	–	10.61	11.92	7/22/16
GSAM AIMS Global Account Onondaga	642.8	8.91	14.65	15.16	–	12.91	10.67	12/17/14
GSAM AIMS Global Account Seneca	543.4	1.15	10.17	11.93	–	10.66	10.43	1/30/15
GSAM AIMS Global Account Shinnecock	633.6	8.99	–	–	–	20.85	14.65	10/21/19
GSAM AIMS Global Account Tuscarora	502.4	2.02	11.42	9.65	–	8.80	10.12	12/22/14
MSCI World Index		10.12%	14.98%	12.42%	–			

* Benchmarks for all accounts will vary according to mandate. Composite market values include transition accounts and accrued management fees.

Domestic Equity Portfolio — Ten Largest Holdings

For the Fiscal Year Ending March 31, 2022.

Company	Shares	Fair Value	Percentage of Domestic Equity
Apple, Inc.	29,756,429	\$ 5,195,770,068	5.5%
Microsoft Corp.	15,697,042	4,839,555,019	5.1
Amazon.com, Inc.	939,153	3,061,591,822	3.2
Alphabet, Inc. - Class C	672,290	1,877,699,247	2.0
Alphabet, Inc. - Class A	610,857	1,699,007,117	1.8
Tesla, Inc.	1,549,339	1,669,567,706	1.8
NVIDIA Corp.	4,449,848	1,214,185,525	1.3
Berkshire Hathaway, Inc. - Class B	3,440,482	1,214,180,503	1.3
UnitedHealth Group, Inc.	2,321,624	1,183,958,591	1.3
Meta Platforms, Inc.	4,988,464	1,109,234,855	1.2

Note: A detailed listing of the New York State and Local Retirement System's assets as of March 31, 2022 is on our website at www.osc.state.ny.us.

Fixed Income Portfolio and Comparison

As of March 31, 2022.

Sector	Fair Value (Dollars in Millions)	Fair Value Percentage	Effective Duration	Current Yield
Treasury	\$ 19,946.1	38.8%	8.92	1.65%
Treasury Inflation-Protected Securities (TIPS)	362.8	0.7	8.21	0.56
Federal Agency	472.1	0.9	4.30	1.07
Corporate	16,478.6	32.1	6.12	3.04
Asset-Backed	2,084.6	4.1	3.09	2.87
Commercial Mortgage-Backed	1,492.4	2.9	2.76	3.06
Mortgage-Backed	5,521.8	10.7	5.70	2.74
Berkadia Mortgages	1,053.5	2.0	4.31	4.32
CPC Mortgages	367.7	0.7	8.84	5.09
Collateralized Loan Obligations	3,036.8	5.9	0.09	1.61
Municipal Bonds	582.0	1.1	13.59	3.16
Total Core Portfolio	\$ 51,398.4	100.0%	6.65	2.36%
Externally Managed Funds:				
Advent Capital	\$ 454.7		3.60	1.18%
Calvert Research and Management	\$ 247.8		6.03	2.42%
DoubleLine Capital	\$ 266.7		15.29	2.70%
Morgan Stanley Investment Management	\$ 246.1		8.63	2.33%
New Century Advisors	\$ 524.4		5.49	0.76%
Schroder Investment Management	\$ 250.9		6.79	2.32%
Teachers Advisors (Nuveen)	\$ 245.3		6.34	2.67%
Wellington Management Company	\$ 284.4		6.81	2.72%

Fixed Income Performance

As of March 31, 2022.

	Annualized Rate of Return		
	1 Year	3 Years	5 Years
Common Retirement Fund — Internal Core	(2.94)%	2.13%	2.55%
Treasuries	(2.96)	1.36	1.78
Treasury Inflation-Protected Securities (TIPS)	3.36	N/A	N/A
Agencies	(4.78)	(0.30)	0.87
Corporate Bonds	(3.44)	3.27	3.55
Municipal Bonds	(5.95)	1.90	3.50
Asset-Backed	(5.12)	0.38	1.47
Commercial Mortgage-Backed	(3.11)	2.18	2.51
Mortgage-Backed	(3.04)	1.27	1.91
Collateralized Loan Obligations	1.22	2.60	2.81
Bloomberg Barclays U.S. Aggregate Bond Index	(4.15)%	1.69%	2.14%

Fixed Income Portfolio — Ten Largest Holdings

As of March 31, 2022.

Issue	Fair Value (Dollars in Millions)	Percentage of Fixed Income
Treasury Bonds Due 2/15/2039	\$ 544.2	1.09%
Treasury Bonds Due 2/28/2026	523.3	1.05
Treasury Bonds Due 8/15/2030	521.2	1.04
Treasury Bonds Due 2/15/2045	501.6	1.00
Treasury Bonds Due 5/15/2050	484.8	0.97
Treasury Bonds Due 8/15/2050	481.1	0.96
Treasury Bonds Due 5/15/2030	462.1	0.92
Treasury Bonds Due 11/15/2040	437.4	0.88
Treasury Bonds Due 11/15/2031	435.8	0.87
Treasury Bonds Due 12/31/2027	405.7	0.81
Total	\$ 4,797.1	9.60%

Note: A detailed listing of the New York State and Local Retirement System's assets as of March 31, 2022 is on our website at www.osc.state.ny.us.

Real Estate Portfolio

As of March 31, 2022.

	Equity Amount*	Percentage	Mortgage Amount*	Percentage
Property Diversification				
Industrial/R&D	\$ 7,688,450,249	34.0%	\$ -	0.0%
Land for Development	32,093,394	0.1	-	0.0
Lodging	504,463,840	2.2	-	0.0
Office	4,435,570,977	19.6	656,714,764	46.2
Other*	3,865,323,348	17.1	-	0.0
Residential	3,211,698,706	14.2	367,670,180	25.9
Retail	2,876,055,648	12.7	396,753,808	27.9
Total	\$ 22,613,656,163	100.0%	\$ 1,421,138,752	100.0%
Regional Diversification				
Northeast	\$ 3,080,434,723	13.6%	\$ 1,421,138,752	100.0%
Mideast	1,552,927,017	6.9	-	0.0
Southeast	1,057,746,342	4.7	-	0.0
Southwest	2,110,671,571	9.3	-	0.0
Midwest	1,966,472,037	8.7	-	0.0
Mountain	770,286,136	3.4	-	0.0
Pacific	7,194,973,494	31.8	-	0.0
Non-U.S.	4,880,144,843	21.6	-	0.0
Total	\$ 22,613,656,163	100.0%	\$ 1,421,138,752	100.0%

Note: Equity and mortgage amounts are based on the fair value of the Fund's full real estate portfolio.

* Other includes alternative property types (i.e. self storage, medical office, data centers, student housing).

These figures may not agree with the audited statements due to timing and classification differences made for investment management purposes.

Opportunistic Real Estate

Number of Active Partnerships	Capital Committed (Dollars in Millions)	Capital Contributed (Dollars in Millions)	Current Market (Dollars in Millions)	Cumulative Distributions (Dollars in Millions)	Total Value / Exposure (Dollars in Millions)
100	\$ 23,447.7	\$ 15,486.8	\$ 8,927.0	\$ 12,671.0	\$ 21,598.0

These figures may not agree with the audited statements due to timing and classification differences made for investment management purposes.

Alternative Investments Summary

As of March 31, 2022.

	Number of Partnerships	Capital Committed	Capital Contributed	Fair Value	Cumulative Distributions	Total Value
Private Equity Funds						
Corporate Finance/Buyout	157	\$ 32,743,642,769	\$ 29,290,369,333	\$ 20,460,099,093	\$ 28,440,796,132	\$ 48,900,895,225
Co-Investment	25	5,939,836,034	4,514,727,868	4,143,405,644	2,814,545,657	6,957,951,301
Distressed/Turnaround	13	2,008,948,161	1,720,009,496	832,921,737	1,671,814,214	2,504,735,951
Fund of Funds	41	8,167,993,852	7,959,799,625	2,461,997,898	9,233,413,145	11,695,411,043
Growth Equity	44	7,271,986,340	5,797,287,841	4,862,294,413	4,954,213,106	9,816,507,519
Special Situations	28	5,222,010,603	4,867,431,831	2,470,766,402	3,960,274,312	6,431,040,714
Venture Capital	33	1,312,798,060	1,282,332,334	1,754,415,338	995,943,579	2,750,358,917
Other	N/A	N/A	40,171,293	40,171,293	N/A	40,171,293
Total Private Equity*	341	\$ 62,667,215,819	\$ 55,472,129,621	\$ 37,026,071,818	\$ 52,071,000,145	\$ 89,097,071,963
Opportunistic/Absolute Return Strategy Funds (ARS)						
Opportunistic Funds	24	\$ 4,384,567,332	\$ 2,792,490,903	\$ 1,810,561,720	\$ 1,833,619,864	\$ 3,644,181,584
ARS Funds						
Equity Long-Short	2	N/A	N/A	498,005,429	N/A	498,005,429
Event and Merger	1	N/A	N/A	64,038,049	N/A	64,038,049
Event Driven	11	N/A	N/A	1,103,243,841	N/A	1,103,243,841
Fund of Funds	2	N/A	N/A	63,685,610	N/A	63,685,610
Relative Value	1	N/A	N/A	336,885,234	N/A	336,885,234
Structured Credit	3	N/A	N/A	564,599,111	N/A	564,599,111
Tactical Trading	4	N/A	N/A	1,288,961,541	N/A	1,288,961,541
Total ARS Funds	24	N/A	N/A	3,919,418,815	N/A	3,919,418,815
Total Opportunistic/ Absolute Return Strategy	48	\$ 4,384,567,332	\$ 2,792,490,903	\$ 5,729,980,535	\$ 1,833,619,864	\$ 7,563,600,399
Real Assets	40	\$ 11,308,872,250	\$ 5,211,973,562	\$ 6,051,187,778	\$ 1,084,004,908	\$ 7,135,192,686
Credit	54	\$ 16,263,136,454	\$ 9,927,915,722	\$ 9,209,797,971	\$ 3,548,609,986	\$ 12,758,407,957

*The total figures include the Fund's private equity investments and other investments through Pursuit.

Public Equity Management Fees

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees	Incentive Fees	Total
Acadian Asset Management, LLC	\$ 9,361,473	\$ –	\$ 9,361,473
AQR Capital Management, LLC	3,875,004	–	3,875,004
ARGA Investment Management, LP	771,966	–	771,966
Ariel Investments, LLC	1,722,368	–	1,722,368
Artisan Partners, LP	7,305,631	–	7,305,631
Baillie Gifford Overseas, Ltd.	7,844,857	–	7,844,857
Baring International Investment, Ltd.	2,163,854	–	2,163,854
BlackRock Institutional Trust Company, NA	3,939,187	–	3,939,187
Brandes Investment Partners, LP	3,780,207	–	3,780,207
Brown Capital Management, Inc.	11,665,894	–	11,665,894
Capital International, Inc.	3,279,372	7,264,946	10,544,318
Cevian Capital, LLP	12,735,321	–	12,735,321
Channing Capital Management, LLC	2,642,400	–	2,642,400
Eagle Capital Management, LLC	9,516,938	–	9,516,938
EARNEST Partners, LLC	5,164,951	–	5,164,951
Fiera Capital, Inc.	6,932,845	–	6,932,845
Generation Investment Management, LLP	18,313,163	42,131,037	60,444,200
Genesis Investment Management, LLP	5,583,128	–	5,583,128
Global Alpha Capital Management, Ltd.	2,613,834	–	2,613,834
Goldman Sachs Asset Management	1,559,970	–	1,559,970
Goldman Sachs Asset Management *	25,408,320	–	25,408,320
GQG Partners, LLC	3,354,566	–	3,354,566
Iridian Asset Management, LLC	1,141,127	–	1,141,127
Leading Edge Investment Advisors, LP *	4,982,334	–	4,982,334
Lisanti Capital Growth, LLC Total	149,839	–	149,839
LSV Asset Management	3,184,785	–	3,184,785
Martin Currie, Inc.	3,132,542	–	3,132,542
Mondrian Investment Partners, Inc.	5,644,847	–	5,644,847
Morgan Stanley Emerging Markets Fund, Inc.	10,531,754	–	10,531,754
Palisade Capital Management, LLC	2,824,864	–	2,824,864
Penn Capital Management Company, Inc.	2,961,869	–	2,961,869
PGIM Quantitative Solutions, LLC	1,004,686	–	1,004,686
Rock Creek Group, LP	3,568,469	–	3,568,469
Rock Creek Group, LP *	5,235,242	–	5,235,242
Rockefeller & Company Asset Management	2,763,454	–	2,763,454
Russell Investments Group, LLC	1,283,504	–	1,283,504
T. Rowe Price Associates, Inc.	10,040,179	–	10,040,179
Templeton Investment Counsel, LLC	1,050,838	–	1,050,838
Triam Fund Management, LP	6,801,364	–	6,801,364
ValueAct Capital Management, LP	6,168,804	5,605,068	11,773,872
Wellington Management Company, LLP	11,854,762	–	11,854,762
Xponance, Inc. *	5,336,598	1,824,174	7,160,772
Total	\$ 239,197,110	\$ 56,825,225	\$ 296,022,335

* Represents Fund of Funds relationship and includes sub-manager fee payments.

Public Equity Commissions — Internally Managed

For the Fiscal Year Ended March 31, 2022.

Broker	Shares	Commission \$ U.S.
Bank of America	10,987,148	\$ 109,872
Barclays Capital	11,378,061	121,239
BTIG	10,164,825	101,648
Citigroup Global Markets	9,063,306	90,633
Cowen and Company	9,546,483	95,465
Goldman Sachs	10,591,822	105,918
Great Pacific Securities	15,965,327	159,653
Guzman & Company	16,257,201	162,572
Instinet	10,148,364	101,484
J.P. Morgan Chase	16,495,775	158,485
Loop Capital Markets	15,284,065	152,841
Morgan Stanley	9,071,632	90,716
Penserra Securities	15,690,030	156,900
Piper Sandler Companies	9,890,278	98,903
Sanford C. Bernstein & Company	9,247,217	92,472
Siebert Williams Shank & Company	15,982,932	159,829
Virtu	12,256,566	122,566
Total	208,021,032	\$ 2,081,196

Public Equity Commissions — Externally Managed

For the Fiscal Year Ended March 31, 2022.

Broker	Shares	Commission \$ U.S.
Abel Noser	2,368,883	\$ 100,160
Allen & Company	316,847	9,405
Auerbach Grayson & Company	2,535,725	21,675
B. Riley FBR	547,926	14,844
Baader Bank	98,722	8,857
Banco Bradesco	7,896,967	26,041
Bank of America	139,000,582	778,167
Barclays Capital	20,769,211	365,869
Bay Crest Partners	1,015,850	17,777
BCS Prime Brokerage	856,083	7,096
Berenberg	2,647,451	27,753
BMO Capital Markets	4,209,746	53,791
BTIG	18,499,717	389,803
C.L. King & Associates	998,253	35,396
Cabrera Capital Markets	1,906,410	37,630
Canaccord Genuity Group	1,038,618	34,280
Cantor Fitzgerald & Company	10,525,910	170,894
Capital Institutional Services	1,060,285	30,447
Carnegie Investment Bank	2,071,844	28,330
CastleOak Securities	451,361	5,957
China International Capital Corp.	11,459,264	26,078
CIBC World Markets Corp.	1,075,096	7,625
Citigroup Global Markets	229,694,684	655,108
CJS Securities	634,815	15,502
CLSA	168,438,459	316,895
CM-CIC Market Solutions	156,503	9,024
Compass Point Research & Trading	260,669	9,395
Cornerstone Macro	727,441	17,457
Cowen and Company	17,011,472	418,729
Craig-Hallum Capital Group	585,851	20,181
Credit Suisse	225,742,115	702,255
D.A. Davidson & Company	522,319	15,276
Daiwa Capital Markets	9,237,593	90,333
Danske Bank	2,339,115	7,144
DNB	2,809,688	36,712
Edelweiss Securities	609,474	23,420
Electronic Brokerage Systems	356,773	7,081

Broker	Shares	Commission \$ U.S.
Evercore ISI	6,952,206	\$ 135,064
Exane	11,173,172	187,537
Goldman Sachs	175,577,003	950,427
Great Pacific Securities	518,350	5,183
Guggenheim Securities	804,181	24,601
Haitong International Securities Company	385,285	15,133
HSBC	384,698,734	531,503
India Infoline	1,106,431	26,536
Instinet	98,008,135	407,627
Investec	536,828	6,736
Itau Unibanco	5,135,067	19,071
J.P. Morgan Chase	346,788,819	1,294,130
Janney Montgomery Scott	269,354	10,774
Jefferies	85,912,346	651,578
JMP Securities	1,068,662	25,091
JonesTrading Institutional Services	14,426,318	512,382
Keefe Bruyette & Woods	32,527,128	90,284
Kepler Cheuvreux	6,953,850	92,046
KeyBanc Capital Markets	2,248,323	64,306
Korea Investment & Securities	141,200	9,764
Kotak Securities	484,393	6,148
Liberum Capital	1,227,214	20,158
Liquidnet	68,626,294	699,736
Loop Capital Markets	16,290,934	255,052
Luminex Trading & Analytics	2,012,571	19,347
Macquarie Group	83,358,499	322,731
Maxim Group	619,625	8,759
Mirabaud Securities	58,543	5,395
Mischler Financial Group	9,745,457	91,832
Mitsubishi UFJ Securities	273,354	12,506
Mizuho Securities	13,159,062	207,090
MKM Partners	742,839	12,034
Morgan Stanley	349,408,828	1,523,022
Needham & Company	3,344,102	119,869
Nomura Securities	3,298,891	28,237
Nordea Bank	937,339	13,721
North South Capital	1,056,266	31,698

Public Equity Commissions — Externally Managed

continued

Broker	Shares	Commission \$ U.S.
Northcoast Research Partners	551,656	\$ 16,869
Numis Securities	1,315,924	18,164
Oddo BHF Group	211,876	9,438
Olivetree Financial	297,948	13,209
Oppenheimer & Company	1,020,429	37,619
Pavilion Global Markets	637,758	10,546
Peel Hunt	115,812	10,580
Penserra Securities	15,032,361	118,773
Pershing	4,216,609	72,193
Pictet	385,023	14,828
Piper Sandler Companies	6,908,128	159,311
Raymond James & Associates	4,830,329	138,984
RBC Capital Markets	23,220,007	281,100
Redburn	5,880,231	72,813
Robert W. Baird & Company	7,456,496	177,508
Rosenblatt Securities	330,229	6,880
Roth Capital Partners	359,585	13,458
Samsung Securities	192,792	10,842
Sanford C. Bernstein & Company	40,574,616	311,480
Santander Group	4,835,589	14,618
Sberbank CIB	1,458,781	13,426
Scotia Capital	2,876,765	18,651
Seaport Global Securities	990,207	14,857
Siebert Williams Shank & Company	3,186,637	66,594
Skandinaviska Enskilda Banken	279,958	10,437
SMBC Nikko Securities	3,233,353	69,494
Societe Generale	10,569,368	34,951
Stephens	2,122,017	58,209
Stern Brothers & Company	219,900	5,497
Stifel	13,474,522	220,247
Stonex Financial	393,133	30,744
Strategas Securities	576,428	24,348
SVB Leerink	330,926	11,556
Svenska Handelsbanken	912,706	32,373
Telsey Advisory Group	1,994,118	80,463
The Benchmark Company	664,453	14,438
Themis Trading	349,783	6,163

Broker	Shares	Commission \$ U.S.
Truist Securities	2,623,864	\$ 92,902
UBS	222,294,344	802,601
Virtu	49,883,778	400,604
VTB Capital	531,822	6,590
Wedbush Securities	508,247	18,114
Wells Fargo Securities	3,301,690	110,128
William Blair & Company	5,320,757	140,085
Wolfe Research Securities	675,257	7,953
XP Investimentos	6,604,900	11,798
Various ¹	17,324,795	77,723
Total	3,091,429,232	\$ 16,869,654

¹Commissions paid to brokers that totaled less than \$5,000 for the year are reported under the "Various" line item.

Global Fixed Income Management Fees

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees	Incentive Fees	Total
Advent Capital Management, LLC	\$ 2,492,394	\$ -	\$ 2,492,394
Calvert Research and Management	389,565	-	389,565
DoubleLine Capital, LP	719,500	-	719,500
New Century Advisors, LLC	345,440	-	345,440
Semper Capital Management, LP	548,377	-	548,377
Teachers Advisors, LLC (Nuveen)	393,389	-	393,389
Total	\$ 4,888,665	\$ -	\$ 4,888,665

Long-Term Domestic Bond Transactions — Internally Managed

For the Fiscal Year Ended March 31, 2022.

Summarized by Broker or Direct Issuer.

Long-Term Broker	Par \$ U.S.
Barclays Capital	\$ 777,713,000
BMO Capital Markets	705,689,000
BNY Mellon Capital Markets	175,027,000
BofA Securities	2,628,259,000
Citigroup Global Markets	1,608,653,000
Credit Suisse	442,456,000
Daiwa Capital Markets	600,000,000
Deutsche Bank	390,579,000
Goldman Sachs	1,254,645,000
Great Pacific Securities	1,864,261,000
HSBC	400,000,000
J.P. Morgan Chase	2,041,870,000
Jefferies	361,120,000
Mischler Financial Group	157,375,000
Morgan Stanley	2,805,173,000
RBC Capital Markets	651,261,000
Samuel A. Ramirez & Company	106,500,000
Scotia Capital	485,000,000
Siebert Williams Shank & Company	52,000,000
TD Securities	496,677,000
Truist Securities	129,481,000
UBS	425,000,000
Wells Fargo Securities	1,148,180,872
Total	\$ 19,706,919,872

Long-Term Domestic Bond Transactions — Externally Managed

For the Fiscal Year Ended March 31, 2022.

Summarized by Broker or Direct Issuer.

Long-Term Broker	Par \$ U.S.
Amherst Pierpont	\$ 5,294,942
Barclays Capital	330,715,761
BCP Securities	2,994,000
BMO Capital Markets	221,000,471
BNP Paribas Securities Corp.	221,912,818
BNY Mellon Capital Markets	10,138,685
BofA Securities	502,426,599
BOK Financial	990,070
BTIG	31,148,000
Cabrera Capital Markets	49,440,000
Cantor Fitzgerald & Company	12,366,145
CIBC World Markets Corp.	13,154,000
Citadel Securities	221,398,500
Citigroup Global Markets	815,551,377
Credit Agricole	10,047,900
Credit Suisse	109,164,434
Daiwa Capital Markets	2,030,000
Deutsche Bank	65,752,950
Evercore ISI	2,652,000
Goldman Sachs	192,306,025
Guggenheim Securities	1,395,000
Hilltop Securities	1,038,000
HSBC	151,842,000
J.P. Morgan Chase	485,937,951
Jane Street Execution Services	5,154,000
Jefferies	204,954,300
KeyBanc Capital Markets	3,950,000
MarketAxess Corp.	539,000

Long-Term Broker	Par \$ U.S.
Millennium Advisors	\$ 1,395,000
Mischler Financial Group	6,000,000
Mitsubishi UFJ Securities	29,445,698
Mizuho Securities	29,639,172
Morgan Stanley	178,820,599
NatWest Markets	93,887,000
Nomura Securities	427,267,864
Odeon Capital Group	281,095
Oppenheimer & Company	11,748,000
Oscar Gruss & Son	62,790,000
PNC Capital Markets	1,975,000
R.W. Pressprich & Company	1,500,000
Raymond James & Associates	30,424,000
RBC Capital Markets	178,627,000
Robert W. Baird & Company	247,000
Scotia Capital	1,932,000
SMBC Nikko Securities	582,000
Societe Generale	44,397,000
Standard Chartered Bank	1,200,000
Stifel	2,715,602
StoneX Financial	55,394,726
Susquehanna Financial Group	2,670,000
TD Securities	167,902,000
Truist Securities	3,615,699
U.S. Bancorp	865,000
UBS	288,885,000
Wells Fargo Securities	388,901,673
Total	\$ 5,688,403,056

Short-Term Domestic Bond Transactions — Internally Managed

For the Fiscal Year Ended March 31, 2022.

Summarized by Broker or Direct Issuer.

Short-Term Broker	Par \$ U.S.
Barclays Capital	\$ 632,472,000
BMO Capital Markets	100,000,000
BNY Mellon Capital Markets	24,077,851,000
BofA Securities	13,444,143,000
Citigroup Global Markets	21,269,191,000
Credit Suisse	950,671,000
Daiwa Capital Markets	100,000,000
Deutsche Bank	225,000,000
Goldman Sachs	2,182,361,000
Great Pacific Securities	17,931,452,000
J.P. Morgan Chase	22,197,210,000
Jefferies	70,345,000
Mischler Financial Group	1,284,182,000
Morgan Stanley	207,000,000
RBC Capital Markets	18,696,111,000
Samuel A. Ramirez & Company	7,500,000
Siebert Williams Shank & Company	8,000,000
TD Securities	11,000,000
Wells Fargo Securities	73,170,000
Total	\$ 123,467,659,000

Multi-Asset Class Management Fees

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees	Incentive Fees	Total
Morgan Stanley Investment Management	\$ 3,255,209	\$ -	\$ 3,255,209
Schroder Investment Management	3,432,376	-	3,432,376
Wellington Management Company	3,271,256	-	3,271,256
Total	\$ 9,958,841	\$ -	\$ 9,958,841

Multi-Asset Class — Public Equity Commissions — Externally Managed

For the Fiscal Year Ended March 31, 2022.

Broker	Shares	Commission \$ U.S.
Bank of America	13,092,288	\$ 66,226
Barclays Capital	1,850,825	19,268
Berenberg	559,593	15,466
BTIG	431,295	7,717
Citigroup Global Markets	6,288,487	36,297
CLSA	836,180	5,849
Cowen and Company	4,006,667	32,414
Credit Suisse	20,936,001	139,390
Goldman Sachs	17,048,216	101,802
HSBC	43,435,072	483,498
Instinet	673,692	15,817
J.P. Morgan Chase	10,399,712	50,815
Jane Street Execution Services	2,408,845	9,342
Jefferies	12,380,104	127,439
Liquidnet	3,143,372	42,674
Morgan Stanley	11,512,800	63,483
Nomura Securities	3,118,399	16,267
RBC Capital Markets	915,944	10,691
Sanford C. Bernstein & Company	6,765,648	22,953
UBS	12,707,040	84,102
Virtu	15,544,856	205,837
Various ¹	12,432,686	52,918
Total	200,487,722	\$ 1,610,265

¹Commissions paid to brokers that totaled less than \$5,000 for the year are reported under the "Various" line item.

Multi-Asset Class — Long-Term Domestic Bond Transactions — Externally Managed

For the Fiscal Year Ended March 31, 2022.

Summarized by Broker or Direct Issuer.

Long-Term Broker	Par \$ U.S
Academy Securities	\$ 125,000
Banca Bilbao Vizcaya Argentaria	264,000
Bank of America	525,782,053
Bank of Montreal	26,307,570
Barclays Capital	237,195,897
BMO Capital Markets	202,750
BNP Paribas Securities Corp.	113,903,028
BNY Mellon Capital Markets	186,250
BOK Financial Corporation	1,049,725
Brean Capital	26,347,790
Cabrera Capital Markets	6,200,000
Canadian Imperial Bank of Commerce	4,975,000
Citadel Securities	117,390,100
Citigroup Global Markets	727,891,540
Commerzbank	100,000
Credit Agricole	18,202,166
Credit Suisse	159,356,315
Deutsche Bank	108,748,912
Fifth Third Securities	293,000
Flow Traders US Institutional Trading	100,000
FMSbonds	50,000
Goldman Sachs	767,144,093
HSBC	100,214,167
J.P. Morgan Chase	1,447,450,574
Jane Street Execution Services	14,284,000
Jefferies	3,410,000
KeyBanc Capital Markets	1,489,000
KeyCorp	200,000
Loop Capital Markets	1,236,750
MarketAxess Corp.	2,652,000

Long-Term Broker	Par \$ U.S
Millennium Advisors	\$ 5,226,000
Mitsubishi UFJ Securities	1,017,250
Mizuho Securities	1,545,923
Morgan Stanley	305,513,972
MUFG Securities Americas	2,895,000
NatWest Markets	3,914,869
Nomura Securities	176,427,228
Performance Trust Capital	708,307
PNC Capital Markets	236,143
Raymond James & Associates	635,000
RBC Capital Markets	29,923,667
Samuel A. Ramirez & Company	145,000
Santander Investment Securities	150,000
Scotiabank	635,750
Seaport Global Securities	288,000
Siebert Williams Shank & Company	173,750
SMBC Nikko Securities	2,155,167
Societe Generale	8,241,667
Standard Chartered Bank	200,000
State Street	153,000
Stephens	3,084,463
Stifel	10,553,505
Sumitomo Mitsui Financial Group	25,000
SumRidge Partners	44,000
Susquehanna Financial Group	5,656,000
TD Securities	17,294,690
TradeWeb	3,086,000
Truist Securities	2,546,000
UBS	2,456,344
US Bancorp	4,131,500
Wells Fargo Securities	202,642,014
Total	\$ 5,204,456,889

Real Estate Management Fees (Expensed)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
ARA Fund Management, Ltd.	\$ 1,550,027
ARES Management	5,007,088
Artemis Real Estate Partners, LLC	9,308,376
Avanath Capital Management, LLC, Series C	549,450
Blackstone Real Estate Advisors	19,520,948
Brookfield Asset Management Inc.	6,071,828
Carlyle Group	85,494
CIM Group, LP	3,375,061
Clarion Partners	2,764,075
Franklin Templeton Institutional, LLC (Lake Montauk)	609,657
GCM Grosvenor	2,200,000
Heitman Capital Management, LLC	1,202,739
J.P. Morgan Investment Management, Inc.	6,191,513
Jamestown Premier GP, LP	1,666,267
Kayne Anderson Capital Advisors	3,453,381
LaSalle Investment Management, Inc.	3,748,412
MetLife Investment Management, LLC	1,255
NIAM AB	683,902
Prologis, LP	9,230,868
Rockpoint Real Estate Funds	221,088
UBS Realty Investors LLC	2,000,583
Westbrook Realty Management	7,192,584
Total	\$ 86,634,596

Real Estate Management Fees (Capitalized)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
ACA Advisors (Aetos)	\$ 24,309
ARA Fund Management, Ltd.	327,945
ARES Management	3,651,936
Asana Partners, LP	3,414,700
Avanath Capital Management, LLC, Series C	73,183
BCP Strategic Partners (Beacon)	785
Blackstone Real Estate Advisors	10,610,517
Cherokee Advisers, LLC	74,685
Clarion Partners	1,976,398
Cortland Partners, LLC	1,267,562
Exeter Europe	4,932,303
Fairfield	96,800
GreenOak Real Estate Advisors	1,106,650
Heitman Capital Management, LLC	1,658,334
J.P. Morgan Investment Management, Inc.	408,188
Kimex	57,408
KKR & Company	2,581,993
Landmark	490,097
LaSalle Investment Management, Inc.	148,767
Mesa West Capital	1,440,816
MetLife Investment Advisors, LLC	6,456,010
NIAM AB	2,665,510
NREP	3,918,220
Oaktree Capital Management	2,449,094
PGIM Fund Management Ltd.	4,426,714
Stockbridge Real Estate Funds	543,429
Total	\$ 54,802,353

Private Equity Management Fees (Expensed)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
57 Stars, LLC	\$ 1,129,660
Access Capital Advisors, LLC	155,923
ACON Investments, LLC	2,603,910
Affinity Equity Partners	6,533,557
African Capital Alliance Limited	1,280,933
Apollo Management, LP	6,291,716
Ares Management, LP	643,071
Armory Square Ventures, LP	187,500
Asia Alternatives Management, LLC	3,874,742
Avance Investment Management LLC	2,833,333
Blackstone Group, LP	17,202,001
Bridgepoint Capital Ltd.	2,134,444
Brookfield Asset Management	5,999,732
Centerbridge Partners, LP	1,082,025
Cinven Capital Management	6,658,262
Clearlake Capital Group, LP	1,849,749
Contour Venture Partners	1,284,396
CVC Capital Partners	17,608,506
Dyal Capital Partners	4,082,956
EQT Partners	16,804,211
Fairview Capital Partners, Inc.	114,330
Farol Asset Management, LP	1,420,394
FIMI Opportunity Funds	1,600,000
FountainVest Partners (Asia), Ltd.	263,582
Francisco Partners, L.P.	607,917
Freeman, Spogli & Company	2,989,619
GCM Grosvenor	315,559
GenNx360 Capital Partners	1,539,115
Hamilton Lane Advisors, LLC	4,672,050
HarbourVest Partners, LLC	1,662,540
Helios Investment Partners	1,784,124
Hellman & Friedman Investors, Inc.	2,726,983

Manager	Management Fees
High Peaks Venture Partners	\$ 1,388,671
Hony Capital	1,999,012
ICV Partners, LLC	366,493
IK Investment Partners	3,018,266
Insight Partners, LLC	2,000,000
J.P. Morgan Partners, LLC	520,818
KKR & Company, LP	11,680,929
KSL Capital Partners, LLC	8,608,255
Leonard Green & Partners, LP	1,658,297
Lindsay Goldberg & Company, LLC	3,981,983
Muller & Monroe Asset Management, LLC	2,033,027
Neuberger Berman Group, LLC	3,740,438
Nordic Capital	1,376,037
Paladin Capital Group	188,155
Palladium Equity Partners	824,669
Performance Equity Management, LLC	488,971
Pine Brook Road Partners, LLC	730,301
Primary Venture Partners	103,425
Providence Equity Partners, LLC	2,497,389
RRJ Capital	2,308,319
Searchlight Capital Partners	6,355,965
Siris Capital Group, LLC	1,252,450
Snow Phipps Group, LLC	1,320,540
Stepstone Group, LP	28,882
TA Associates Management, LP	6,512,140
Threshold Ventures Inc.	378,788
Towerbrook Capital Partners	3,081,218
TPG Capital, LP	6,725,347
Tribeca Venture Partners	436,242
Trillium Group, LLC	56,250
Vista Equity Partners, LLC	23,358,118
Warburg Pincus, LLC	(625,103)
Total	\$ 218,331,132

Private Equity Management Fees (Capitalized)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
Activate Venture Partners	\$ 100,556
Ascent Biomedical Ventures	412,722
Bridgepoint Capital Ltd.	117,460
Francisco Partners Management, L.P.	645,320
Gilde, LP	27,576
Hamilton Lane Advisors, LLC	918,738
HarbourVest Partners, LLC	547,385
Institutional Venture Partners	554,122
Leonard Green & Partners, LP	(1,294)
NCH Capital Inc.	1,150,080
Oaktree Capital Management, LP	7,610,871
RRJ Capital	344,828
SAIF Partners	1,073,638
Softbank Capital	300,000
Summer Street Capital Partners, LLC	247,527
Tribeca Venture Partners, LLC	254,645
VCFA Group	76,274
Warburg Pincus, LLC	232,842
Total	\$ 14,613,290

Private Equity — Fee, Expense and Carried Interest Analysis

For the Fiscal Year Ended March 31, 2022.

Total Expenses	
Net Management Fees	\$ 232,944,423
Partnership Expenses	<u>105,786,801</u>
Total Expenses	\$ 338,731,224
Ratio — Total Expenses/Total Private Equity Allocation	0.56%
Total Profit Sharing (Carried Interest)	
Profit Sharing (Carried Interest)	\$ <u>752,602,682</u>
Total Profit Sharing	\$ 752,602,682
Ratio — Total Profit Sharing/Total Actively Invested Private Equity Allocation	1.68%
Total Expenses + Profit Sharing (Carried Interest)	
Total Expenses	\$ 338,731,224
Total Profit Sharing	<u>752,602,682</u>
Total Expenses and Profit Sharing (Carried Interest)	\$ 1,091,333,906
Total Private Equity Allocation	
Unfunded Capital Commitments	\$ 15,837,637,025
Net Asset Value (NAV) as of 3/31/2022	<u>37,026,071,818</u>
Distributions for FY 2022	<u>7,699,175,172</u>
Total Private Equity Allocation	\$ 60,562,884,015
Ratio — Total Expenses + Profit Sharing/Total Private Equity Allocation	1.80%
Total Actively Invested Private Equity Allocation	
Net Asset Value (NAV) as of 3/31/2022	\$ 37,026,071,818
Distributions for FY 2022	<u>7,699,175,172</u>
Total Actively Invested Private Equity Allocation	\$ 44,725,246,990
Ratio — Total Expenses + Profit Sharing/Total Actively Invested Private Equity Allocation	2.44%

Note: The profit sharing and partnership expenses were compiled based on information provided directly by the General Partner or calculated by the Fund's consultant applying the Fund's pro-rata ownership to carried interest and/or distribution and expense information provided in the Audited Financial Statements and Quarterly Financial Statements. Materials provided by General Partners consist of partners' capital statements, Institutional Limited Partners Association (ILPA) templates, and/or templates the consultant provided for the purposes of this analysis.

Opportunistic/Absolute Return Strategies Funds Management and Incentive Fees (Expensed)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees	Incentive Fees	Total
ADV Partners Capital Management, Ltd	\$ 4,076,603	\$ –	\$ 4,076,603
Angelo, Gordon & Company, LP	–	340,566	340,566
Bain Capital Public Equity, LP	145,627	424,569	570,196
BCK Capital Management, LP	996,573	356,231	1,352,804
Bridgewater Associates, LP	1,848,217	–	1,848,217
Carlyle Aviation Partners	602,957	–	602,957
Caspian Capital, LP	4,503,420	4,941,445	9,444,865
Constellation Capital Management Inc.	428,923	–	428,923
Cowen Sustainable Investments	3,349,451	–	3,349,451
D.E. Shaw and Company, LP	21,949,618	46,111,936	68,061,554
Fortress Investment Group, LLC	185,930	1,078,845	1,264,775
Frazier Healthcare Partners	1,047,756	–	1,047,756
HBK Capital Management, LP	331,201	347,984	679,185
Highland Capital Management, LP	57	–	57
Hollis Park Partners, LP	477,658	–	477,658
Insight Venture Management, LLC	1,415,421	–	1,415,421
King Street Capital Management LP	3,182,354	6,684,649	9,867,003
Knighthood Capital Management LLC	3,274,917	9,480,398	12,755,315
Landmark Partners, LLC	3,478,245	5,795,462	9,273,707
Mariner Investment Group LLC	1,146,608	–	1,146,608
Marshall Wace, LLP	6,440,012	17,787,081	24,227,093
Mezzacappa Management, LLC	590	–	590
Pacific Alternative Asset Management Company, LLC	57,789	–	57,789
Pharo Management, LLC	3,511,959	–	3,511,959
Rock Creek Group, LP	108,344	–	108,344
Schultze Asset Management, LLC	117,771	122,821	240,592
Stellex Capital Management, LP	4,534,616	–	4,534,616
Systematica Investments, Ltd.	1,158,234	2,250,064	3,408,298
Tilden Park Capital Management LP	4,828,288	1,202,599	6,030,887
Varde Management, LP	1,875,000	–	1,875,000
Vivo Capital, LLC	803,097	–	803,097
Total	\$ 75,877,236	\$ 96,924,650	\$ 172,801,886

Opportunistic Funds Management Fees (Capitalized)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
Constellation Capital Management	\$ 426,829
Landmark Partners, LLC	2,830,497
Neuberger Berman Group LLC	37,939
Total	\$ 3,295,265

Real Assets Management Fees (Expensed)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
Blackstone Group, LP	\$ 1,071,900
Brookfield Asset Management	5,816,455
Copenhagen Infrastructure Partners	3,581,651
EQT Fund Management S.a.r.l.	10,623,546
Excelsior Capital	1,000,000
Global Infrastructure Management LLC	5,777,756
Grain Management, LLC	5,330,127
GSO Capital Partners	1,301,292
I Squared Capital Advisors (US), LLC	3,050,692
ITE Management, LP	565,572
Kayne Anderson Capital Advisors, LP	357,508
KKR & Company, LP	4,305,975
Meridiam Infrastructure North America Corporation	3,000,000
Morgan Stanley Investment Management, Ltd.	2,760,465
Northleaf Capital Partners	268,884
Patria Investments, Ltd.	1,685,165
Carlyle Aviation Partners	3,034,193
Stonepeak Partners, LP	6,818,272
Total	\$ 60,349,453

Real Assets Management Fees (Capitalized)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
Blackstone Group, LP	\$ 1,724,025
Brookfield Asset Management	1,897,397
Carlyle Aviation Partners	1,314,879
Castlelake, LP	90,775
Hull Street Energy LLC	458,580
IFM Investors, Ltd.	5,135,693
ITE Management, LP	864,245
Kayne Anderson Capital Advisors, LP	1,102,532
KKR & Company, LP	2,530,996
Northleaf Capital Partners	900,924
Nuveen	2,795,024
Pantheon Ventures, LP	2,614,843
Total	\$ 21,429,913

Credit Management Fees (Expensed)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees	Incentive Fees	Total
Altura Capital Group LLC	\$ 446,820	\$ –	\$ 446,820
Avenue Capital Group	–	223,916	223,916
Blackrock Institutional Trust Company	9,089,419	–	9,089,419
Blackstone Group, LP	7,638,500	12,805,130	20,443,630
Blantyre Capital, Ltd.	517,096	–	517,096
Brookfield Asset Management	124,665	–	124,665
Intermediate Capital Group	310,000	–	310,000
KSL Capital Partners LLC	174,812	–	174,812
Neuberger Berman Group LLC	5,175,688	–	5,175,688
Oak Hill Advisors, LP	–	3,110,841	3,110,841
SSG Capital Management, Ltd.	3,806,214	3,886,331	7,692,545
TPG Capital, LP	2,804,490	8,832,358	11,636,848
Total	\$ 30,087,704	\$ 28,858,576	\$ 58,946,280

Credit Management Fees (Capitalized)

For the Fiscal Year Ended March 31, 2022.

Manager	Management Fees
Ares Management, LP	\$ 530,571
Avenue Capital Group	730,842
Blantyre Capital Limited	3,797,141
Brightwood Capital Advisors LLC	165,964
Brookfield Asset Management	59,985
Ellington Management Group	33,923
Francisco Partners Management, L.P.	9,923
Hollis Park Partners, LP	2,295,092
Intermediate Capital Group PLC	1,122,791
KSL Capital Partners LLC	414,640
Oak Hill Advisors, LP	2,084,587
Orchard Global Asset Management LLP	1,922,615
Strategic Value Partners LLC	2,603,417
TPG Capital, LP	4,894,282
Total	\$ 20,665,773

Consultant and Advisor Fees

For the Fiscal Year Ended March 31, 2022.

Aksia, LLC.	\$	600,000
Albourne America, LLC.		440,000
Bard Consulting, LLC.		40,000
Callan LLC.		443,750
FX Transparency, LLC.		35,000
Hamilton Lane Advisors, LLC.		1,875,000
J.P. Morgan Asset Management, Inc.		1,635
Meketa Investment Group		40,000
Mercer Investments		444,836
RV Kuhns & Associates, Inc.		760,637
Stockbridge Risk Management, Inc.		9,934
The Townsend Group		832,669
Total	\$	5,523,461

Actuarial

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Statement of the Actuary

September 30, 2022

As the Actuary for the Employees' Retirement System (ERS) and the Police and Fire Retirement System (PFRS), it is my duty to ensure that the New York State and Local Retirement System (the System) properly funds the benefits of members, retirees, and beneficiaries. A discussion of the plan provisions can be found at the beginning of the Notes to Basic Financial Statements. The Systems' funding policy is established by New York State Retirement and Social Security Law. The System has a funding objective of employer contributions that, over time, are a level percentage of payroll and accumulate assets over an employee's working lifetime sufficient to pay benefits as they become due.

The Actuarial Bureau annually generates actuarial valuations which determine the annual contributions required of employers. The most recent valuation was for valuation date April 1, 2021 and determined the employer contribution rates for February 1, 2023. A valuation relies on valuation date data for active members, retirees, and beneficiaries. Data for active members includes date of birth, salary, credited service, tier, and plan. For retired members and beneficiaries, data includes date of birth, monthly benefits and benefit option. In preparation for the valuation, we extensively validate the System's data by running reasonableness tests and accounting for every individual on a year-to-year basis. We also review the information contained in the financial statements.

For active members, the valuation projects expected benefits at retirement, death, disablement, and withdrawal based on estimated pay and service, as well as the member's plan benefit formula. For payees, the valuation determines the present value of payments expected to be made for the lifetimes of retirees and beneficiaries.

Proper funding requires that liabilities and employer contribution rates be determined based on reasonable actuarial assumptions and methods. The types of assumptions that must be made include both demographic (rates of employee mortality, disability, turnover, and retirement) and economic (interest rates, inflation, and salary growth). Therefore, valuations include assumptions about these uncertainties.

The Actuary performs annual experience studies, ascertaining how closely the System's experience is conforming to the assumptions. If significant differences occur that the Actuary believes may indicate permanent shifts, the Actuary may recommend assumption changes.

The System retains an external auditor to independently review its financial records every year. Furthermore, an Actuarial Advisory Committee meets annually to review the actuarial assumptions and the results of the actuarial valuation. The System also engages the services of an outside actuarial consultant to perform a review every five years; similarly, every five years, the System is audited by the New York State Department of Financial Services. Lastly, the Comptroller of the State of New York, in his role as sole trustee of the System, established an Office of Internal Audit to help fulfill his fiduciary objectives.

Statement of the Actuary

continued

The April 1, 2020 valuation for determining the February 1, 2022 employer contribution rates found in this report was performed under my direction and supervision, using the assumptions adopted by the Comptroller, a summary of which is included later in this section. The assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice.

I am responsible for all of the valuation results and other actuarial calculations contained in this report. In the Notes to Basic Financial Statements, I prepared the Net Pension Liability of Participating Employers. While I prepared the employer contribution rates that determined the 2022 employer billing, I did not prepare the Schedule of Employer Contributions. I prepared the following schedules in the Actuarial section: Actuarial Valuation Balance Sheets, Local Government Employers' Final Contribution Rates for Select Plans, Contribution Rate Trends for Local Governments, Employer Contributions, Historical Trends, Changes in Contributions, Assets and Accrued Liabilities, Solvency Test, Schedule of Active Member Data, and Schedule of Retired Members and Beneficiaries.

In addition to the funding valuation report for ERS and PFRS, separate reports are issued to provide financial reporting for NYSLRS in accordance with Governmental Accounting Standard Board (GASB) Statement No. 67. Reports containing the actuarial results of the financial reporting valuations are based upon the measurement date of March 31, 2022.

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial practices which are consistent with the principles prescribed by the Actuarial Standards Board as well as the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries, of which I am a member.



Michael Dutcher, E.A., A.S.A., M.A.A.A.

Actuary

New York State and Local Employees' Retirement System

New York State and Local Police and Fire Retirement System

Actuarial Cost Method and Valuation

Actuarial Cost Method

An actuarial cost method is a procedure for allocating the costs of a retirement system to particular time periods. It does not determine how much a system will ultimately cost; rather, it determines the portion of the estimated total cost that is to be allocated to a particular year.

For 70 years, by virtue of applying the definition of normal cost found in New York State Retirement and Social Security Law, the actuarial funding method used by the System was the aggregate method (AGG). Chapter 210 of the Laws of 1990 changed the funding method to a modified projected unit credit (PUC) method beginning in the fiscal year ending March 31, 1991 (referred to as fiscal year 1991). This law was challenged and the challenge was upheld by the New York State Supreme Court. On appeal, both the Appellate Division and the New York State Court of Appeals unanimously agreed with the New York State Supreme Court. These decisions allowed the Comptroller to return to the aggregate funding method beginning with the 1995 fiscal year. To ease the transition in the Employees' Retirement System (ERS) and to help prevent budget crises among participating employers, the Comptroller devised a plan to phase-in non-GLIP (New York State Public Employees' Group Life Insurance Plan) rates beginning in the 1995 fiscal year when the rates were zero. The rates increased by 1.5 percent per year until 1999, when the transition would cease. However, due to excellent investment gains and favorable experience, almost all ERS employer bills were below the transition rates in 1997, and in 1998 all were below the transition rates, so the transition ceased in 1998.

The aggregate method is ultimately an amortization policy. All valuation gains and losses are amortized evenly over the remaining working lifetimes of the active membership. The fact that the method does not allow arbitrary amortization periods or increasing payments is useful in a public setting as budgetary pressures can inspire a temptation to fund benefits over time frames that extend beyond the working lifetimes of the benefit recipients, and/or with back-loaded payments, which is not prudent and compromises intergenerational equity.

The "drawback" of the aggregate cost method is that it defines the accrued liability to be the actuarial value of assets. Thus the unfunded accrued liability is always zero, and the system's funded ratio is always 100 percent. This "drawback" is overcome by using the entry age normal cost method for purposes of financial disclosures. In this report, the reader should assume that any funding data provided is under the aggregate cost method unless otherwise noted as under the entry age normal method. The actuarial assumptions used are the same under either method.

Actuarial Valuation

At the beginning of the fiscal year, the Actuary, by law, determines the System's actuarial assets and liabilities. The actuarial valuation is important since it determines the rates of employer contributions. Chapter 49 of the Laws of 2003 mandates that the actuarial valuation undertaken on the first day of a fiscal year be used to determine contribution rates for the next succeeding fiscal year, to be applied to salaries as of the end of that fiscal year. Chapter 94 of the Laws of 2015 changed the billable salary to compensation earned during the previous fiscal year.

Each valuation differs markedly from the March 31, point-in-time snapshot of the System provided by the Financial Statements. The two measurements serve different purposes and use different techniques.

Two examples help make this clear:

- The actuarial assets for valuation purposes include the current value of all the future contributions employers and employees will make on behalf of current members. The Financial Statement balance sheet asset figure includes only contributions previously received and invested.
- The actuarial assets smooth out the investment performance by using a multi-year smoothing procedure. Techniques like this are widely practiced and professionally recommended to protect employers from volatile contribution rates. The Financial Statements, on the other hand, simply present fair values of assets on the last day of the fiscal year.

Aggregate Actuarial Funding Method

Actuarial liabilities are the valuation date values (called the actuarial present values) of the benefits the Retirement System expects to pay to current members, retirees, and beneficiaries. The actuarial present value of benefits is calculated by projecting the amount of future service retirement, death, and disability benefits (based on past and future service, salary, and plan) to be paid, and then discounting for assumed investment earnings, employee turnover, and other contingencies.

The actuarial present value of the contributions that employers must make to the System to fund the projected benefit payment is equal to the actuarial liabilities, minus the sum of the actuarial value of present assets and the present value of employee contributions.

Under the aggregate funding method, the actuarial present value of the contributions that employers must make to the System is funded as a level percentage of salary over the projected future working lifetimes of current members.

Elements of the Actuarial Valuation

Actuarial Assumptions

The actuarial assumptions for employer contribution rates for the fiscal year ending 2022 were adopted effective April 1, 2020. These assumptions and their predecessors are shown below. All assumptions presume ongoing systems.

Fiscal Year Ended 3/31	Salary Scale*	Salary Scale*		Interest Rate	Multiple-Decrement Tables Based on Systems' Experience
		ERS	PFRS		
1987 – 88	Inflation Productivity & Merit	5.00% <u>2.30%</u> 7.30%		8.00%	4/1/81– 3/31/86 experience
1989 – 92	Inflation Productivity & Merit	5.00% <u>2.00%</u> 7.00%		8.75%	4/1/81– 3/31/86 experience
1993 – 96	Inflation Productivity & Merit	5.00% <u>2.00%</u> 7.00%		8.75%	4/1/86 – 3/31/91 experience
		ERS	PFRS		
1997 – 98	Inflation Productivity & Merit	4.75% <u>1.25%</u> 6.00%	4.75% <u>1.75%</u> 6.50%	8.50%	4/1/90 – 3/31/95 experience
1999 – 2000	Inflation Productivity & Merit	3.50% <u>2.50%</u> 6.00%	3.50% <u>3.00%</u> 6.50%	8.50%	4/1/90 – 3/31/95 experience
2001	Inflation Productivity & Merit	3.00% <u>2.50%</u> 5.50%	3.00% <u>3.00%</u> 6.00%	8.00%	4/1/90 – 3/31/95 experience
2002 – 04	Inflation Productivity & Merit	3.00% <u>2.90%</u> 5.90%	3.00% <u>3.90%</u> 6.90%	8.00%	4/1/95 – 3/31/00 experience
2005	Inflation Productivity & Merit	3.00% <u>2.40%</u> 5.40%	3.00% <u>3.90%</u> 6.90%	8.00%	4/1/95 – 3/31/00 experience
2006	Inflation Productivity & Merit	3.00% <u>2.40%</u> 5.40%	3.00% <u>3.90%</u> 6.90%	8.00%	4/1/95 – 3/31/00 experience with subsequent adjustments
2007 – 11	Inflation Productivity & Merit	3.00% <u>2.40%</u> 5.40%	3.00% <u>3.70%</u> 6.70%	8.00%	4/1/00 – 3/31/05 experience with subsequent adjustments
2012 – 16	Inflation Productivity & Merit	2.70% <u>2.20%</u> 4.90%	2.70% <u>3.30%</u> 6.00%	7.50%	4/1/05 – 3/31/10 experience with subsequent adjustments
2017 – 19	Inflation Productivity & Merit	2.50% <u>1.30%</u> 3.80%	2.50% <u>2.00%</u> 4.50%	7.00%	4/1/10 – 3/31/15 experience with subsequent adjustments
2020	Inflation Productivity & Merit	2.50% <u>1.70%</u> 4.20%	2.50% <u>2.50%</u> 5.00%	7.00%	4/1/10 – 3/31/15 experience with subsequent adjustments
2021	Inflation Productivity & Merit	2.50% <u>1.70%</u> 4.20%	2.50% <u>2.50%</u> 5.00%	6.80%	4/1/10 – 3/31/15 experience with subsequent adjustments
2022	Inflation Productivity & Merit	2.50% <u>2.00%</u> 4.50%	2.50% <u>2.20%</u> 4.70%	6.80%	4/1/15 – 3/31/20 experience with subsequent adjustments

* This is an approximate value. Salary scales vary by age and plan and are based on each System's experience.

Elements of the Actuarial Valuation

continued

Selected Actuarial Assumptions Used in the April 1, 2020 Valuation

These illustrations show the number of people expected to decrement during the year (that is: decease, service retire, disability retire, or withdraw) per 10,000 members and the salary scale assumption. Demographic assumptions are computed by the Actuary and adopted by the Comptroller. They are based on recent member experience.

Service Retirement — ERS

Age	Service (in years)		
	< 20	20 – 29.99	≥ 30
Tiers 2 – 4			
55	573	824	3,812
60	472	708	1,766
65	1,539	2,517	2,182
Tiers 5 – 6			
55	461	664	824
60	379	571	708
65	1,539	2,517	2,182

Service Retirement — PFRS

Service	20-year (All Tiers)	20-year with additional 60ths (All Tiers)
20	2,721	1,007
25	955	885
30	728	1,630

Service Retirees — Mortality

Age	ERS Male Clerk	ERS Female Clerk	PFRS
55	50	37	28
60	69	46	48
70	136	106	134
80	440	313	469

Disability Retirees — Mortality

Age	ERS Male	ERS Female	PFRS
30	35	36	13
40	81	111	14
60	300	261	61
80	730	610	576

Elements of the Actuarial Valuation

continued

Disability Retirement — Ordinary and Accidental

Age	ERS Ordinary	ERS Accidental	PFRS Ordinary*	PFRS Accidental
35	5	0	3	2
40	8	0	19	17
45	14	0	35	32
50	23	0	37	32

* Includes performance of duty.

Ordinary Death

Age	ERS	PFRS
35	6	3
40	8	4
45	10	5
50	13	7

Withdrawal — ERS (Ten-year ultimate rates)

Age	ERS Tier 4	ERS Tier 6
35	203	173
40	194	165
45	188	160
50	142	121

Withdrawal — PFRS

Service	PFRS Tier 2	PFRS Tier 6
5	113	90
10	67	67
15	27	27

Salary Scale — Annual Percentage Increase

Service	ERS	PFRS
5	4.95	8.25
10	4.18	4.51
15	3.63	3.96
20	3.30	3.63
25	3.30	3.63

Elements of the Actuarial Valuation

continued

Actuarial Value of Assets

The actuarial asset values are determined by applying the assumed return on investments (6.8 percent for the April 1, 2020 valuation) to the financial statement plan net position with adjustments for cash flow (contributions and deductions). This smoothing method expects and immediately recognizes the assumed return on assets while phasing in unexpected gains and losses over a five-year period. The method treats realized and unrealized gains in the same manner. The Group Term Life Insurance Plan assets appreciate at the same rate as our short-term investment pool.

In the April 1, 2020 valuation of the System and Group Life Insurance Plan (GLIP) for fiscal year 2022, the difference between market and actuarial values of smoothed investments was:

	Investments (Dollars in Millions)	
Actuarial Value	\$	210,299
Market Value		<u>194,317</u>
Difference	\$	15,982

Administrative Expenses

The cost of administering the System is borne by the State and local employers on a current disbursement basis.

Group Life Insurance Plan (GLIP)

GLIP provides for up to \$50,000 of member death benefits and certain post-retirement death benefits to be paid as life insurance. All benefits provided are on a one-year term insurance basis. Participating employers are billed each year based on the aggregate of anticipated claims for the plan year. Premiums are set so that the reserve will, at its lowest amount during any year, be approximately equal to payables. Payables is an estimate of the amount payable for claims currently being processed, plus claims incurred but not yet reported.

Deficiency Costs

An employer may also have a deficiency contribution. When a new employer joins a System, any past service liability is paid for by separate annual payments over a period of up to 25 years. These payments are not affected by the funding method.

Rate and Contribution Comparability

Unless stated otherwise, rates and contributions assume a payment date of February 1, before the fiscal year end, to provide for comparability of State and local government rates and costs.

Actuarial Valuation Balance Sheets

Actuarial assets and liabilities are used to determine employer contributions for the fiscal year ending March 31. Values are in millions of dollars, as calculated in the April 1, 2019 valuation for fiscal year end (FYE) 2021 billing and the April 1, 2020 valuation for fiscal year end 2022 billing.

	FYE 2021 Billing*	FYE 2022 Billing*
	(Dollars in Millions)	
ERS		
Actuarial Assets		
Actuarial Value of Present Assets:		
Held for Current Retirees & Beneficiaries	\$ 111,708	\$ 116,711
Held for Members	60,447	56,524
Member Contributions	8,567	8,273
Total	\$ 180,723	\$ 181,509
Actuarial Present Value of Prospective Contributions:		
From Employers	\$ 32,969	\$ 37,767
From Members	5,050	5,913
Total	\$ 38,019	\$ 43,680
Total Actuarial Assets	\$ 218,742	\$ 225,188
Actuarial Liabilities		
Actuarial Present Value of Benefits for Current Retirees & Beneficiaries:		
Service Retirement Benefits	\$ 106,892	\$ 111,927
Disability Retirement Benefits	4,710	4,683
Death Benefits	106	102
Total	\$ 111,708	\$ 116,711
Actuarial Present Value of Benefits for Members:		
Service Retirement Benefits	\$ 103,368	\$ 105,089
Disability Retirement Benefits	1,849	1,453
Death Benefits	1,149	1,088
Other	668	847
Total	\$ 107,034	\$ 108,477
Total Actuarial Liabilities	\$ 218,742	\$ 225,188

* Numbers may not add up due to rounding.

Actuarial Valuation Balance Sheets

continued

	FYE 2021 Billing*	FYE 2022 Billing*
	(Dollars in Millions)	
PFRS		
Actuarial Assets		
Actuarial Value of Present Assets:		
Held for Current Retirees & Beneficiaries	\$ 21,625	\$ 23,038
Held for Members	10,299	9,090
Member Contributions	125	175
Total	\$ 32,050	\$ 32,303
Actuarial Present Value of Prospective Contributions:		
From Employers	\$ 8,651	\$ 10,426
From Members	812	1,004
Total	\$ 9,462	\$ 11,430
Total Actuarial Assets	\$ 41,512	\$ 43,733
Actuarial Liabilities		
Actuarial Present Value of Benefits for Current Retirees & Beneficiaries:		
Service Retirement Benefits	\$ 17,731	\$ 19,048
Disability Retirement Benefits	3,668	3,775
Death Benefits	226	215
Total	\$ 21,625	\$ 23,038
Actuarial Present Value of Benefits for Members:		
Service Retirement Benefits	\$ 17,854	\$ 19,140
Disability Retirement Benefits	1,699	1,390
Death Benefits	307	146
Other	27	19
Total	\$ 19,887	\$ 20,695
Total Actuarial Liabilities	\$ 41,512	\$ 43,733
* Numbers may not add up due to rounding.		

New York Public Employees' Group Life Insurance Plan

Actuarial Assets	2021	2022
	(Dollars in Millions)	
Assets		
Investments	\$ 205	\$ 181
Premiums Receivable	–	–
Total Assets	\$ 205	\$ 181
Liabilities		
Managed Overdraft (cash)	13	11
Claims Being Processed	28	41
Claims Unreported	21	21
Reserve for Mortality Fluctuations	143	108
Total Liabilities	\$ 205	\$ 181

Local Government Employers’ Final Contribution Rates for Select Plans

The following contribution rates are for the fiscal year ending March 31, 2022 and assume a February 1, 2022 payment date.

All rates exclude any contribution rates due to amortization payments, prior years’ adjustments, deficiency costs, retirement incentive programs and certain benefits electable by local governments, such as credit for unused sick leave or one-year final average salary. All rates include Group Life Insurance.

	Plan ID	Percentage of Payroll				
		Tier 1	Tier 2	Tiers 3 & 4	Tier 5	Tier 6
ERS						
Age-based plans						
Basic, Age 55, Age 60 Contributory	71-a	12.2	11.3	n/a	n/a	n/a
Article 14	A14	n/a	n/a	18.0	n/a	n/a
Article 15	A15	n/a	n/a	18.0	15.0	10.5
Guaranteed Benefits	75-e	22.5	20.3	n/a	n/a	n/a
Career	75-g	24.0	21.9	n/a	n/a	n/a
New Career	75-h/75-i	25.0	22.8	n/a	n/a	n/a
25-year plans						
Sheriffs and Deputies	89-a	28.2	26.6	n/a	n/a	n/a
Article 14B Sheriffs — 25-year	551	26.6	26.4	24.3	21.4	15.9
Article 14B Sheriffs — 25-year + 1/60th	551-e	27.8	27.7	25.5	23.0	17.5
full service for 1/60th	551-ee	28.9	28.8	26.5	23.9	18.2
County Law Enforcement	89-e, etc.	29.3	29.2	22.8	19.8	14.4
20-year plans						
Sheriffs and Deputies	89-b	32.4	25.4	n/a	n/a	n/a
additional 1/60th	89-b(m)	32.6	27.1	n/a	n/a	n/a
Article 14B Sheriffs — 20-year	552	32.6	32.5	30.1	27.4	21.8
Article 14B Sheriffs — 20-year + 1/60th	553	32.6	32.5	30.4	28.1	22.7
full service for 1/60th	553b	33.8	33.7	31.6	29.1	23.5
Detective Investigators	89-d	31.9	31.7	n/a	n/a	n/a
additional 1/60th	89-d(m)	32.0	31.8	n/a	n/a	n/a

Local Government Employers' Final Contribution Rates for Select Plans

continued

	Plan ID	Percentage of Payroll				
		Tier 1	Tier 2	Tier 3	Tier 5*	Tier 6*
PFRS						
Age-based plans						
Basic, Age 55, Age 60 Contributory	371-a	13.5	11.4	11.4	7.1	2.7
Guaranteed Benefits	375-e	22.4	17.9	17.9	13.2	8.4
Career	375-g	24.8	19.8	19.8	15.0	10.1
New Career	375-i	25.7	20.4	20.4	15.6	10.6
Improved Career	375-j	25.7	20.4	20.4	15.6	10.6
25-year plans						
Contributory	384	n/a	n/a	n/a	20.2	14.7
additional 1/60th	384(f)	n/a	n/a	n/a	21.3	15.3
Non-Contributory	384	26.0	25.2	25.2	24.0	21.9
additional 1/60th	384(f)	26.9	26.6	26.6	25.3	23.1
20-year plans						
Contributory	384-d	n/a	n/a	n/a	25.5	19.8
additional 1/60th	384-e	n/a	n/a	n/a	25.9	20.2
Non-Contributory	384-d	31.2	30.4	29.9	28.9	26.4
additional 1/60th	384-e	31.6	31.1	29.9	29.6	27.0
* Age-based plans in Tier 5 and Tier 6 are contributory.						
There is no Tier 4 in PFRS.						

Contribution Rate Trends for Local Governments

Contribution rates are based on a February 1 payment date. Each rate is applied to the salary of members covered by that particular plan. Rates were calculated under the aggregate method. All rates include Group Life Insurance and administrative rates.

Actual costs borne by employers are shown in the Statistical Section.

Plan Name (Section)	Percentage of Payroll									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
ERS										
Guaranteed Benefits (75-e)										
Tier 1	22.9	25.8	24.8	22.6	19.6	19.5	19.4	19.2	19.4	22.5
Tier 2	20.7	23.3	22.5	20.5	17.6	17.5	17.4	17.3	17.5	20.3
Career (75-g)										
Tier 1	24.1	27.3	26.3	24.0	20.7	20.7	20.5	20.4	20.6	24.0
Tier 2	22.0	24.9	24.0	21.9	18.7	18.7	18.6	18.5	18.7	21.9
New Career (75-i)										
Tier 1	25.2	28.5	27.4	25.0	21.6	21.5	21.4	21.2	21.4	25.0
Tier 2	23.0	26.0	25.1	22.9	19.6	19.5	19.4	19.3	19.5	22.8
Article 14/15 — Tier 3	18.4	20.8	20.1	18.6	15.8	15.8	15.7	15.7	16.0	18.0
Article 15 — Tier 4	18.4	20.8	20.1	18.6	15.8	15.8	15.7	15.7	16.0	18.0
Article 15 — Tier 5	14.9	16.7	16.4	15.3	13.0	13.0	12.9	13.1	13.3	15.0
Article 15 — Tier 6	9.9	11.3	10.8	10.4	9.2	9.2	9.2	9.2	9.5	10.5

Contribution Rate Trends for Local Governments

continued

Plan Name (Section)	Percentage of Payroll									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
PFRS										
Guaranteed Benefits (375-e)										
Tier 1	19.6	22.1	21.4	19.4	18.6	19.0	18.5	18.9	20.0	22.4
Tiers 2 & 3	16.2	18.1	17.8	16.1	15.4	15.7	15.3	15.6	16.5	17.9
Tier 5*	11.8	13.0	12.7	12.1	11.4	11.7	11.3	11.8	12.6	13.2
Tier 6*	7.0	7.3	7.2	6.4	7.1	7.3	7.0	7.3	8.0	8.4
Career (375-g)										
Tier 1	21.3	24.1	23.4	21.2	20.3	20.8	20.3	20.7	21.9	24.8
Tiers 2 & 3	17.6	19.7	19.4	17.6	16.8	17.2	16.7	17.1	18.1	19.8
Tier 5*	13.1	14.5	14.2	13.5	12.8	13.0	12.6	13.2	14.0	15.0
Tier 6*	8.2	8.6	8.5	7.6	8.4	8.5	8.2	8.6	9.3	10.1
New Career (375-i)										
Tier 1	22.1	24.9	24.2	21.9	21.0	21.5	21.0	21.4	22.6	25.7
Tiers 2 & 3	18.1	20.3	19.9	18.1	17.3	17.7	17.2	17.6	18.6	20.4
Tier 5*	13.6	15.1	14.7	14.0	13.2	13.5	13.1	13.6	14.5	15.6
Tier 6*	8.5	8.9	8.7	7.9	8.6	8.8	8.5	8.8	9.6	10.6
25-Year (384) — Contributory										
Tiers 1, 2 & 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tier 5	16.5	18.4	18.1	16.6	15.9	16.2	15.8	16.2	17.3	20.2
Tier 6	11.4	12.3	12.0	11.2	11.2	11.4	11.0	11.3	12.2	14.7
25-Year + 1/60ths (384(f)) — Contributory										
Tiers 1, 2 & 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tier 5	18.0	20.2	19.7	17.9	17.3	17.7	17.2	17.7	18.8	21.3
Tier 6	12.8	13.8	13.3	12.4	12.4	12.7	12.3	12.6	13.6	15.3
25-Year (384) — Non-Contributory										
Tier 1	21.2	24.0	23.2	21.2	20.9	21.4	20.8	21.2	22.5	26.0
Tiers 2 & 3	21.2	23.9	23.1	21.0	20.2	20.6	20.1	20.5	21.6	25.2
Tier 5	20.4	22.9	22.1	20.1	19.3	19.7	19.2	19.5	20.7	24.0
Tier 6	18.4	20.4	19.6	17.9	17.7	18.1	17.6	17.7	18.7	21.9
25-Year + 1/60ths (384(f)) — Non-Contributory										
Tier 1	23.1	26.1	25.1	22.7	22.0	22.5	21.9	22.3	23.6	26.9
Tiers 2 & 3	22.9	25.9	24.8	22.5	21.8	22.3	21.7	22.1	23.4	26.6
Tier 5	21.9	24.7	23.7	21.5	20.8	21.2	20.7	21.1	22.3	25.3
Tier 6	19.9	22.0	21.1	19.2	19.0	19.4	18.9	19.1	20.2	23.1

* Age-based plans in Tier 5 and Tier 6 are contributory.
There is no Tier 4 in PFRS.

Contribution Rate Trends for Local Governments

continued

Plan Name (Section)	Percentage of Payroll									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
20-Year (384-d) — Contributory										
Tiers 1, 2 & 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tier 5	20.1	22.7	22.0	20.1	19.5	19.9	19.4	19.8	21.0	25.5
Tier 6	14.6	16.0	15.4	14.3	14.5	14.8	14.4	14.6	15.7	19.8
20-Year + 1/60ths (384-e) — Contributory										
Tiers 1, 2 & 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Tier 5	20.5	23.0	22.3	20.4	20.2	20.6	20.1	20.6	21.9	25.9
Tier 6	14.9	16.3	15.6	14.5	15.1	15.4	15.0	15.3	16.4	20.2
20-Year (384-d) — Non-Contributory										
Tier 1	25.7	29.2	28.0	25.4	24.7	25.2	24.6	25.0	26.4	31.2
Tier 2	25.1	28.4	27.3	24.7	24.1	24.6	24.0	24.3	25.6	30.4
Tier 3	24.2	27.5	26.1	24.4	23.8	24.3	23.7	24.2	25.7	29.9
Tier 5	24.1	27.1	26.1	23.6	22.9	23.4	22.9	23.2	24.5	28.9
Tier 6	21.6	24.1	23.1	21.0	21.0	21.5	20.9	21.0	22.2	26.4
20-Year + 1/60ths (384-e) — Non-Contributory										
Tier 1										
1990-1998 elections (avg.)	26.1	29.6	28.4	25.8	25.0	25.6	25.0	25.3	26.7	31.6
all other years	26.1	29.6	28.4	25.8	25.0	25.6	25.0	25.3	26.7	31.6
Tier 2										
1990-1998 elections (avg.)	25.4	28.8	27.6	25.1	24.8	25.3	24.7	25.1	26.6	31.1
all other years	25.4	28.8	27.6	25.1	24.8	25.3	24.7	25.1	26.6	31.1
Tier 3	24.2	27.5	26.1	24.4	23.8	24.3	23.7	24.2	25.7	29.9
Tier 5	24.4	27.5	26.3	23.9	23.7	24.2	23.6	24.0	25.3	29.6
Tier 6	22.0	24.4	23.3	21.3	21.7	22.1	21.6	21.7	23.0	27.0
There is no Tier 4 in PFRS.										

Employer Contributions

Contributions here may differ from those appearing elsewhere in the Actuarial Section because these tables deal only with the contributions attributable to the fiscal year shown. Actual contributions may include adjustments due to previous years, such as amortization payments/credits and reconciliation of other years' bills. Employers who opted into either of the Contribution Stabilization Programs (Ch. 57 Laws of 2010 and Laws of 2013) are allowed to amortize a portion of their contribution. The following amounts show their total obligation. The average rates below are for normal, administrative and Group Life Insurance contributions.

Comparison of Employer Contributions*

For fiscal years ending 2021 and 2022. (Dollars in Millions)

	2022 Contribution			2021 Contribution		
	Salary	Contribution	Average Rate	Salary	Contribution	Average Rate
ERS						
Tier 1	\$ 52	\$ 13	25.2%	\$ 67	\$ 15	21.6%
Tier 2	62	14	23.0	82	16	19.7
Tiers 3 & 4	16,797	2,783	16.6	17,314	2,866	16.6
Tier 5	1,610	224	13.9	1,564	217	13.9
Tier 6	10,252	1,026	10.0	8,948	897	10.0
Total	\$ 28,772	\$ 4,060	14.1%	\$ 27,976	\$ 4,011	14.3%
PFRS						
Tier 1	\$ 1	\$ -	35.7%	\$ 2	\$ -	30.6%
Tier 2	2,559	808	31.6	2,613	705	27.0
Tier 3	17	5	29.2	21	5	24.4
Tier 5	216	58	26.6	196	44	22.5
Tier 6	1,251	251	20.1	1,031	170	16.4
Total	\$ 4,043	\$ 1,122	27.8%	\$ 3,863	\$ 924	23.9%
There is no Tier 4 in PFRS.						

Deficiency contributions for Fiscal Year 2022 (as of February 1, 2022) totaled \$1,391,759.

*Numbers may not add up due to rounding.

Employer Contributions

continued

Final Employer Contributions by Employer Type*

Attributable to fiscal year 2022 costs only. (Dollars in Millions)

Employer	Normal	Administrative	GLIP	Total
ERS				
State	\$ 1,597	\$ 71	\$ 42	\$ 1,710
Counties	677	29	16	722
Cities	99	5	3	106
Towns	220	10	7	237
Villages	71	3	2	76
Miscellaneous	620	30	20	670
Schools	498	24	16	538
Total	\$ 3,781	\$ 173	\$ 107	\$ 4,060
PFRS				
State	\$ 224	\$ 3	\$ -	\$ 227
Counties	236	3	-	239
Cities	310	5	-	315
Towns	117	2	-	119
Villages	95	1	-	97
Miscellaneous	123	2	-	125
Total	\$ 1,106	\$ 16	\$ -	\$ 1,122

*Numbers may not add up due to rounding.

Employer Contributions by Tier*

(Dollars in Millions)

	2022 (as of February 1, 2022)		2021 (as of February 1, 2021)	
	Employer Contributions Attributable to Year	Percentage	Employer Contributions Attributable to Year	Percentage
ERS				
Tier 1	\$ 13	0.3%	\$ 15	0.4%
Tier 2	14	0.3	16	0.4
Tiers 3 & 4	2,783	68.5	2,866	71.5
Tier 5	224	5.5	217	5.4
Tier 6	1,026	25.3	897	22.4
Total	\$ 4,060	100.0%	\$ 4,011	100.0%
PFRS				
Tier 1	\$ 0	0.0%	\$ 0	0.1%
Tier 2	808	72.0	705	76.3
Tier 3	5	0.4	5	0.6
Tier 5	58	5.1	44	4.8
Tier 6	251	22.4	170	18.3
Total	\$ 1,122	100.0%	\$ 924	100.0%

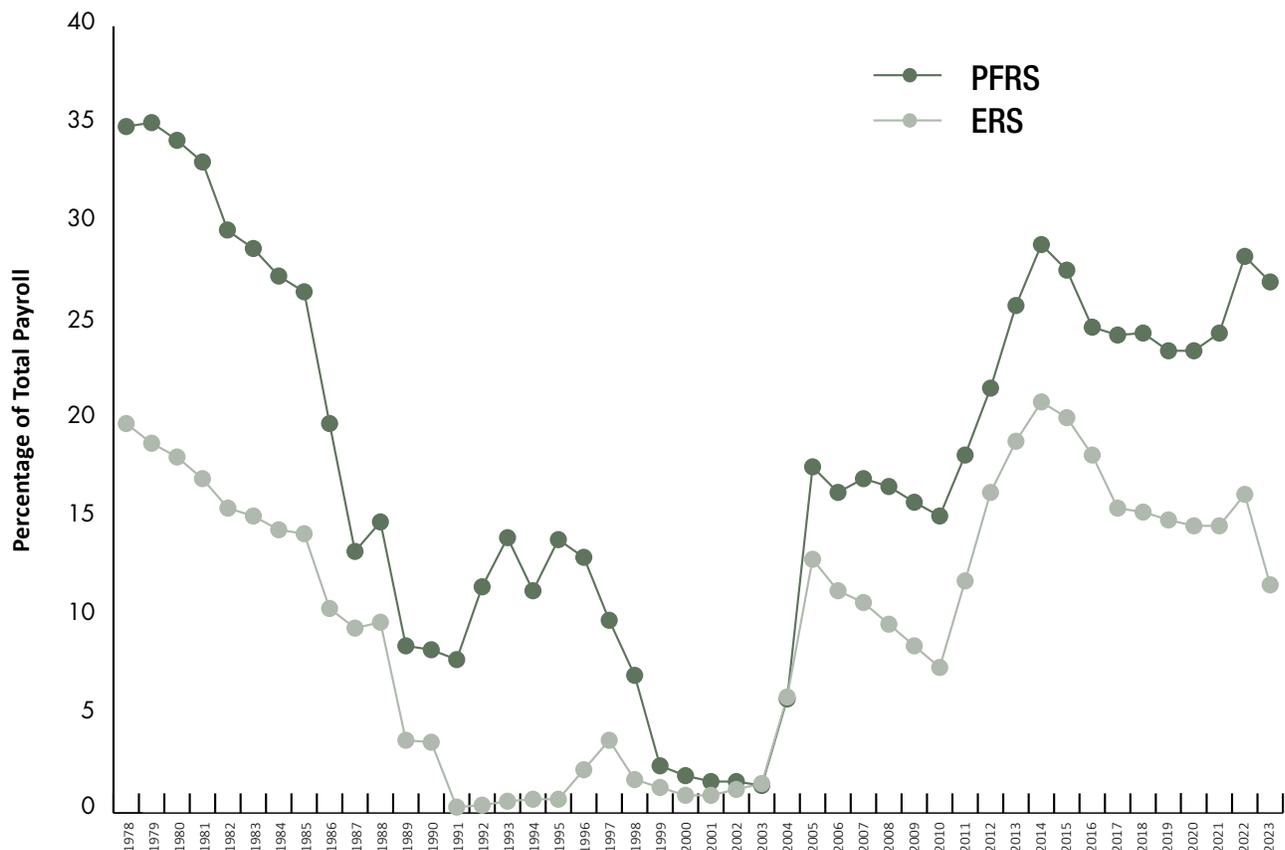
There is no Tier 4 in PFRS.

*Numbers may not add up due to rounding.

Historical Trends (Rates as a Percentage of Salary, 1978 – 2023)

The State is obligated to pay its annual bill to NYSLRS on March 1, one month before the end of the fiscal year. Through 2004, local employers paid their bills by December 15, three and one-half months before the end of the fiscal year. Beginning in 2005, the payment date for local employers was changed to February 1; however employers can choose to pay a discounted prepayment amount by December 15 of the previous year.

Trends in Employer Contribution Rates



Changes in Contributions

The System's experience in many areas (employee salary growth or decrease, investment return, legislative enactment of benefits) is assessed and quantified yearly. Each element can exert an increasing or decreasing pressure, or have no impact on contributions to be charged for that year.

Analysis of Changes (By Source)

Experience during one fiscal year produces the increase or decrease in contributions for the following year.

(Dollars in Millions)

Fiscal Year Valuation Date	Fiscal Year Bill Date	Contributions for Preceding Fiscal Year Bill	Salary Growth	Return on Investments	Assumption Changes	Changes in Benefits	Other Adjustments	Projected Contributions for Fiscal Year Shown*
ERS								
2012	2014	\$ 4,627	\$ 119	\$ 870	\$ (9)	n/a	\$ (343)	\$ 5,264
2013	2015	5,243	97	521	(539)	n/a	(182)	5,140
2014	2016	5,143	(24)	(937)	633	n/a	(187)	4,628
2015	2017	4,515	35	(396)	273	n/a	(433)	3,994
2016	2018	3,995	85	120	22	n/a	(195)	4,027
2017	2019	4,005	108	(123)	131	n/a	(111)	4,010
2018	2020	3,977	39	(210)	298	n/a	(123)	3,981
2019	2021	3,998	128	50	105	n/a	(166)	4,115
2020	2022	4,113	120	511	246	n/a	(308)	4,682
2021	2023	4,554	(19)	(3,997)	3,058	n/a	(255)	3,331
PFRS								
2012	2014	\$ 827	\$ 25	\$ 142	\$ (1)	n/a	\$ (36)	\$ 957
2013	2015	936	3	79	(83)	n/a	(18)	917
2014	2016	917	23	(143)	52	n/a	(7)	842
2015	2017	809	1	(70)	161	n/a	(73)	828
2016	2018	857	60	17	36	n/a	(75)	895
2017	2019	888	31	(21)	12	n/a	(19)	891
2018	2020	866	(3)	(34)	49	n/a	8	886
2019	2021	875	12	6	53	n/a	(15)	931
2020	2022	981	136	85	133	n/a	(115)	1,220
2021	2023	1,093	(70)	(646)	567	n/a	150	1,094

* This is an estimated figure. Minor adjustments, mostly salary-related, result in the final contribution figure for the year as shown in the Contributions for Preceding Fiscal Year Bill column.

Note: Chapter 94 of the Laws of 2015 changed the definition of billing salary beginning with fiscal year 2016. The billing rates are now applied to salaries as of the end of the previous fiscal year, rather than the end of the fiscal year when the contributions are made.

The Projected Contributions for Fiscal Year Shown is now based on one year of salary projection (previously a two-year projection) and the Contributions for Preceding Fiscal Year Bill is based on known salaries from the previous fiscal year (previously a one-year projection). This explains the large decrease in contributions from the projected to the actual amount for fiscal year 2016.

Assets and Accrued Liabilities

Plan assets can be expressed as the market value or the actuarial value of assets. The market value of assets represents the market value of investments as of the last day of the fiscal year. The actuarial value of assets smooths the volatility in the market value by phasing in unexpected gains and losses over a period of five years. The actuarial accrued liability is the portion of the actuarial present value of future benefits that is attributed to service rendered as of the valuation date. Note that the asset values do not include the following dedicated assets: Group Life Insurance Plan, Non-Member Contributions, Administrative Overbill Account, Loan Insurance Reserve and Annuity Savings Fund.

(Dollars in Millions)

Valuation Date	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AL)	Ratio of Assets to AL based on	
				MVA	AVA
ERS					
4/1/12	\$ 130,349	\$ 125,688	\$ 144,107	90.5%	87.2%
4/1/13	139,580	132,067	149,211	93.5	88.5
4/1/14	154,119	145,985	158,638	97.2	92.0
4/1/15	161,065	156,648	167,065	96.4	93.8
4/1/16	156,088	162,119	172,246	90.6	94.1
4/1/17	167,820	168,246	178,216	94.2	94.4
4/1/18	179,995	175,430	184,504	97.6	95.1
4/1/19	182,541	180,723	189,751	96.2	95.2
4/1/20	167,933	181,509	195,734	85.8	92.7
4/1/21	220,349	220,349	219,298	100.5	100.5
PFRS					
4/1/12	\$ 22,837	\$ 22,009	\$ 25,048	91.2%	87.9%
4/1/13	24,436	23,112	25,815	94.7	89.5
4/1/14	26,961	25,474	27,377	98.5	93.0
4/1/15	28,154	27,330	29,336	96.0	93.2
4/1/16	27,337	28,362	30,620	89.3	92.6
4/1/17	29,539	29,586	31,776	93.0	93.1
4/1/18	31,838	31,009	32,989	96.5	94.0
4/1/19	32,386	32,050	34,260	94.5	93.5
4/1/20	29,896	32,303	36,170	82.7	89.3
4/1/21	39,424	39,424	41,083	96.0	96.0

Solvency Test

The System is funded in accordance with the aggregate method. The following solvency test is one means of checking the System's funding progress. In this test, the System's actuarial value of assets is compared to:

- (1) the required member contributions on deposit;
- (2) the liabilities for future benefits to persons who have retired; and
- (3) the employer-financed liabilities for service already rendered by active members.

The accrued liabilities in this chart are calculated in accordance with the entry age normal method.

Valuation Date	Accrued Liability (Dollars in Millions)				Actuarial Assets (Dollars in Millions)	Portion of Actuarial Accrued Liabilities Covered by Actuarial Assets		
	Member Contributions (1)	Retiree (2)	Active (3)	Total (1) + (2) + (3)		(1)	(2)	(3)
ERS								
4/1/12	\$ 8,168	\$ 75,210	\$ 60,729	\$ 144,107	\$ 125,688	100.0%	100.0%	69.7%
4/1/13	8,328	78,743	62,140	149,211	132,067	100.0	100.0	72.4
4/1/14	8,462	85,528	64,648	158,638	145,985	100.0	100.0	80.4
4/1/15	8,608	90,163	68,294	167,065	156,648	100.0	100.0	84.7
4/1/16	8,635	95,102	68,509	172,246	162,119	100.0	100.0	85.2
4/1/17	8,666	100,320	69,230	178,216	168,246	100.0	100.0	85.6
4/1/18	8,537	107,506	68,461	184,504	175,430	100.0	100.0	86.7
4/1/19	8,567	111,708	69,476	189,751	180,723	100.0	100.0	87.0
4/1/20	8,273	116,711	70,750	195,734	181,509	100.0	100.0	79.9
4/1/21	8,805	131,389	79,104	219,298	220,349	100.0	100.0	101.3
PFRS								
4/1/12	\$ 2	\$ 14,060	\$ 10,986	\$ 25,048	\$ 22,009	100.0%	100.0%	72.3%
4/1/13	5	14,948	10,862	25,815	23,112	100.0	100.0	75.1
4/1/14	10	15,958	11,409	27,377	25,474	100.0	100.0	83.3
4/1/15	20	17,072	12,244	29,336	27,330	100.0	100.0	83.6
4/1/16	34	17,599	12,987	30,620	28,362	100.0	100.0	82.6
4/1/17	55	18,920	12,801	31,776	29,586	100.0	100.0	82.9
4/1/18	85	20,265	12,639	32,989	31,009	100.0	100.0	84.3
4/1/19	125	21,625	12,510	34,260	32,050	100.0	100.0	82.3
4/1/20	175	23,038	12,957	36,170	32,303	100.0	100.0	70.2
4/1/21	183	26,477	14,423	41,083	39,424	100.0	100.0	88.5

Schedule of Active Member Data

Fiscal Year Ending March 31	Active Members	Annual Member Payroll (Dollars in Millions)	Percentage Increase in Annual Member Payroll	Average Salary
ERS				
2012	505,575	\$ 24,291	(0.4)%	\$ 48,046
2013	498,266	24,405	0.5	48,979
2014	493,209	24,361	(0.2)	49,392
2015	491,558	24,480	0.5	49,801
2016	494,411	24,985	2.1	50,536
2017	496,441	25,520	2.1	51,406
2018	500,945	25,973	1.8	51,847
2019	501,037	26,668	2.7	53,226
2020	497,659	27,350	2.6	54,958
2021	469,968	27,074	(1.0)	57,608
PFRS				
2012	31,024	\$ 3,191	1.4%	\$102,850
2013	30,780	3,163	(0.9)	102,754
2014	31,218	3,233	2.2	103,549
2015	31,372	3,257	0.8	103,822
2016	31,720	3,416	4.9	107,700
2017	32,332	3,522	3.1	108,930
2018	32,470	3,548	0.7	109,265
2019	32,573	3,593	1.3	110,309
2020	32,888	3,910	8.8	118,902
2021	31,922	3,719	(4.9)	116,499

Schedule of Retired Members and Beneficiaries

Added to and Removed from Benefit Payroll

Fiscal Year	Number of Retired Members and Beneficiaries		Annual Benefits of Retired Members and Beneficiaries		Total Number of Retired Members and Beneficiaries	Total Annual Benefit	Percentage Increase in Total Annual Benefits	Average Annual Benefit
	Added During the Year	Removed During the Year	Added During the Year	Removed During the Year				
ERS								
2012	31,906	14,378	\$ 990,541,993	\$ 198,660,208	371,468	\$ 8,094,237,711	10.84%	\$ 21,790
2013	23,424	13,993	627,992,358	207,014,141	380,899	8,515,215,928	5.20	22,356
2014	23,320	14,931	636,672,277	229,131,028	389,288	8,922,757,178	4.79	22,921
2015	21,832	14,339	615,594,488	225,462,412	396,781	9,312,889,254	4.37	23,471
2016	25,517	15,186	764,025,727	247,047,150	407,112	9,829,867,831	5.55	24,145
2017	25,828	15,441	783,795,021	260,190,707	417,499	10,353,472,145	5.33	24,799
2018	31,709	14,655	974,084,983	248,074,441	434,553	11,079,482,687	7.01	25,496
2019	26,559	16,393	860,370,424	283,931,808	444,719	11,655,921,302	5.20	26,210
2020	25,018	19,931	824,249,961	318,809,092	449,806	12,161,362,171	4.34	27,037
2021	26,155	17,700	860,284,597	297,582,782	458,261	12,724,063,986	4.63	27,766
PFRS								
2012	1,403	788	\$ 97,599,791	\$ 23,890,471	31,706	\$ 1,423,682,602	5.46%	\$ 44,903
2013	1,629	798	120,115,279	25,836,637	32,537	1,517,961,244	6.62	46,653
2014	1,431	851	99,767,882	27,650,778	33,117	1,590,078,348	4.75	48,014
2015	1,222	812	89,763,321	27,980,968	33,527	1,651,860,701	3.89	49,270
2016	1,163	859	90,801,381	30,667,776	33,831	1,711,994,306	3.64	50,604
2017	2,028	903	157,020,746	32,764,190	34,956	1,836,250,862	7.26	52,530
2018	2,027	940	162,851,223	34,346,639	36,043	1,964,755,446	7.00	54,511
2019	2,011	978	169,652,095	37,229,104	37,076	2,097,178,437	6.74	56,564
2020	1,763	1,238	146,089,459	59,162,270	37,601	2,184,105,626	4.14	58,086
2021	1,960	1,194	162,871,045	35,722,187	38,367	2,311,254,484	5.82	60,241

For both systems, annual benefits are based on option 0 benefits (prior to option selection and partial lump sum distribution) plus cost-of-living adjustments (COLA).

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Statistical

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Schedule of Additions to Fiduciary Net Position

(Dollars in Thousands)

Year Ending	Member Contributions	Employer Contributions	Other Income*	Investment Income/(Loss)	Total
2022	\$ 577,594	\$ 5,627,746	\$ 126,708	\$ 22,374,115	\$ 28,706,163
ERS	494,802	4,528,207	109,874	18,984,398	24,117,281
PFRS	82,792	1,099,539	16,834	3,389,717	4,588,882
2021	\$ 492,341	\$ 5,029,790	\$ 116,652	\$ 70,649,606	\$ 76,288,389
ERS	427,032	4,062,302	103,941	59,964,043	64,557,318
PFRS	65,309	967,488	12,711	10,685,563	11,731,071
2020	\$ 453,698	\$ 4,782,706	\$ 146,762	\$ (8,798,771)	\$ (3,415,605)
ERS	395,338	3,920,360	138,859	(7,470,542)	(3,015,985)
PFRS	58,360	862,346	7,903	(1,328,229)	(399,620)
2019	\$ 386,519	\$ 4,744,309	\$ 170,154	\$ 10,761,776	\$ 16,062,758
ERS	345,846	3,890,215	160,431	9,140,487	13,536,979
PFRS	40,673	854,094	9,723	1,621,289	2,525,779
2018	\$ 349,389	\$ 4,823,307	\$ 215,614	\$ 21,338,033	\$ 26,726,343
ERS	318,439	3,949,873	181,725	18,128,993	22,579,030
PFRS	30,950	873,434	33,889	3,209,040	4,147,313
2017	\$ 328,827	\$ 4,786,963	\$ 236,401	\$ 20,225,244	\$ 25,577,435
ERS	306,218	3,949,710	200,379	17,194,267	21,650,574
PFRS	22,609	837,253	36,022	3,030,977	3,926,861
2016	\$ 306,631	\$ 5,140,204	\$ 332,880	\$ (384,834)	\$ 5,394,881
ERS	289,333	4,347,619	198,332	(327,069)	4,508,215
PFRS	17,298	792,585	134,548	(57,765)	886,666
2015	\$ 284,793	\$ 5,797,449	\$ 230,799	\$ 12,444,891	\$ 18,757,932
ERS	272,004	4,893,110	193,176	10,582,102	15,940,392
PFRS	12,789	904,339	37,623	1,862,789	2,817,540
2014	\$ 281,398	\$ 6,064,133	\$ 192,581	\$ 20,598,593	\$ 27,136,705
ERS	273,545	5,137,935	175,677	17,496,541	23,083,698
PFRS	7,853	926,198	16,904	3,102,052	4,053,007
2013	\$ 269,134	\$ 5,336,045	\$ 131,853	\$ 14,717,622	\$ 20,454,654
ERS	264,788	4,524,395	122,931	12,496,378	17,408,492
PFRS	4,346	811,650	8,922	2,221,244	3,046,162

* Includes interest earned on member loans, interest on accounts receivable and transfers from other systems.

Schedule of Investment Income/(Loss)

(Dollars in Thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Net Change in Fair Value of Investments	\$ 18,519,023	\$ 67,602,333	\$ (12,135,353)	\$ 7,179,934	\$ 17,859,769	\$ 16,923,203	\$ (3,934,853)	\$ 9,275,335	\$ 17,432,110	\$ 11,592,363
Interest	1,234,903	1,195,961	1,321,234	1,321,174	1,312,608	1,349,658	1,446,569	1,447,757	1,366,175	1,394,442
Dividends	1,653,824	1,556,765	1,794,002	1,825,117	1,723,896	1,611,929	1,593,010	1,589,248	1,498,622	1,512,908
Real Estate and Mortgages	604,534	500,894	459,732	523,165	472,188	531,225	491,949	414,345	353,821	382,315
Alternative	853,919	598,918	440,806	354,214	352,488	230,919	174,552	174,850	259,960	377,664
Security Lending Income	45,123	47,393	29,326	48,942	73,563	74,428	52,878	35,639	28,381	32,617
International Equity	452,267	148,733	197,033	242,877	295,388	153,368	360,723	137,227	220,090	146,314
Other Including Prior Year Adjustment	(27,891)	(85,210)	(117,563)	(5,575)	(14,581)	33,456	1,461	(40,881)	17,187	(247,988)
Security Lending Expenses	(14,607)	(11,927)	(2,735)	(4,893)	(49,128)	(18,001)	(5,278)	(3,563)	(2,838)	(3,261)
Investment Expenses	(946,980)	(904,254)	(785,253)	(723,179)	(688,158)	(664,941)	(565,845)	(585,066)	(574,915)	(469,752)
Net Investment Income/(Loss)	\$ 22,374,115	\$ 70,649,606	\$ (8,798,771)	\$ 10,761,776	\$ 21,338,033	\$ 20,225,244	\$ (384,834)	\$ 12,444,891	\$ 20,598,593	\$ 14,717,622

Schedule of Deductions from Fiduciary Net Position

(Dollars in Thousands)

Year Ending	Retirement Allowances	Post-Retirement Supplements	Death Benefits	Separation from Service	Administrative Expenses	Other Expenses	Total
2022	\$ 13,791,579	\$ 690,266	\$ 237,791	\$ 32,755	\$ 163,500	\$ 152,632	\$ 15,068,523
ERS	11,594,341	593,110	227,566	29,620	144,128	59,626	12,648,391
PFRS	2,197,238	97,156	10,225	3,135	19,372	93,006	2,420,132
2021	\$ 13,096,127	\$ 668,641	\$ 257,999	\$ 37,390	\$ 165,097	\$ 61,814	\$ 14,287,068
ERS	11,034,609	571,485	244,443	36,158	144,234	61,488	12,092,417
PFRS	2,061,518	97,156	13,556	1,232	20,863	326	2,194,651
2020	\$ 12,424,608	\$ 662,035	\$ 159,510	\$ 12,760	\$ 139,050	\$ 275,831	\$ 13,673,794
ERS	10,489,929	563,583	154,249	12,472	121,694	244,530	11,586,457
PFRS	1,934,679	98,452	5,261	288	17,356	31,301	2,087,337
2019	\$ 11,880,340	\$ 646,606	\$ 214,666	\$ 34,645	\$ 136,477	\$ 57,674	\$ 12,970,408
ERS	10,030,590	548,382	202,809	32,984	119,304	57,931	10,992,000
PFRS	1,849,750	98,224	11,857	1,661	17,173	(257)	1,978,408
2018	\$ 11,197,802	\$ 628,287	\$ 201,252	\$ 34,969	\$ 122,806	\$ 66,609	\$ 12,251,725
ERS	9,478,272	530,354	191,579	34,302	106,972	68,769	10,410,248
PFRS	1,719,530	97,933	9,673	667	15,834	(2,160)	1,841,477
2017	\$ 10,617,500	\$ 615,032	\$ 216,150	\$ (5,406)	\$ 107,134	\$ 65,037	\$ 11,615,447
ERS	9,015,444	516,852	207,976	820	93,943	64,441	9,899,476
PFRS	1,602,056	98,180	8,174	(6,226)	13,191	596	1,715,971
2016	\$ 10,113,758	\$ 606,536	\$ 188,190	\$ 34,488	\$ 106,620	\$ 117,500	\$ 11,167,092
ERS	8,536,930	508,112	179,861	33,097	93,012	117,197	9,468,209
PFRS	1,576,828	98,424	8,329	1,391	13,608	303	1,698,883
2015	\$ 9,651,227	\$ 601,850	\$ 183,091	\$ 27,628	\$ 107,151	\$ 49,918	\$ 10,620,865
ERS	8,152,183	502,916	174,652	26,067	93,357	51,321	9,000,496
PFRS	1,499,044	98,934	8,439	1,561	13,794	(1,403)	1,620,369
2014	\$ 9,098,453	\$ 596,556	\$ 203,820	\$ 29,972	\$ 105,662	\$ 48,725	\$ 10,083,188
ERS	7,702,970	497,142	185,169	28,439	92,266	51,341	8,557,327
PFRS	1,395,483	99,414	18,651	1,533	13,396	(2,616)	1,525,861
2013	\$ 8,669,843	\$ 586,209	\$ 194,170	\$ 29,265	\$ 105,720	\$ 42,049	\$ 9,627,256
ERS	7,339,678	487,100	177,113	28,294	92,134	43,221	8,167,540
PFRS	1,330,165	99,109	17,057	971	13,586	(1,172)	1,459,716

Schedule of Total Changes in Fiduciary Net Position

(Dollars in Thousands)

Year Ending	Member Contributions	Employer Contributions	Other Income	Investment Income/(Loss)	Total Additions
2022	\$ 577,594	\$ 5,627,746	\$ 126,708	\$ 22,374,115	\$ 28,706,163
ERS	494,802	4,528,207	109,874	18,984,398	24,117,281
PFRS	82,792	1,099,539	16,834	3,389,717	4,588,882
2021	\$ 492,341	\$ 5,029,790	\$ 116,652	\$ 70,649,606	\$ 76,288,389
ERS	427,032	4,062,302	103,941	59,964,043	64,557,318
PFRS	65,309	967,488	12,711	10,685,563	11,731,071
2020	\$ 453,698	\$ 4,782,706	\$ 146,762	\$ (8,798,771)	\$ (3,415,605)
ERS	395,338	3,920,360	138,859	(7,470,542)	(3,015,985)
PFRS	58,360	862,346	7,903	(1,328,229)	(399,620)
2019	\$ 386,519	\$ 4,744,309	\$ 170,154	\$ 10,761,776	\$ 16,062,758
ERS	345,846	3,890,215	160,431	9,140,487	13,536,979
PFRS	40,673	854,094	9,723	1,621,289	2,525,779
2018	\$ 349,389	\$ 4,823,307	\$ 215,614	\$ 21,338,033	\$ 26,726,343
ERS	318,439	3,949,873	181,725	18,128,993	22,579,030
PFRS	30,950	873,434	33,889	3,209,040	4,147,313
2017	\$ 328,827	\$ 4,786,963	\$ 236,401	\$ 20,225,244	\$ 25,577,435
ERS	306,218	3,949,710	200,379	17,194,267	21,650,574
PFRS	22,609	837,253	36,022	3,030,977	3,926,861
2016	\$ 306,631	\$ 5,140,204	\$ 332,880	\$ (384,834)	\$ 5,394,881
ERS	289,333	4,347,619	198,332	(327,069)	4,508,215
PFRS	17,298	792,585	134,548	(57,765)	886,666
2015	\$ 284,793	\$ 5,797,449	\$ 230,799	\$ 12,444,891	\$ 18,757,932
ERS	272,004	4,893,110	193,176	10,582,102	15,940,392
PFRS	12,789	904,339	37,623	1,862,789	2,817,540
2014	\$ 281,398	\$ 6,064,133	\$ 192,581	\$ 20,598,593	\$ 27,136,705
ERS	273,545	5,137,935	175,677	17,496,541	23,083,698
PFRS	7,853	926,198	16,904	3,102,052	4,053,007
2013	\$ 269,134	\$ 5,336,045	\$ 131,853	\$ 14,717,622	\$ 20,454,654
ERS	264,788	4,524,395	122,931	12,496,378	17,408,492
PFRS	4,346	811,650	8,922	2,221,244	3,046,162

Schedule of Total Changes in Fiduciary Net Position

continued

Retirement Allowances	Post-Retirement Supplement	Death Benefits	Separation from Service	Administrative Expenses	Other Expenses	Total Deductions	Net Increase / Decrease
\$ 13,791,579	\$ 690,266	\$ 237,791	\$ 32,755	\$ 163,500	\$ 152,632	\$ 15,068,523	\$ 13,637,640
11,594,341	593,110	227,566	29,620	144,128	59,626	12,648,391	11,468,890
2,197,238	97,156	10,225	3,135	19,372	93,006	2,420,132	2,168,750
\$ 13,096,127	\$ 668,641	\$ 257,999	\$ 37,390	\$ 165,097	\$ 61,814	\$ 14,287,068	\$ 62,001,321
11,034,609	571,485	244,443	36,158	144,234	61,488	12,092,417	52,464,901
2,061,518	97,156	13,556	1,232	20,863	326	2,194,651	9,536,420
\$ 12,424,608	\$ 662,035	\$ 159,510	\$ 12,760	\$ 139,050	\$ 275,831	\$ 13,673,794	\$ (17,089,399)
10,489,929	563,583	154,249	12,472	121,694	244,530	11,586,457	(14,602,442)
1,934,679	98,452	5,261	288	17,356	31,301	2,087,337	(2,486,957)
\$ 11,880,340	\$ 646,606	\$ 214,666	\$ 34,645	\$ 136,477	\$ 57,674	\$ 12,970,408	\$ 3,092,350
10,030,590	548,382	202,809	32,984	119,304	57,931	10,992,000	2,544,979
1,849,750	98,224	11,857	1,661	17,173	(257)	1,978,408	547,371
\$ 11,197,802	\$ 628,287	\$ 201,252	\$ 34,969	\$ 122,806	\$ 66,609	\$ 12,251,725	\$ 14,474,618
9,478,272	530,354	191,579	34,302	106,972	68,769	10,410,248	12,168,782
1,719,530	97,933	9,673	667	15,834	(2,160)	1,841,477	2,305,836
\$ 10,617,500	\$ 615,032	\$ 216,150	\$ (5,406)	\$ 107,134	\$ 65,037	\$ 11,615,447	\$ 13,961,988
9,015,444	516,852	207,976	820	93,943	64,441	9,899,476	11,751,098
1,602,056	98,180	8,174	(6,226)	13,191	596	1,715,971	2,210,890
\$ 10,113,758	\$ 606,536	\$ 188,190	\$ 34,488	\$ 106,620	\$ 117,500	\$ 11,167,092	\$ (5,772,211)
8,536,930	508,112	179,861	33,097	93,012	117,197	9,468,209	(4,959,994)
1,576,828	98,424	8,329	1,391	13,608	303	1,698,883	(812,217)
\$ 9,651,227	\$ 601,850	\$ 183,091	\$ 27,628	\$ 107,151	\$ 49,918	\$ 10,620,865	\$ 8,137,067
8,152,183	502,916	174,652	26,067	93,357	51,321	9,000,496	6,939,896
1,499,044	98,934	8,439	1,561	13,794	(1,403)	1,620,369	1,197,171
\$ 9,098,453	\$ 596,556	\$ 203,820	\$ 29,972	\$ 105,662	\$ 48,725	\$ 10,083,188	\$ 17,053,517
7,702,970	497,142	185,169	28,439	92,266	51,341	8,557,327	14,526,371
1,395,483	99,414	18,651	1,533	13,396	(2,616)	1,525,861	2,527,146
\$ 8,669,843	\$ 586,209	\$ 194,170	\$ 29,265	\$ 105,720	\$ 42,049	\$ 9,627,256	\$ 10,827,398
7,339,678	487,100	177,113	28,294	92,134	43,221	8,167,540	9,240,952
1,330,165	99,109	17,057	971	13,586	(1,172)	1,459,716	1,586,446

Service Retirees — ERS

This table shows the number (*Number*), average final average salary (*Avg FAS*), and average annual pension benefit prior to option selection, including any cost-of-living adjustment (*Avg Pen*), of surviving Employees' Retirement System service retirees on March 31, 2022. Groupings are based on years of service and age, with a breakdown by category of employer.

Years of Service	Nearest Age														
	Under 55			55 – 64			65 – 74			75 – 84			85 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
State															
Under 10	–	–	–	1,097	46,059	4,453	2,598	45,659	5,579	1,537	39,460	5,539	418	28,999	4,665
10 – 14	–	–	–	3,128	50,309	8,241	8,746	45,892	9,067	5,723	37,420	8,228	2,673	30,089	7,993
15 – 19	–	–	–	1,959	56,954	13,196	4,968	55,207	15,195	3,696	44,285	13,782	2,019	34,034	12,870
20 – 24	1	110,008	55,004	2,918	71,572	26,940	8,318	67,133	28,911	6,758	53,303	25,203	3,245	39,508	21,893
25 – 29	804	101,498	50,463	6,535	83,397	41,142	10,595	72,729	38,983	7,030	56,866	33,458	2,572	43,153	29,022
30 – 34	32	112,944	56,202	11,778	84,870	52,159	16,214	75,540	48,699	7,723	59,484	41,300	1,922	47,714	36,688
35 & Over	–	–	–	5,226	80,192	55,696	17,207	74,812	57,169	9,764	66,555	54,213	1,938	58,039	50,751
Total	837	101,946	50,687	32,641	76,346	40,115	68,646	67,525	37,819	42,231	54,645	32,212	14,787	40,890	24,607
Counties															
Under 10	–	–	–	886	42,451	4,185	2,302	38,673	4,584	1,414	34,957	4,738	337	26,639	4,186
10 – 14	1	116,187	73,408	1,828	45,209	7,355	5,368	40,434	7,926	3,674	33,971	7,491	1,800	25,943	6,873
15 – 19	1	70,627	35,313	1,127	51,480	11,772	3,035	46,637	12,725	2,504	40,754	12,610	1,387	30,221	11,419
20 – 24	346	94,975	49,517	2,058	63,445	25,880	5,477	56,528	24,556	3,961	47,063	22,533	1,695	35,418	19,509
25 – 29	475	94,550	48,865	2,395	82,815	41,392	4,569	63,646	34,175	2,976	51,651	30,339	1,178	38,410	25,810
30 – 34	18	117,359	73,275	4,904	78,339	49,271	6,140	65,788	42,694	2,658	54,108	37,842	629	42,474	32,485
35 & Over	–	–	–	1,559	76,584	54,088	5,611	69,843	53,798	2,750	64,503	52,627	543	50,510	44,162
Total	841	95,210	49,669	14,757	68,493	34,476	32,502	56,730	29,117	19,937	47,029	24,610	7,569	33,956	18,167
Cities															
Under 10	–	–	–	141	36,823	3,660	345	34,359	4,140	204	30,706	4,154	65	21,991	3,392
10 – 14	–	–	–	314	42,413	6,783	827	37,702	7,323	580	31,910	7,098	259	23,450	6,175
15 – 19	–	–	–	173	49,448	11,449	526	44,793	12,293	358	36,217	11,377	208	25,964	9,991
20 – 24	–	–	–	258	60,132	22,484	772	54,952	23,497	498	43,514	20,666	227	30,231	16,959
25 – 29	–	–	–	220	66,044	30,675	634	61,428	32,834	442	47,187	28,077	207	34,309	23,909
30 – 34	–	–	–	903	69,800	43,921	1,157	61,035	39,668	488	49,549	34,850	134	37,543	29,910
35 & Over	–	–	–	325	72,733	51,178	1,170	63,729	49,329	537	53,104	43,708	133	40,256	36,438
Total	–	–	–	2,334	61,601	31,478	5,431	53,976	28,819	3,107	42,794	23,243	1,233	30,213	17,479
Towns															
Under 10	–	–	–	273	39,585	3,976	852	32,516	3,969	728	28,430	3,863	188	22,311	3,321
10 – 14	–	–	–	517	47,778	8,039	1,532	41,500	8,321	1,149	32,285	7,161	516	24,050	6,178
15 – 19	–	–	–	355	52,128	12,103	1,108	46,797	12,966	819	38,122	11,685	428	28,897	10,548
20 – 24	–	–	–	595	62,014	23,207	1,627	57,561	24,823	1,238	46,431	21,845	505	34,382	18,673
25 – 29	–	–	–	377	66,111	31,292	1,245	63,144	34,009	867	51,539	30,091	342	40,209	26,129
30 – 34	–	–	–	1,734	79,473	50,018	1,613	68,844	44,500	774	52,789	36,501	232	43,283	32,365
35 & Over	–	–	–	784	88,182	62,013	2,076	76,145	58,914	818	62,211	50,637	176	46,296	39,598
Total	–	–	–	4,635	69,639	36,784	10,053	58,144	30,569	6,393	44,256	22,433	2,387	32,793	17,248

Service Retirees — ERS

continued

Years of Service	Nearest Age														
	Under 55			55 – 64			65 – 74			75 – 84			85 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
Villages															
Under 10	–	–	–	103	38,573	4,090	240	32,656	3,821	204	29,585	3,991	60	22,410	3,286
10 – 14	–	–	–	161	46,373	7,605	480	40,280	7,976	346	33,418	7,328	173	24,006	6,112
15 – 19	–	–	–	104	56,089	13,180	324	47,681	13,263	246	40,248	12,319	146	27,936	10,495
20 – 24	–	–	–	174	60,949	22,899	472	60,925	26,153	351	50,252	23,612	172	32,396	17,792
25 – 29	–	–	–	106	68,362	32,479	336	66,864	35,557	269	51,716	30,206	120	36,636	23,902
30 – 34	–	–	–	464	80,221	50,433	521	65,750	42,240	258	51,854	36,026	71	38,658	30,139
35 & Over	–	–	–	210	87,516	61,590	548	72,399	55,725	258	61,025	49,941	68	45,481	40,651
Total	–	–	–	1,322	68,627	35,385	2,921	57,437	29,400	1,932	45,638	23,278	810	31,336	16,814
Miscellaneous															
Under 10	–	–	–	842	51,417	5,180	1,954	49,045	5,738	1,071	42,386	5,690	209	29,840	4,632
10 – 14	–	–	–	1,644	58,552	9,663	3,940	52,863	10,400	2,386	42,524	9,319	941	30,530	7,908
15 – 19	–	–	–	1,135	60,909	13,888	2,652	59,817	16,304	1,701	48,710	14,926	603	34,315	12,450
20 – 24	–	–	–	1,490	71,543	26,717	4,388	67,380	28,611	2,568	56,233	26,104	752	39,449	21,144
25 – 29	–	–	–	861	80,477	38,014	3,200	74,554	39,785	1,947	62,123	35,597	552	46,230	30,360
30 – 34	–	–	–	3,610	93,457	58,773	4,268	83,286	53,483	1,547	68,047	46,036	442	51,968	38,925
35 & Over	–	–	–	1,258	95,660	67,349	3,367	83,597	63,873	1,745	76,605	61,778	425	61,958	53,019
Total	–	–	–	10,840	77,703	37,403	23,769	68,742	33,304	12,965	56,615	28,467	3,924	40,811	22,506
School Districts															
Under 10	–	–	–	1,271	25,288	2,559	3,486	23,518	2,853	2,378	20,142	2,750	697	14,230	2,302
10 – 14	–	–	–	2,421	32,506	5,559	6,117	30,735	6,169	4,546	25,790	5,673	2,568	18,495	4,898
15 – 19	–	–	–	1,788	36,623	8,759	4,892	35,254	9,843	3,607	29,698	9,142	1,905	21,500	8,209
20 – 24	–	–	–	2,530	46,057	17,781	8,599	43,835	19,145	5,428	36,329	17,379	2,335	24,251	13,584
25 – 29	–	–	–	1,144	54,544	26,354	5,010	47,973	26,033	3,604	39,043	23,142	1,599	26,565	18,146
30 – 34	–	–	–	2,359	66,647	41,737	3,791	54,056	34,868	2,114	42,694	29,531	713	31,573	24,094
35 & Over	–	–	–	847	72,712	51,352	2,100	61,430	47,210	1,206	48,203	38,941	365	38,356	33,684
Total	–	–	–	12,360	46,444	20,183	33,995	40,996	18,303	22,883	33,149	15,402	10,182	22,980	11,788

Service Retirees — PFRS

This table shows the number (*Number*), average final average salary (*Avg FAS*), and average annual pension benefit prior to option selection, including any cost-of-living adjustment (*Avg Pen*), of surviving Police and Fire Retirement System service retirees on March 31, 2022. Groupings are based on years of service and age, with a breakdown by category of employer.

Years of Service	Nearest Age														
	Under 40			40 – 49			50 – 59			60 – 69			70 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
State															
Under 10	-	-	-	-	-	-	14	46,085	5,978	12	47,968	12,543	8	19,124	2,680
10 – 14	-	-	-	-	-	-	13	59,865	12,030	32	48,617	10,400	30	23,322	5,594
15 – 19	-	-	-	-	-	-	9	83,676	24,614	20	75,276	25,351	20	37,768	15,674
20 – 24	-	-	-	212	145,946	75,611	563	128,839	69,236	380	90,225	49,840	788	40,088	28,772
25 – 29	-	-	-	12	126,487	71,086	518	145,255	89,575	375	119,294	74,709	411	63,696	44,004
30 – 34	-	-	-	-	-	-	322	158,156	108,566	555	140,191	96,575	456	80,828	58,926
35 & Over	-	-	-	-	-	-	6	178,439	124,908	132	147,349	101,753	227	91,519	70,355
Total	-	-	-	224	144,904	75,368	1,445	139,759	84,117	1,506	119,465	76,345	1,940	60,314	43,351
Counties															
Under 10	-	-	-	-	-	-	4	68,879	8,064	7	59,868	7,603	2	21,473	2,823
10 – 14	-	-	-	-	-	-	5	79,092	16,589	14	75,411	14,981	26	30,981	7,631
15 – 19	-	-	-	-	-	-	6	122,927	35,026	4	82,388	27,415	15	47,338	17,364
20 – 24	-	-	-	52	183,986	95,960	400	167,393	89,483	276	135,167	72,948	1,088	64,672	40,921
25 – 29	-	-	-	7	219,733	128,602	419	195,680	121,070	391	171,048	107,254	453	104,483	69,481
30 – 34	-	-	-	-	-	-	327	214,130	146,685	535	194,758	135,220	860	128,925	93,795
35 & Over	-	-	-	-	-	-	35	238,920	161,611	161	216,384	152,442	631	156,203	120,071
Total	-	-	-	59	188,227	99,833	1,196	191,253	117,449	1,388	176,530	114,790	3,075	106,892	75,737
Cities															
Under 10	-	-	-	-	-	-	19	42,855	5,090	26	39,666	5,644	13	40,252	7,999
10 – 14	-	-	-	-	-	-	24	62,059	12,865	63	40,124	8,473	83	24,360	6,491
15 – 19	-	-	-	-	-	-	12	73,313	22,715	44	54,118	16,184	41	36,883	15,483
20 – 24	-	-	-	374	121,567	61,429	1,798	103,156	53,221	1,443	81,403	43,568	1,808	44,908	29,125
25 – 29	-	-	-	14	129,950	73,337	644	121,032	70,957	847	104,887	63,636	884	64,433	42,102
30 – 34	-	-	-	-	-	-	305	135,033	87,975	794	119,620	79,854	1,094	75,686	54,617
35 & Over	-	-	-	-	-	-	11	146,634	97,443	255	122,612	81,296	730	89,697	69,001
Total	-	-	-	388	121,870	61,858	2,813	109,989	60,423	3,472	97,491	58,265	4,653	62,430	43,257
Towns															
Under 10	-	-	-	-	-	-	24	39,991	4,227	27	35,780	4,443	43	26,890	4,611
10 – 14	-	-	-	-	-	-	8	59,217	12,120	39	45,951	9,815	54	28,082	7,191
15 – 19	-	-	-	1	98,631	49,316	6	80,709	21,526	27	57,936	17,840	22	37,261	14,896
20 – 24	-	-	-	154	134,454	67,926	578	110,372	56,460	474	86,946	45,913	415	53,310	33,179
25 – 29	-	-	-	7	146,461	80,559	171	133,385	77,039	194	109,390	63,482	158	74,564	45,847
30 – 34	-	-	-	-	-	-	106	161,244	105,227	205	139,253	91,432	237	91,205	64,593
35 & Over	-	-	-	-	-	-	8	171,453	119,551	110	159,107	105,700	164	113,731	85,911
Total	-	-	-	162	134,752	68,357	901	118,740	64,646	1,076	104,838	60,812	1,093	71,056	46,958

Service Retirees — PFRS

continued

Years of Service	Nearest Age														
	Under 40			40 – 49			50 – 59			60 – 69			70 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
Villages															
Under 10	-	-	-	-	-	-	25	39,088	4,215	58	29,436	3,747	42	17,505	2,341
10 – 14	-	-	-	-	-	-	7	50,770	10,357	45	42,004	9,125	74	22,637	5,809
15 – 19	-	-	-	-	-	-	9	79,368	18,159	24	49,422	15,877	43	29,334	12,163
20 – 24	-	-	-	107	124,971	62,617	525	105,355	53,296	407	81,329	42,420	481	50,553	31,603
25 – 29	-	-	-	3	197,943	104,873	157	140,363	77,654	160	114,277	63,749	149	68,949	41,681
30 – 34	-	-	-	-	-	-	84	181,547	114,495	150	147,423	94,570	180	94,162	65,761
35 & Over	-	-	-	-	-	-	7	205,663	131,534	91	163,408	106,676	147	116,618	87,587
Total	-	-	-	110	126,961	63,770	814	118,040	62,717	935	99,628	56,007	1,116	64,833	42,272
Miscellaneous															
Under 10	-	-	-	-	-	-	4	51,387	5,977	10	68,147	9,909	3	72,595	7,960
10 – 14	-	-	-	-	-	-	2	101,183	22,891	9	80,158	18,603	16	27,392	6,566
15 – 19	-	-	-	-	-	-	3	147,751	43,264	4	98,310	27,830	8	48,787	17,591
20 – 24	-	-	-	105	176,263	93,228	191	167,914	89,256	216	131,398	70,459	373	83,414	50,044
25 – 29	-	-	-	11	196,053	114,428	134	194,034	118,564	203	159,221	99,130	166	125,319	80,232
30 – 34	-	-	-	-	-	-	37	177,598	119,139	156	173,793	119,806	163	144,052	102,360
35 & Over	-	-	-	-	-	-	3	221,532	146,482	41	187,452	130,898	83	131,772	100,939
Total	-	-	-	116	178,140	95,238	374	176,896	101,558	639	152,265	93,548	812	107,611	70,588

Disability Retirees — ERS

This table shows the number (*Number*), average final average salary (*Avg FAS*), and average annual pension benefit prior to option selection, including any cost-of-living adjustment (*Avg Pen*), of surviving Employees' Retirement System disability retirees on March 31, 2022. Groupings are based on years of service and age, with a breakdown by category of employer.

Years of Service	Nearest Age														
	Under 55			55 – 64			65 – 74			75 – 84			85 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
State															
Under 10	113	48,827	29,890	256	33,032	15,592	336	26,011	12,788	166	21,814	12,273	45	20,640	9,190
10 – 14	366	58,377	26,294	871	45,634	17,381	1,041	38,329	14,739	536	28,750	13,079	171	22,697	12,086
15 – 19	236	65,313	30,504	796	53,013	21,710	944	42,527	18,803	505	33,098	17,603	144	23,855	15,911
20 – 24	114	76,343	39,996	678	58,627	27,139	748	46,481	22,992	389	36,599	22,920	54	26,352	22,080
25 – 29	54	77,352	45,228	588	68,812	41,013	428	53,300	31,391	196	38,278	25,697	30	28,638	25,565
30 – 34	8	67,868	36,431	131	75,170	47,755	174	49,053	32,787	67	39,303	28,664	12	25,647	24,582
35 & Over	1	72,972	23,723	24	50,583	26,747	47	50,138	31,070	8	34,509	26,207	–	–	–
Total	892	62,549	30,849	3,344	54,328	25,666	3,718	42,296	20,223	1,867	32,348	18,222	456	23,761	15,407
Counties															
Under 10	51	71,281	47,187	59	39,943	21,880	57	29,248	14,801	45	23,066	12,978	16	20,017	9,686
10 – 14	181	64,017	32,353	348	50,109	21,951	368	39,287	14,886	227	29,064	12,466	68	19,735	10,144
15 – 19	133	76,619	37,818	363	58,475	27,820	327	45,905	21,525	170	32,287	15,417	40	24,799	16,049
20 – 24	73	80,499	41,825	297	70,511	36,869	267	51,376	27,378	97	39,165	24,896	22	29,506	25,156
25 – 29	12	95,103	61,017	179	75,219	45,103	141	54,528	32,168	40	41,528	29,649	12	28,833	25,830
30 – 34	4	86,396	53,178	35	83,002	53,797	58	61,402	40,796	9	53,762	40,597	1	35,050	31,580
35 & Over	–	–	–	6	78,053	52,041	11	55,593	36,598	1	112,277	86,224	–	–	–
Total	454	72,194	38,085	1,287	61,228	31,272	1,229	46,147	22,762	589	32,565	17,126	159	23,172	14,979
Cities															
Under 10	3	48,261	16,516	11	35,839	13,705	16	23,748	11,331	10	23,378	12,353	7	25,912	10,679
10 – 14	16	52,881	18,257	58	43,897	14,910	84	37,691	12,643	34	31,136	11,803	8	22,139	10,650
15 – 19	13	55,290	18,514	67	46,573	16,163	78	39,919	15,386	40	30,634	13,922	7	20,702	10,258
20 – 24	10	69,134	25,054	43	51,197	19,953	47	40,831	19,066	24	31,579	19,211	6	26,494	24,274
25 – 29	3	52,422	23,366	35	51,608	23,632	41	39,231	21,398	15	36,174	26,077	3	21,475	17,652
30 – 34	1	69,093	37,713	10	67,262	35,718	13	41,321	25,426	3	28,989	20,097	1	12,787	14,903
35 & Over	–	–	–	1	59,183	36,034	1	40,615	28,017	–	–	–	–	–	–
Total	46	57,116	20,450	225	48,001	18,563	280	38,447	16,341	126	30,994	15,827	32	23,112	13,914
Towns															
Under 10	10	37,765	16,348	12	38,481	15,214	18	34,511	16,463	9	26,974	14,366	5	15,598	6,915
10 – 14	32	57,618	19,934	100	46,453	15,475	93	37,890	13,635	37	29,265	14,478	18	23,214	9,968
15 – 19	20	56,452	19,355	124	52,190	18,464	100	44,031	17,119	39	33,091	14,906	10	23,962	13,203
20 – 24	24	68,091	25,662	83	62,925	24,312	88	45,647	22,378	40	39,730	27,709	8	36,777	32,439
25 – 29	6	62,044	28,739	51	70,504	33,040	46	48,305	25,150	20	40,571	31,371	–	–	–
30 – 34	1	78,298	42,346	13	77,306	41,589	28	49,634	31,807	7	42,492	33,822	2	28,738	28,560
35 & Over	–	–	–	1	57,778	34,560	8	54,072	32,256	1	60,147	48,980	–	–	–
Total	93	58,443	21,711	384	55,885	21,609	381	43,594	19,819	153	35,126	21,359	43	25,283	15,411

Disability Retirees — ERS

continued

Years of Service	Nearest Age														
	Under 55			55 – 64			65 – 74			75 – 84			85 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
Villages															
Under 10	2	49,803	17,175	5	32,822	13,849	5	25,417	12,012	6	21,993	9,926	1	10,201	11,949
10 – 14	14	58,409	20,097	32	47,092	15,894	27	41,461	16,003	15	26,933	11,778	1	17,569	21,608
15 – 19	7	54,582	18,550	28	57,245	19,741	28	43,159	17,904	14	34,153	17,038	5	16,257	14,689
20 – 24	7	57,841	22,142	27	61,717	24,203	19	44,951	20,089	6	39,953	25,697	1	14,571	11,412
25 – 29	1	94,947	41,619	21	70,217	32,027	13	49,187	26,321	8	38,453	25,945	1	14,979	24,586
30 – 34	1	68,368	37,477	4	82,231	42,915	8	67,658	39,626	5	35,275	24,726	–	–	–
35 & Over	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	32	58,363	21,239	117	57,639	22,464	100	44,897	20,343	54	32,182	17,780	9	15,401	15,889
Miscellaneous															
Under 10	12	44,271	15,233	35	39,854	14,887	46	37,453	15,904	20	27,376	12,461	6	18,840	11,815
10 – 14	50	50,746	17,411	190	48,687	16,116	241	44,600	14,790	96	36,553	12,856	23	24,840	12,509
15 – 19	32	62,951	21,014	170	56,052	19,581	211	45,373	16,448	75	37,299	16,365	12	25,421	13,870
20 – 24	15	69,167	25,577	156	58,148	22,598	116	53,304	22,398	30	44,841	22,641	7	22,832	17,920
25 – 29	3	68,692	30,268	104	62,961	28,874	70	53,621	29,291	16	39,387	28,222	2	38,973	31,055
30 – 34	–	–	–	33	66,831	36,142	27	52,623	31,742	5	47,351	33,496	2	49,944	45,858
35 & Over	–	–	–	3	44,410	18,253	7	56,717	32,671	–	–	–	–	–	–
Total	112	56,487	19,645	691	55,184	21,255	718	47,075	18,803	242	37,464	16,566	52	25,520	15,467
School Districts															
Under 10	2	38,180	13,127	23	26,326	9,993	55	20,705	8,555	29	17,051	7,850	22	11,993	6,116
10 – 14	59	37,664	12,946	325	35,686	11,724	387	30,026	9,506	237	25,123	8,939	48	19,200	7,439
15 – 19	32	51,041	17,175	246	40,364	13,729	307	34,927	12,397	162	28,744	11,322	27	19,793	10,794
20 – 24	16	48,322	18,119	164	46,364	17,943	140	36,646	15,994	53	30,283	15,400	11	21,228	13,558
25 – 29	5	55,909	24,803	76	52,122	24,169	63	43,389	21,841	30	32,084	21,109	5	30,669	25,585
30 – 34	1	75,251	43,156	29	53,470	29,087	16	44,088	26,301	5	51,067	35,033	–	–	–
35 & Over	–	–	–	2	62,809	37,512	3	62,925	40,424	–	–	–	–	–	–
Total	115	43,998	15,624	865	40,895	15,163	971	33,202	12,474	516	26,992	11,250	113	18,644	9,381

Disability Retirees — PFRS

This table shows the number (*Number*), average final average salary (*Avg FAS*), and average annual pension benefit prior to option selection, including any cost-of-living adjustment (*Avg Pen*), of surviving Police and Fire Retirement System disability retirees on March 31, 2022. Groupings are based on years of service and age, with a breakdown by category of employer.

Years of Service	Nearest Age														
	Under 40			40 – 49			50 – 59			60 – 69			70 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
State															
Under 10	3	98,174	40,639	17	81,461	53,258	39	52,174	33,263	39	34,172	23,544	31	20,021	19,783
10 – 14	2	110,435	82,826	13	113,431	68,374	36	82,230	49,752	26	46,390	29,672	65	23,983	23,316
15 – 19	–	–	–	10	128,182	73,469	46	99,610	62,821	40	65,090	40,489	86	30,447	26,837
20 – 24	–	–	–	8	142,153	83,159	54	125,056	83,275	37	90,640	61,967	75	45,068	34,784
25 – 29	–	–	–	–	–	–	29	140,396	97,327	28	111,780	76,059	35	67,918	48,113
30 – 34	–	–	–	–	–	–	2	135,627	90,079	15	133,809	97,631	24	79,760	61,634
35 & Over	–	–	–	–	–	–	–	–	–	2	144,351	103,545	11	96,071	74,841
Total	5	103,078	57,514	48	109,968	66,546	206	100,354	65,425	187	74,448	50,285	327	41,365	33,737
Counties															
Under 10	2	98,894	61,239	6	89,139	54,000	38	81,583	52,182	17	53,462	38,507	36	27,644	33,755
10 – 14	2	136,402	85,284	27	137,706	88,711	90	109,401	77,886	35	78,014	52,624	126	36,495	35,309
15 – 19	–	–	–	28	163,227	111,367	104	128,698	90,952	49	101,189	71,085	226	51,638	45,442
20 – 24	–	–	–	19	184,541	121,726	121	151,710	103,215	85	127,315	88,003	252	66,842	55,140
25 – 29	–	–	–	–	–	–	67	181,081	130,928	53	151,154	107,787	70	89,718	69,371
30 – 34	–	–	–	–	–	–	13	199,014	150,461	25	195,632	143,485	41	117,018	90,153
35 & Over	–	–	–	–	–	–	1	184,156	138,117	3	165,386	110,490	18	136,630	105,775
Total	4	117,648	73,262	80	154,119	101,878	434	137,308	96,330	267	122,912	86,484	769	61,957	52,387
Cities															
Under 10	10	79,857	46,623	29	77,363	47,816	66	60,280	40,039	59	40,835	29,493	36	24,296	23,060
10 – 14	7	86,880	49,641	53	84,703	49,207	144	68,805	44,096	96	50,441	33,012	102	26,598	24,605
15 – 19	1	94,119	47,060	51	103,755	61,675	159	83,868	52,655	131	62,761	41,308	167	35,512	30,103
20 – 24	–	–	–	7	114,767	72,223	172	101,664	62,059	162	78,472	51,160	248	44,631	35,738
25 – 29	–	–	–	2	147,960	73,980	58	109,671	71,596	111	90,411	57,744	134	55,233	42,105
30 – 34	–	–	–	–	–	–	9	153,340	95,264	41	104,875	69,267	86	64,483	46,972
35 & Over	–	–	–	–	–	–	–	–	–	6	148,063	108,016	23	68,622	49,267
Total	18	83,380	47,821	142	92,420	54,885	608	86,264	54,356	606	71,633	47,040	796	44,111	35,232
Towns															
Under 10	2	90,846	56,765	13	86,601	57,778	29	57,521	37,645	20	44,239	30,265	8	19,383	21,472
10 – 14	4	103,917	52,066	26	104,289	65,929	39	85,903	54,931	44	61,712	36,899	46	29,857	25,916
15 – 19	1	138,901	69,450	15	118,906	75,840	58	100,209	66,239	29	69,903	44,340	56	40,698	34,831
20 – 24	–	–	–	6	119,061	83,821	60	121,760	80,919	65	87,730	59,677	58	52,895	41,329
25 – 29	–	–	–	–	–	–	21	137,592	87,070	32	110,625	73,860	27	67,016	51,572
30 – 34	–	–	–	–	–	–	6	158,126	104,535	14	149,626	103,536	16	92,208	67,122
35 & Over	–	–	–	–	–	–	–	–	–	1	120,255	60,128	4	128,010	99,142
Total	7	105,180	55,892	60	105,588	68,430	213	103,165	67,543	205	83,340	54,961	215	49,639	39,881

Disability Retirees — PFRS

continued

Years of Service	Nearest Age														
	Under 40			40 – 49			50 – 59			60 – 69			70 & Over		
	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen	Number	Avg FAS	Avg Pen
Villages															
Under 10	4	104,880	70,436	9	66,389	46,629	23	62,982	41,938	26	38,660	26,571	24	20,021	22,645
10 – 14	–	–	–	16	105,493	57,381	50	82,553	55,485	31	57,781	35,641	41	32,794	28,372
15 – 19	–	–	–	12	112,376	70,836	65	99,860	63,566	43	68,419	44,820	62	43,292	36,923
20 – 24	–	–	–	5	145,501	79,258	48	115,333	71,469	42	85,232	54,911	46	57,741	44,778
25 – 29	–	–	–	–	–	–	14	156,961	97,864	17	126,958	83,398	19	81,651	58,073
30 – 34	–	–	–	–	–	–	2	168,326	87,123	13	137,632	94,150	11	79,773	57,888
35 & Over	–	–	–	–	–	–	–	–	–	3	134,644	67,550	4	77,239	48,800
Total	4	104,880	70,436	42	103,843	61,526	202	99,689	63,591	175	78,112	50,706	207	47,841	38,604
Miscellaneous															
Under 10	2	94,099	56,698	12	93,247	67,216	13	79,349	50,845	18	52,817	35,815	8	55,446	45,495
10 – 14	–	–	–	20	113,326	69,297	45	113,965	79,565	22	77,481	53,128	23	53,648	37,574
15 – 19	–	–	–	10	127,317	83,453	17	127,020	84,362	25	102,156	69,061	40	67,222	52,793
20 – 24	–	–	–	6	173,038	106,078	37	156,586	105,932	68	127,595	88,765	47	86,174	64,337
25 – 29	–	–	–	–	–	–	9	188,560	140,881	36	146,269	106,771	19	108,975	80,162
30 – 34	–	–	–	–	–	–	–	–	–	7	174,555	126,214	7	136,206	106,048
35 & Over	–	–	–	–	–	–	–	–	–	–	–	–	3	155,157	119,362
Total	2	94,099	56,698	48	118,685	76,324	121	130,661	89,777	176	115,757	81,269	147	80,993	61,138

New Option Selections

This table shows the number of new retirees (*Number*), and the total amount paid to new retirees in annual benefits after option selection and any partial lump sum distribution* (*\$ Amount*), during the given fiscal year. Groupings are based on option selected, with breakdowns by retirement system and member gender.

Options	2018		2019		2020		2021		2022	
	Number	\$ Amount								
ERS Females										
Single Life Allowance**	8,852	209,575,192	7,072	175,527,699	7,494	193,955,163	8,077	213,349,680	7,981	214,111,702
Cash Refund	16	580,262	3	116,424	8	255,096	3	238,208	3	70,683
Joint Allowance — Full	1,050	16,771,815	867	14,305,912	606	11,590,002	843	17,598,093	736	15,594,487
Joint Allowance — Half	147	4,065,239	164	4,603,746	135	3,982,328	199	5,438,576	166	4,678,604
Five Year Certain	142	3,612,207	122	3,271,204	92	2,756,281	109	2,911,558	122	3,558,873
Ten Year Certain	439	9,949,556	390	8,617,407	298	7,529,028	294	8,230,932	266	7,382,200
Pop-Up — Full	2,413	58,537,182	1,922	49,174,363	2,103	54,882,652	1,932	50,079,503	1,731	46,255,257
Pop-Up — Half	1,046	34,464,128	862	30,449,620	848	29,941,152	829	28,910,032	776	27,868,782
Other (Option 4)	776	28,321,409	676	24,896,907	764	29,259,512	1,402	51,651,839	1,370	50,398,824
Total	14,881	365,876,993	12,078	310,963,285	12,348	334,151,218	13,688	378,408,424	13,151	369,919,416
ERS Males										
Single Life Allowance**	4,416	135,424,027	3,489	112,196,278	3,501	118,808,585	3,578	123,212,184	3,509	125,451,810
Cash Refund	8	95,032	2	89,243	2	45,768	1	132,310	2	112,345
Joint Allowance — Full	2,300	71,932,738	1,740	55,387,988	1,409	50,905,250	1,641	62,449,602	1,710	64,500,597
Joint Allowance — Half	303	12,609,739	239	9,581,695	213	9,828,230	249	11,298,867	236	9,999,062
Five Year Certain	89	2,895,753	55	1,895,058	35	1,258,873	55	2,096,271	54	2,280,306
Ten Year Certain	321	10,313,589	229	6,929,664	148	4,733,889	161	6,148,667	141	5,102,470
Pop-Up — Full	3,237	113,230,443	2,559	93,913,676	2,740	102,742,477	2,341	91,433,789	2,184	84,808,600
Pop-Up — Half	894	41,086,014	728	33,166,966	715	32,589,400	685	32,704,597	630	30,973,065
Other (Option 4)	1,040	47,525,434	956	46,899,818	972	48,802,333	1,288	60,908,507	1,307	62,897,730
Total	12,608	435,112,773	9,997	360,060,391	9,735	369,714,808	9,999	390,384,798	9,773	386,125,989
PFRS Females										
Single Life Allowance**	75	5,769,780	66	4,677,275	83	6,433,337	60	4,520,475	80	6,570,255
Cash Refund	–	–	–	–	–	–	–	–	–	–
Joint Allowance — Full	5	329,517	6	296,999	4	301,195	3	179,244	7	344,923
Joint Allowance — Half	1	88,083	1	77,433	–	–	5	511,519	1	78,880
Five Year Certain	1	89,883	1	77,829	1	116,993	–	–	1	144,129
Ten Year Certain	6	395,390	6	464,880	6	496,751	11	1,107,545	4	264,964
Pop-Up — Full	12	629,577	18	1,049,748	19	1,396,329	15	1,056,648	8	455,687
Pop-Up — Half	8	416,178	8	531,088	8	632,727	11	936,944	12	1,055,359
Other (Option 4)	1	115,472	9	762,431	9	695,924	14	1,251,756	17	1,605,613
Total	109	7,833,885	115	7,937,687	130	10,073,259	119	9,564,134	130	10,519,814
PFRS Males										
Single Life Allowance**	433	31,209,987	421	29,947,306	391	31,485,743	449	36,727,925	405	32,375,925
Cash Refund	–	–	–	–	1	71,591	–	–	–	–
Joint Allowance — Full	272	20,499,283	244	18,881,698	173	13,985,544	247	20,403,913	219	18,293,700
Joint Allowance — Half	46	3,635,453	52	4,741,723	40	3,776,545	63	6,339,285	54	5,250,626
Five Year Certain	9	514,073	6	469,869	3	137,439	3	303,062	4	498,069
Ten Year Certain	33	2,622,059	47	3,861,153	19	1,560,943	45	3,986,930	39	3,453,267
Pop-Up — Full	468	33,096,113	430	30,376,811	428	30,749,752	456	34,128,873	405	31,609,097
Pop-Up — Half	146	11,290,976	174	14,765,782	142	12,705,827	141	13,414,969	123	10,467,772
Other (Option 4)	229	19,787,409	247	22,890,719	223	21,908,590	298	28,192,059	242	23,734,870
Total	1,636	122,655,356	1,621	125,935,066	1,420	116,381,978	1,702	143,497,020	1,491	125,683,330

* In 2022, eight ERS retirees selected partial lump sums which totaled \$1,015,198 and 150 PFRS retirees selected partial lump sums which totaled \$30,504,210. There were an additional four new retirees whose genders are unknown and whose annual benefits totaled \$174,026.

** Includes Single Life Allowance and Option ½.

Option Selections — Total Payments

This table shows the number of surviving retirees (*Number*), and the total amount paid to surviving retirees in annual benefits after option selection and any partial lump sum distribution* (*\$ Amount*), on March 31 of the given year. Groupings are based on option selected, with breakdowns by retirement system and member gender.

Options	2018		2019		2020		2021		2022	
	Number	\$ Amount								
ERS Females										
Single Life Allowance**	150,277	2,739,135,518	152,563	2,862,124,619	153,725	2,979,273,483	155,918	3,112,384,906	158,676	3,257,286,808
Cash Refund	5,714	80,322,054	5,299	76,843,755	4,775	72,194,493	4,377	67,916,247	4,070	64,713,908
Joint Allowance — Full	10,913	141,398,327	11,421	152,048,415	11,615	159,884,469	12,092	173,056,112	12,456	184,859,914
Joint Allowance — Half	2,807	57,380,922	2,872	60,904,589	2,870	63,111,606	2,938	66,541,788	2,990	69,506,007
Five Year Certain	3,862	67,906,786	3,779	69,125,708	3,662	69,572,558	3,567	70,224,731	3,508	71,285,328
Ten Year Certain	6,940	107,287,519	7,041	112,567,552	7,011	116,331,193	7,012	120,916,879	6,998	124,791,744
Pop-Up — Full	20,800	399,772,716	22,346	444,996,611	24,020	494,118,843	25,427	537,220,378	26,748	578,447,263
Pop-Up — Half	15,051	375,601,607	15,549	401,594,114	15,958	424,654,736	16,377	447,014,336	16,711	468,078,804
Other (Option 4)	7,533	229,338,653	8,110	252,826,035	8,745	279,543,719	9,961	326,165,307	11,190	373,319,356
Total	223,897	4,198,144,103	228,980	4,433,031,398	232,381	4,658,685,104	237,669	4,921,440,687	243,347	5,192,289,135
ERS Males										
Single Life Allowance**	66,276	1,803,709,752	67,333	1,873,321,039	67,614	1,928,355,918	68,033	1,984,790,144	68,803	2,053,366,991
Cash Refund	3,441	78,804,268	3,178	74,872,721	2,886	69,453,638	2,610	64,292,207	2,393	59,950,181
Joint Allowance — Full	31,961	839,107,754	32,422	871,363,515	32,469	897,130,873	32,642	929,668,182	33,067	968,087,550
Joint Allowance — Half	8,135	277,712,944	7,976	278,040,483	7,730	276,376,551	7,510	274,849,146	7,324	273,742,359
Five Year Certain	1,830	47,617,006	1,785	47,612,911	1,689	46,783,149	1,614	46,456,806	1,590	47,273,038
Ten Year Certain	4,683	115,864,288	4,675	118,606,728	4,572	118,557,208	4,490	120,039,266	4,444	121,486,232
Pop-Up — Full	30,932	900,951,147	32,789	982,552,440	34,682	1,068,486,475	36,002	1,137,566,580	37,259	1,202,027,136
Pop-Up — Half	14,760	536,626,853	15,050	558,862,486	15,290	579,559,321	15,395	596,573,836	15,523	614,772,156
Other (Option 4)	11,411	469,149,907	12,191	511,565,281	12,908	552,402,528	13,851	602,998,488	14,897	659,060,331
Total	173,429	5,069,543,917	177,399	5,316,797,601	179,840	5,537,105,666	182,147	5,757,234,659	185,300	5,999,765,979
PFRS Females										
Single Life Allowance**	1,071	62,012,419	1,135	66,721,803	1,214	73,186,217	1,263	77,230,840	1,338	83,844,236
Cash Refund	5	295,261	4	253,161	4	253,162	4	253,162	4	253,162
Joint Allowance — Full	55	2,661,736	57	2,785,671	59	3,019,737	62	3,199,695	69	3,547,216
Joint Allowance — Half	31	1,904,049	32	1,981,483	32	1,981,483	37	2,494,102	38	2,572,983
Five Year Certain	17	1,034,142	18	1,114,808	19	1,231,800	19	1,231,800	20	1,383,765
Ten Year Certain	101	5,744,608	105	6,090,277	109	6,540,722	119	7,592,549	123	7,856,004
Pop-Up — Full	176	9,100,567	194	10,236,019	212	11,625,143	227	12,710,126	234	13,196,019
Pop-Up — Half	105	5,615,901	112	6,088,553	119	6,627,755	129	7,505,354	141	8,578,276
Other (Option 4)	47	3,642,814	56	4,412,811	65	5,108,735	77	6,266,123	94	7,891,802
Total	1,608	92,011,497	1,713	99,684,586	1,833	109,574,757	1,937	118,483,754	2,061	129,123,466
PFRS Males										
Single Life Allowance**	15,090	641,656,655	15,058	662,634,652	14,859	679,609,710	14,675	699,432,337	14,558	718,613,939
Cash Refund	1,271	43,185,558	1,198	41,381,216	1,127	39,497,836	1,049	37,116,794	977	34,875,600
Joint Allowance — Full	3,459	179,355,572	3,641	196,644,810	3,729	207,687,851	3,882	224,780,152	4,031	240,142,581
Joint Allowance — Half	1,461	86,401,483	1,477	90,168,956	1,466	91,967,811	1,473	95,942,110	1,483	99,675,040
Five Year Certain	345	13,967,834	330	13,837,335	317	13,555,294	307	13,470,260	294	13,536,232
Ten Year Certain	1,371	57,290,017	1,375	59,847,097	1,330	59,371,442	1,319	61,808,085	1,320	64,268,170
Pop-Up — Full	4,159	214,127,077	4,544	244,142,774	4,915	273,727,808	5,270	303,350,605	5,638	334,972,393
Pop-Up — Half	2,920	183,945,752	3,055	197,956,731	3,137	207,905,337	3,201	218,102,071	3,261	226,372,728
Other (Option 4)	2,085	165,413,074	2,318	188,071,753	2,513	208,535,266	2,768	233,826,623	3,003	258,752,409
Total	32,161	1,585,343,023	32,996	1,694,685,323	33,393	1,781,858,359	33,944	1,887,829,041	34,565	1,991,209,097

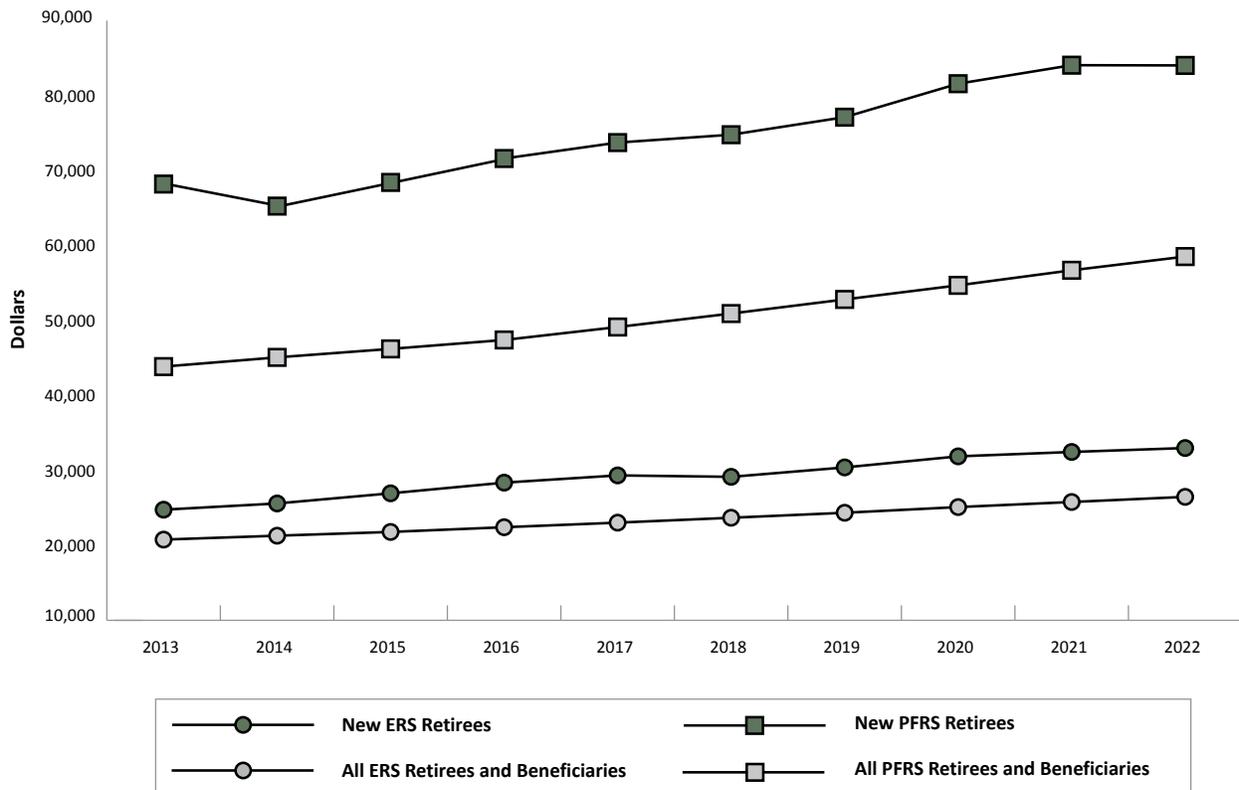
* In the eight years since this program began, 57 ERS retirees have selected partial lump sums which totaled approximately \$7,685,932. In the 14 years since the program began, 1,989 PFRS retirees have selected partial lump sums which totaled \$289,650,266. As of the fiscal year ending March 31, 2022, there are an additional 44 retirees whose gender is unknown and whose annual benefits total \$976,637.

** Includes Single Life Allowance figures and Option ½.

Average Pension Benefits Paid During Year Shown

This table shows the average annual benefit payments to all retirees and beneficiaries receiving benefits during the given fiscal year compared with average annual benefit payments to new retirees during the year. The benefit consists of actual payments after option selection and any partial lump sum distribution, plus any cost-of-living adjustment. A breakdown is provided by retirement system. The marked line graph (below) shows the trend in these benefit payments over the past ten years.

Year	ERS		PFRS	
	All Retirees & Beneficiaries	New Retirees	All Retirees & Beneficiaries	New Retirees
2013	\$ 20,766	\$ 24,756	\$ 43,844	\$ 68,197
2014	21,285	25,588	45,074	65,256
2015	21,788	26,941	46,207	68,414
2016	22,415	28,364	47,397	71,603
2017	23,026	29,331	49,123	73,729
2018	23,680	29,139	50,922	74,779
2019	24,345	30,397	52,804	77,116
2020	25,105	31,872	54,684	81,584
2021	25,783	32,458	56,695	84,053
2022	26,467	32,982	58,522	84,024



Average Benefit Pay Types

New Benefits: ERS

This table shows the number of retirements granted (*Number*), the average monthly retirement allowance prior to option selection or any partial lump sum distribution (*Monthly Allowance*), and the average final average salary (*Average FAS*) of members retiring during the fiscal year ending March 31, 2022. Groupings are based on years of service, with a breakdown by retirement type.

Years of Service	Number	Monthly Allowance	Average FAS
Service Retirements			
Under 5	5	\$ 51	\$ 10,567
5 – 9	1,148	375	39,354
10 – 14	3,423	853	52,562
15 – 19	2,552	1,270	57,026
20 – 24	4,756	2,346	67,352
25 – 29	3,181	3,553	82,388
30 – 34	4,967	4,519	86,944
35 – 39	2,000	5,385	92,785
40 & Over	627	6,077	92,400
Total	22,659	\$ 2,916	\$ 71,867
Ordinary Disability Retirements			
Under 5	–	\$ –	\$ –
5 – 9	7	1,300	48,495
10 – 14	77	1,563	59,625
15 – 19	58	1,788	65,361
20 – 24	45	2,304	74,829
25 – 29	29	2,676	71,921
30 – 34	8	3,572	80,423
35 – 39	1	2,429	48,588
40 & Over	–	–	–
Total	225	\$ 1,980	\$ 66,073
Performance of Duty Disability Retirements			
Under 5	1	\$ 2,752	\$ 44,046
5 – 9	8	4,472	71,744
10 – 14	10	5,217	84,063
15 – 19	7	5,899	98,326
20 – 24	11	5,978	100,120
25 – 29	3	5,325	85,337
30 – 34	1	9,068	145,099
35 – 39	1	8,503	136,552
40 & Over	–	–	–
Total	42	\$ 5,507	\$ 90,140
Accidental Disability Retirements			
Under 5	1	\$ 155	\$ 3,100
5 – 9	–	–	–
10 – 14	–	–	–
15 – 19	–	–	–
20 – 24	1	6,651	106,957
25 – 29	–	–	–
30 – 34	–	–	–
35 – 39	–	–	–
40 & Over	–	–	–
Total	2	\$ 3,403	\$ 55,028

Average Benefit Pay Types

continued

New Benefits: PFRS

This table shows the number of retirements granted (*Number*), the average monthly retirement allowance prior to option selection or any partial lump sum distribution (*Monthly Allowance*), and the average final average salary (*Average FAS*) of members retiring during the fiscal year ending March 31, 2022. Groupings are based on years of service, with a breakdown by retirement type.

Years of Service	Number	Monthly Allowance	Average FAS
Service Retirements			
Under 5	–	\$ –	\$ –
5 – 9	33	428	42,485
10 – 14	19	1,251	69,827
15 – 19	19	1,993	80,166
20 – 24	629	6,151	142,374
25 – 29	363	7,873	158,578
30 – 34	311	9,672	173,536
35 – 39	113	10,419	186,121
40 & Over	24	10,502	188,301
Total	1,511	\$ 7,439	\$ 152,806
Ordinary Disability Retirements			
Under 5	–	\$ –	\$ –
5 – 9	–	–	–
10 – 14	1	1,805	64,988
15 – 19	2	4,211	116,492
20 – 24	–	–	–
25 – 29	–	–	–
30 – 34	–	–	–
35 – 39	–	–	–
40 & Over	–	–	–
Total	3	\$ 3,409	\$ 99,324
Performance of Duty Disability Retirements			
Under 5	–	\$ –	\$ –
5 – 9	4	3,687	88,496
10 – 14	10	4,319	103,668
15 – 19	17	5,528	132,687
20 – 24	8	5,402	129,652
25 – 29	5	5,071	121,726
30 – 34	2	3,889	93,353
35 – 39	–	–	–
40 & Over	–	–	–
Total	46	\$ 4,962	\$ 119,106
Accidental Disability Retirements			
Under 5	1	\$ 4,422	\$ 70,767
5 – 9	3	4,096	97,269
10 – 14	12	7,552	130,592
15 – 19	14	9,501	158,581
20 – 24	17	8,071	145,341
25 – 29	9	12,148	194,368
30 – 34	3	12,778	204,460
35 – 39	2	10,201	163,224
40 & Over	–	–	–
Total	61	\$ 8,945	\$ 152,619

New Benefits — Service Retirements by Age and Service

This table shows the number of retirements granted (*Number*), the average annual retirement allowance prior to option selection or any partial lump sum distribution (*Allowance*), and the average allowance as a percentage of the average final average salary (%) of new service retirees during the fiscal year ending March 31, 2022. Groupings are based on years of service and age at retirement, within each retirement system.

Years of Service	Age at Retirement											
	50 – 59			60 – 64			65 – 69			70 & Over		
	Number	Allowance	%	Number	Allowance	%	Number	Allowance	%	Number	Allowance	%
ERS												
Under 5	–	\$ –	–	–	\$ –	–	1	\$ 604	8	4	\$ 625	6
5 – 9	238	4,425	10	356	4,907	12	342	4,323	12	212	4,215	12
10 – 14	682	7,887	15	1,187	10,392	20	1,115	11,130	20	439	11,219	21
15 – 19	525	11,832	22	911	15,783	28	778	16,589	28	338	16,049	29
20 – 24	841	25,142	35	1,867	28,371	43	1,473	28,853	43	575	30,115	43
25 – 29	912	44,410	47	1,254	42,268	53	730	41,504	54	285	41,520	55
30 – 34	2,629	55,729	62	1,522	53,588	62	557	50,700	63	259	50,578	64
35 – 39	747	60,823	69	769	68,165	70	342	65,783	71	142	62,675	71
40 & Over	15	66,944	76	215	66,217	77	236	75,221	79	161	79,077	83
Total	6,589	\$ 40,558	47	8,081	\$ 34,977	45	5,574	\$ 30,155	41	2,415	\$ 31,108	42

Years of Service	Age at Retirement											
	40 – 49			50 – 54			55 – 59			60 & Over		
	Number	Allowance	%	Number	Allowance	%	Number	Allowance	%	Number	Allowance	%
PFRS												
Under 5	–	\$ –	–	–	\$ –	–	–	\$ –	–	–	\$ –	–
5 – 9	–	–	–	–	–	–	25	4,706	11	8	6,501	15
10 – 14	–	–	–	–	–	–	13	14,412	21	6	16,315	21
15 – 19	1	49,316	50	–	–	–	10	21,419	24	8	23,869	36
20 – 24	337	74,137	51	215	73,679	52	59	70,315	51	18	81,160	52
25 – 29	30	89,155	57	179	95,548	59	128	96,205	60	26	84,722	59
30 – 34	–	–	–	46	115,138	64	193	119,262	67	72	108,111	67
35 – 39	–	–	–	–	–	–	33	144,564	66	80	116,983	67
40 & Over	–	–	–	–	–	–	–	–	–	24	126,025	67
Total	368	\$ 75,294	52	440	\$ 86,910	56	461	\$ 97,115	58	242	\$ 99,883	61

New Benefits — Accidental and Ordinary Death

Accidental Death Benefits

During the fiscal year ending March 31, 2022, the Employees' Retirement System approved 41 accidental death benefits which averaged \$32,789 annually. The Police and Fire Retirement System approved nine accidental death benefits, which averaged \$56,132 annually.

Ordinary Death Benefits

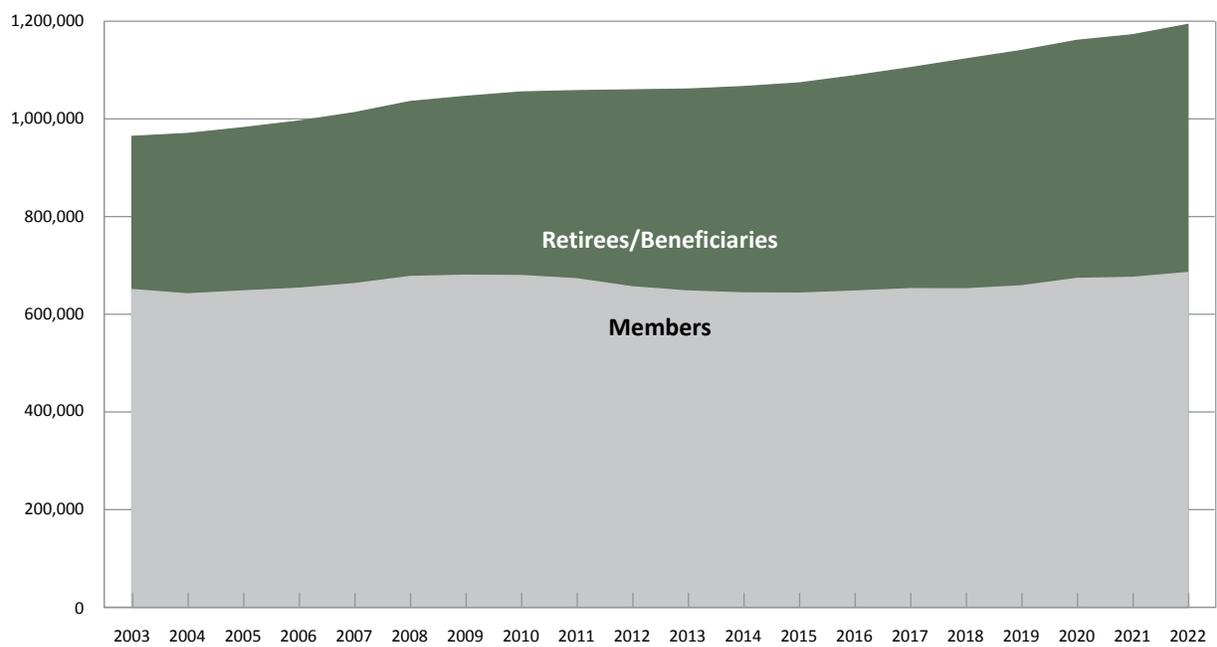
This table shows the number of ordinary death benefits granted (*Number*), the average benefit paid (*Average Benefit*), and the average benefit paid as a percentage of average final average salary (*Percentage of Salary*) of new ordinary death beneficiaries during the fiscal year ending March 31, 2022. Groupings are based on years of service, with a breakdown by retirement system.

Years of Service	ERS			PFRS		
	Number	Average Benefit	Percentage of Salary	Number	Average Benefit	Percentage of Salary
Under 5	278	\$ 40,716	110.6	4	\$ 155,750	219.9
5 – 9	303	67,295	147.3	8	153,375	365.4
10 – 14	278	104,316	226.2	6	165,333	250.5
15 – 19	204	130,676	241.2	4	381,000	300.3
20 – 24	149	144,185	255.2	6	812,956	649.0
25 – 29	81	167,737	255.8	2	1,095,232	1,002.8
30 – 34	50	216,679	294.9	1	1,612,162	915.2
35 – 39	18	168,855	255.8	3	1,171,250	768.9
40 & Over	13	281,450	379.4	–	–	–
Total	1,374	\$ 101,870	198.6	34	\$ 487,062	466.5

Combined System Participants

This table shows participant counts for ERS and PFRS combined. Members represent those participants not currently collecting a benefit, while Retirees/Beneficiaries represent those currently collecting a benefit. The Total Participants column represents the sum of the member and retiree/beneficiary counts. The Percentage Changed column shows the percentage change increase or decrease in counts calculated on a year-over-year basis. The stacked line graph (below) shows the trends in these counts over the prior 20 years.

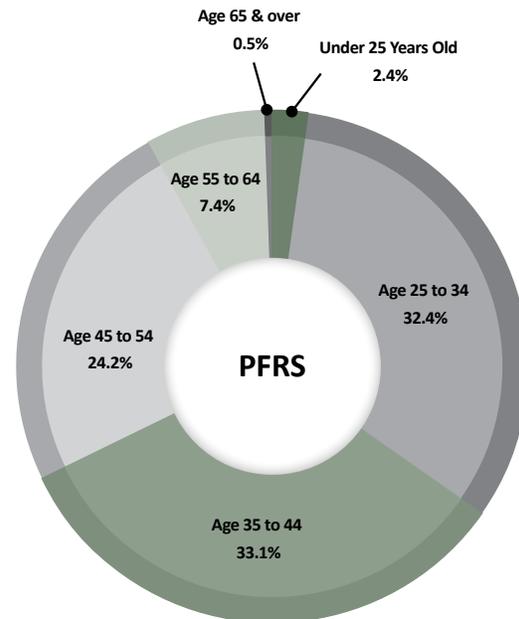
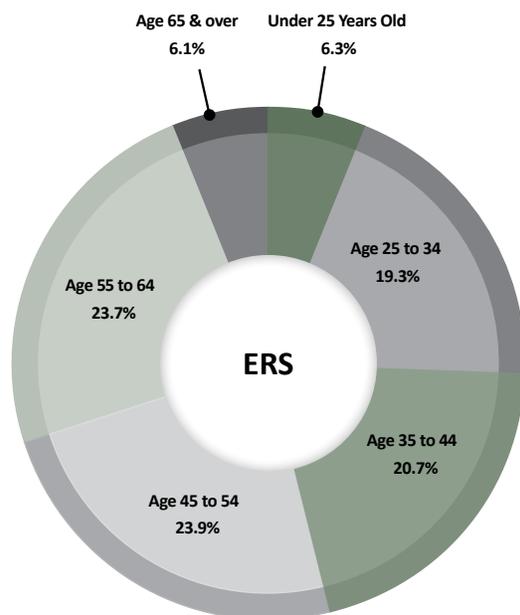
Fiscal Year	Members	Percentage Changed	Retirees/ Beneficiaries	Percentage Changed	Total Participants	Percentage Changed
2003	650,543	2	313,597	2	964,140	2
2004	641,721	(1)	328,357	5	970,078	1
2005	647,758	1	334,251	2	982,009	1
2006	653,291	1	342,245	2	995,536	1
2007	662,633	1	350,066	2	1,012,699	2
2008	677,321	2	358,109	2	1,035,430	2
2009	679,908	0	366,178	2	1,046,086	1
2010	679,217	0	375,803	3	1,055,020	1
2011	672,723	(1)	385,031	2	1,057,754	0
2012	656,224	(2)	403,174	5	1,059,398	0
2013	647,574	(1)	413,436	3	1,061,010	0
2014	643,659	(1)	422,405	2	1,066,064	0
2015	643,178	0	430,308	2	1,073,486	1
2016	647,399	1	440,943	2	1,088,342	1
2017	652,324	1	452,455	3	1,104,779	2
2018	652,030	0	470,596	4	1,122,626	2
2019	658,176	1	481,795	2	1,139,971	2
2020	673,336	2	487,407	1	1,160,743	2
2021	675,519	0	496,628	2	1,172,147	1
2022	685,450	1	507,923	2	1,193,373	2



Membership by Age and Years of Service

This table shows membership counts (*Number*), and percentage of the system’s total membership count (*Percentage*), as of the fiscal year ending March 31, 2022. Groupings are based on age and years of service, with a breakdown by retirement system.

Age	Years of Service											
	Total		0 – 4		5 – 9		10 – 19		20 – 29		30 & Over	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
ERS												
Under 25	41,198	6.3	40,984	6.3	214	–	–	–	–	–	–	–
25 – 34	125,361	19.3	98,256	15.1	23,727	3.6	3,378	0.5	–	–	–	–
35 – 44	134,367	20.7	59,103	9.1	32,930	5.1	39,017	6.0	3,317	0.5	–	–
45 – 54	155,604	23.9	43,522	6.7	30,478	4.7	47,486	7.3	30,009	4.6	4,109	0.6
55 – 64	153,987	23.7	30,464	4.7	26,870	4.1	49,023	7.5	33,862	5.2	13,768	2.1
65 & Over	39,734	6.1	7,905	1.2	7,511	1.2	12,379	1.9	7,585	1.2	4,354	0.7
Total	650,251	100.0	280,234	43.1	121,730	18.7	151,283	23.3	74,773	11.5	22,231	3.4
PFRS												
Under 25	859	2.4	857	2.4	2	–	–	–	–	–	–	–
25 – 34	11,396	32.4	7,143	20.3	3,708	10.5	545	1.5	–	–	–	–
35 – 44	11,662	33.1	1,862	5.3	2,932	8.3	6,443	18.3	425	1.2	–	–
45 – 54	8,507	24.2	354	1.0	566	1.6	3,335	9.5	3,972	11.3	280	0.8
55 – 64	2,609	7.4	99	0.3	240	0.7	320	0.9	978	2.8	972	2.8
65 & Over	166	0.5	31	0.1	50	0.1	24	0.1	10	–	51	0.1
Total	35,199	100.0	10,346	29.4	7,498	21.3	10,667	30.3	5,385	15.3	1,303	3.7



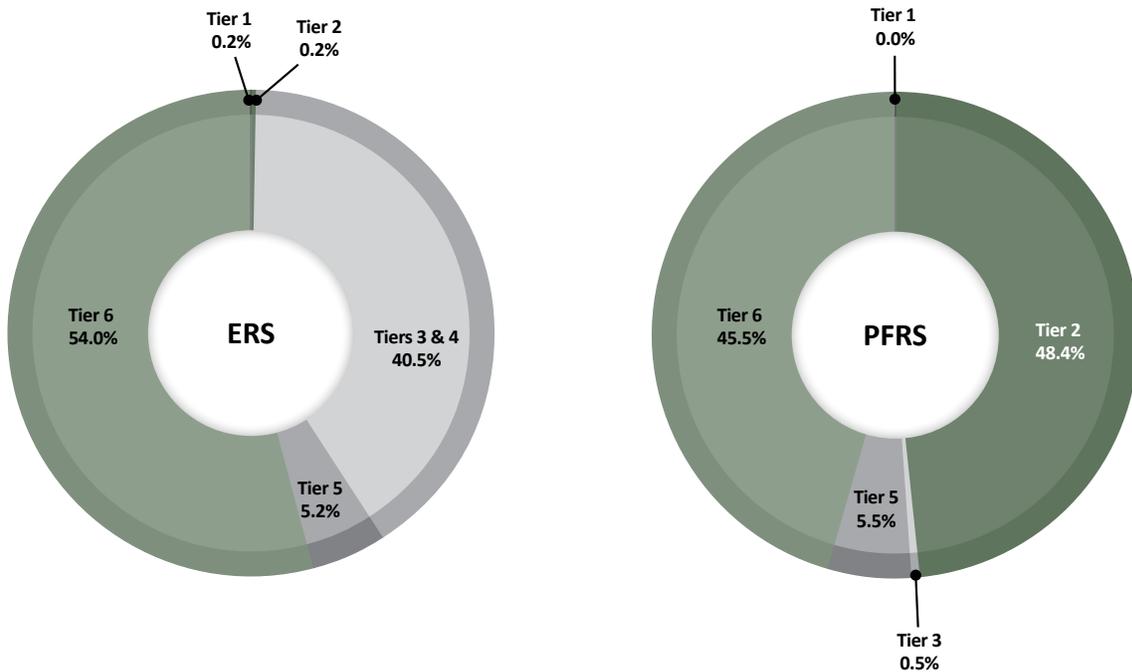
Note: Percentages may not sum to 100% due to rounding.

Membership by Tier

This table shows membership counts (*Number*), and percentage of the system’s total membership count (*Percentage*), as of the fiscal year ending March 31, 2022. Groupings are based on tier, with a breakdown by retirement system.

	ERS		PFRS		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Tier 1	1,043	0.2	17	–	1,060	0.2
Tier 2	1,042	0.2	17,032	48.4	18,074	2.6
Tiers 3 & 4*	263,561	40.5	173	0.5	263,734	38.5
Tier 5	33,619	5.2	1,950	5.5	35,569	5.2
Tier 6	350,986	54.0	16,027	45.5	367,013	53.5
Total	650,251	100.0	35,199	100.0	685,450	100.0

* There is no Tier 4 in the Police and Fire Retirement System.



Note: Percentages may not sum to 100% due to rounding.

Membership by Status

This table shows membership counts by status — active or inactive — as of the fiscal year ending March 31, 2022, with a breakdown by retirement system. Active status means the member was reported on payroll at the fiscal year end. Inactive status means the member was not reported on payroll (including pending retirement and pending deaths) at the fiscal year end. The sum of these two statuses represents the total membership count for the system.

	ERS			PFRS		
	Active	Inactive	Total	Active	Inactive	Total
2013	498,266	115,664	613,930	30,780	2,864	33,644
2014	493,209	116,356	609,565	31,218	2,876	34,094
2015	491,558	117,079	608,637	31,372	3,169	34,541
2016	494,411	117,883	612,294	31,720	3,385	35,105
2017	496,441	120,702	617,143	32,332	2,849	35,181
2018	500,945	115,961	616,906	32,470	2,654	35,124
2019	501,037	122,053	623,090	32,573	2,513	35,086
2020	497,659	140,087	637,746	32,888	2,702	35,590
2021	469,968	170,613	640,581	31,922	3,016	34,938
2022	473,915	176,336	650,251	32,169	3,030	35,199

Number of Employers

As of March 31, 2022.

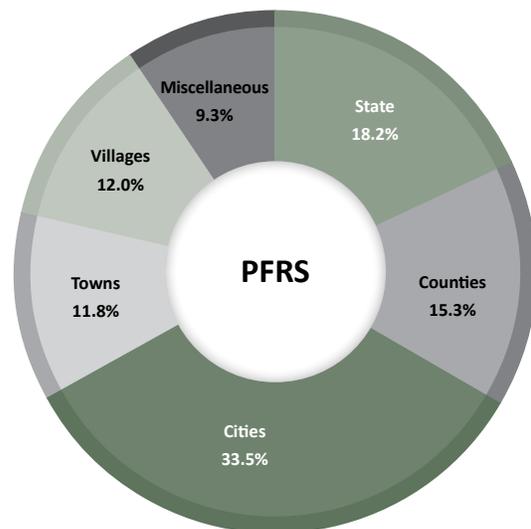
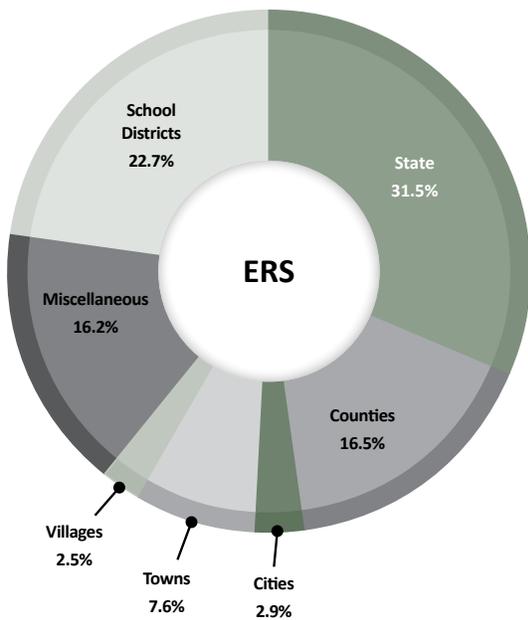
Category	ERS	PFRS
State	1	1
Counties	57	4
Cities	61	61
Towns	916	169
Villages	479	297
Miscellaneous	765	38
School Districts	690	0
Total*	2,969	571

* Please note that some ERS employers are also PFRS employers. Therefore the total of ERS employers and PFRS employers above will not equal the total number of NYSLRS participating employers.

Total Membership by Employer Type

This table shows total and active membership counts, grouped by primary employer type as of the fiscal year ending March 31, 2022, with a breakdown by retirement system. Active status means the member was reported on payroll at the fiscal year end.

	ERS		PFRS		Total	
	Total	Active	Total	Active	Total	Active
State	204,937	151,720	6,407	5,849	211,344	157,569
Counties	107,099	79,317	5,399	5,281	112,498	84,598
Cities	19,047	14,088	11,785	10,911	30,832	24,999
Towns	49,743	34,912	4,138	3,686	53,881	38,598
Villages	16,020	11,116	4,208	3,377	20,228	14,493
Miscellaneous	105,659	73,443	3,262	3,065	108,921	76,508
School Districts	147,746	109,319	-	-	147,746	109,319
Total	650,251	473,915	35,199	32,169	685,450	506,084



Note: Numbers may not add up due to rounding. A detailed listing of employers as of March 31, 2022 is available on our website at www.osc.state.ny.us/files/retirement/employers/pdf/participating-employers.pdf.

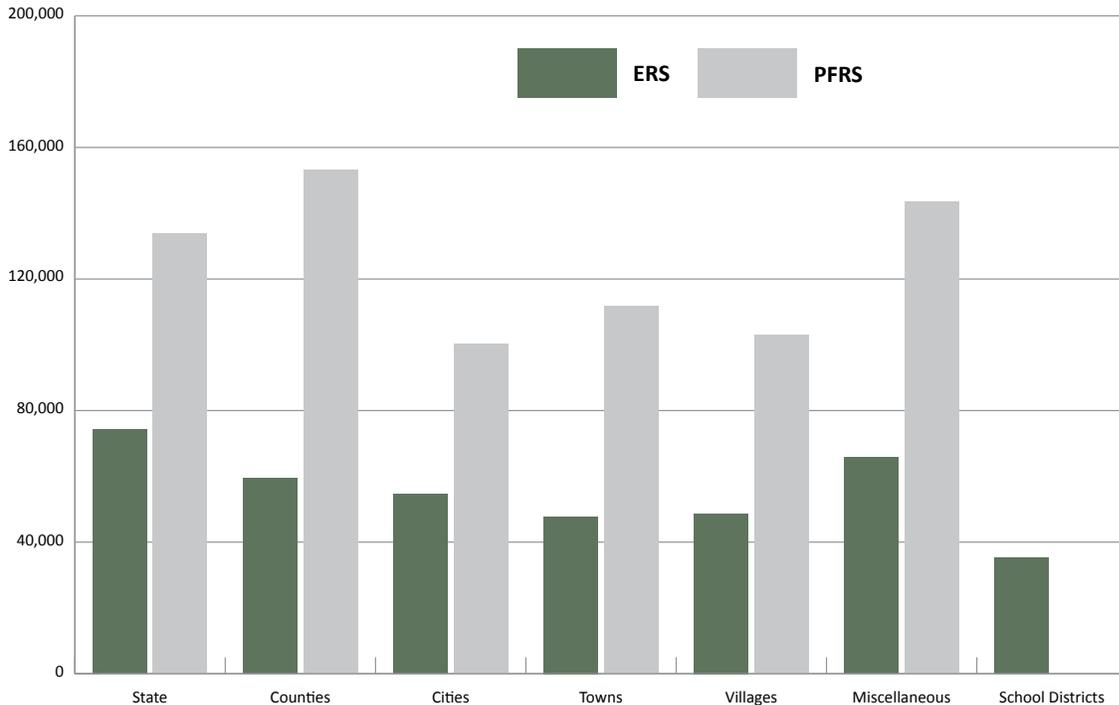
Average Salary by Employer Type

This table shows the average salary (*Average Salary*), membership counts (*Total Members**), and total salary (*Total Salaries*) for active members as of the fiscal year ending March 31, 2022. Groupings are based on primary employer type, with a breakdown by retirement system. Active status means the member was reported on payroll at the fiscal year end.

	Average Salary	Total Members*	Total Salaries
ERS			
State	\$ 74,276	151,720	\$ 11,269,202,995
Counties	59,538	79,317	4,722,399,222
Cities	54,552	14,088	768,529,303
Towns	47,768	34,912	1,667,663,837
Villages	48,678	11,116	541,101,783
Miscellaneous	65,886	73,443	4,838,837,192
School Districts	35,145	109,319	3,841,999,018
Total	\$ 58,343	473,915	\$ 27,649,733,352
PFRS			
State	\$ 133,829	5,849	\$ 782,768,464
Counties	153,070	5,281	808,360,594
Cities	100,228	10,911	1,093,590,799
Towns	111,615	3,686	411,411,534
Villages	103,061	3,377	348,035,595
Miscellaneous	143,475	3,065	439,751,382
Total	\$ 120,735	32,169	\$ 3,883,918,368

* Active members receiving salary.

The bar graph below represents the average salary by retirement system for each primary employer type.



Members and Salaries by Plan — ERS

These tables show membership counts (*Members*) and total salary (*Total Salaries*) for active members in the Employees' Retirement System, as of the fiscal year ending March 31, 2022. Groupings are based on plan, with a breakdown by tier. Active status means the member was reported on payroll at the end of the fiscal year.

Plan	Tier 1		Tier 2	
	Members	Total Salaries	Members	Total Salaries
Age 55/60 Contributory	1	\$ 2,350	1	\$ 15,849
Age 55 75-c	5	52,604	8	251,614
Age 55 75-e	1	43,625	2	93,421
Age 55 75-g	12	626,603	7	302,323
Age 55 75-h	233	22,485,286	239	23,013,653
Age 55 75-i	327	20,601,050	405	23,899,434
Regular Correction Officers/Security Hospital Treatment Asst. ¼ Disability	-	-	-	-
Correction Officers 89	2	195,443	1	114,451
Sheriffs 89-a	-	-	-	-
Sheriffs 89-b	-	-	-	-
Sheriffs 89-b(m)	-	-	-	-
Investigators 89-d	-	-	-	-
Investigators 89-d(m)	-	-	-	-
Sheriffs — 551	-	-	-	-
Sheriffs — 551e	-	-	-	-
Sheriffs — 552	-	-	-	-
Sheriffs — 553	-	-	-	-
Legislators 80-a	1	110,000	-	-
Unified Court Peace Officers	-	-	6	818,650
25-Year Correction Officers/Sheriffs/Office of Mental Health	3	284,782	2	180,258
25-Year 1/60 Peace Officers, Amb Med Techs, Paramedics	1	123,547	-	-
Total	586	\$ 44,525,291	671	\$ 48,689,653

Members and Salaries by Plan — ERS

continued

Plan	Tier 3 & 4		Tier 5		Tier 6	
	Members	Total Salaries	Members	Total Salaries	Members	Total Salaries*
Article 14 & 15	190,441	\$ 13,903,745,326	22,905	\$ 1,391,753,856	221,783	\$ 8,901,738,627
Regular Correction Officers/ Security Hospital Treatment Asst. % Disability	320	39,562,719	25	2,285,181	170	14,370,983
Article 14 Correction Officers	8,728	907,824,494	834	71,716,651	8,825	635,714,586
Sheriffs — 551	168	16,703,968	11	818,717	90	5,115,638
Sheriffs — 551e	50	3,842,548	8	624,243	53	2,689,414
Sheriffs — 552	260	24,844,860	37	2,932,623	229	14,711,317
Sheriffs — 553	954	113,295,646	168	16,587,433	765	54,542,843
Unified Court Peace Officers	3,972	409,303,566	286	24,560,399	1,979	133,736,789
25-Year Correction Officers/Sheriffs/Office of Mental Health	4,670	514,394,016	639	63,215,206	4,065	259,181,144
25-Year 1/60 Peace Officers, Paramedics	9	808,442	1	71,718	9	213,334
20-Year 1/60 Investigators	10	1,817,407	–	–	7	434,390
Westchester County Criminal Investigators	19	3,089,723	1	169,127	7	739,344
25-Year 1/60 % Accidental Disability Amb Med Techs	97	13,140,598	5	474,354	14	771,741
25-Year % Accidental Disability Fire Marshals	28	3,671,948	5	513,688	11	789,804
Total	209,726	\$ 15,956,045,260	24,925	\$ 1,575,723,194	238,007	\$ 10,024,749,954

* Reportable Tier 6 salary is capped at the Governor's salary, which was initially \$225,000 for fiscal year 2022. The Governor's salary was increased to \$250,000 retroactive to January 1, 2021.

There may be plans with no member count and salary greater than zero. Members who work for multiple employers may have salary under multiple plans but will only be counted once, under their primary plan.

Members and Salaries by Plan — PFRS

These tables show membership counts (*Members*), and total salary (*Total Salaries*) for active members in the Police and Fire Retirement System, as of the fiscal year ending March 31, 2022. Groupings are based on plan, with a breakdown by tier and contributory status. Active status means the member was reported on payroll at the end of the fiscal year.

Plan	Tier 1		Tier 2		Tier 3	
	Members	Total Salaries	Members	Total Salaries	Members	Total Salaries
Age 55/60 Basic	–	\$ –	16	\$ 190,617	–	\$ –
Age 55 375-c	–	–	71	2,123,382	–	–
Age 55 375-e	–	–	17	371,157	–	–
Age 55 375-g	–	–	22	823,798	–	–
Age 55 375-h	–	–	5	687,644	–	–
Age 55 375-i	–	–	76	6,222,147	–	3,601
Age 55 375-j	–	–	4	641,524	–	–
State Police 381-b	–	–	2,532	400,360,730	–	–
Regional Park Police 383-a	–	–	127	17,425,931	–	–
EnCon Police 383-b	–	–	175	26,194,702	1	117,597
Forest Ranger 383-c	–	–	80	11,231,705	2	227,442
SUNY Police 383-d	–	–	233	29,042,496	9	939,028
25-Year 384	–	–	18	1,596,441	2	111,448
25-Year 384(f)	–	–	55	8,514,533	17	1,820,334
20-Year 384-d	–	–	4,532	594,713,454	–	–
20-Year 1/60 384-e	4	879,681	7,715	1,302,550,018	–	–
Article 14 Police and Fire	–	–	–	–	117	13,322,082
Total	4	\$ 879,681	15,678	\$ 2,402,690,279	148	\$ 16,541,532

Members and Salaries by Plan — PFRS

continued

Plan	Tier 5 Contributory		Tier 5 Non-Contributory		Tier 6 Contributory		Tier 6 Non-Contributory	
	Members	Total Salaries	Members	Total Salaries	Members	Total Salaries*	Members	Total Salaries*
Age 55/60 Basic	2	\$ 42,696	–	\$ –	11	\$ 88,720	–	\$ –
Age 55 375-c	5	95,104	–	–	51	960,290	–	–
Age 55 375-e	1	21,136	–	–	38	499,852	–	–
Age 55 375-g	2	35,546	–	–	12	294,962	–	–
Age 55 375-h	–	–	–	–	–	–	–	–
Age 55 375-i	8	568,117	–	–	17	1,641,700	–	–
Age 55 375-j	–	–	–	–	2	156,488	–	–
State Police 381-b	121	15,877,833	–	–	2,018	231,890,970	–	–
Regional Park Police 383-a	3	382,450	–	–	76	7,553,769	–	–
EnCon Police 383-b	9	948,672	–	–	100	10,496,114	–	–
Forest Ranger 383-c	2	218,315	–	–	42	4,208,160	–	–
SUNY Police 383-d	45	4,787,362	–	–	263	19,270,622	–	–
25-Year 384	5	409,347	–	–	23	1,425,238	–	–
25-Year 384(f)	6	1,206,667	4	801,550	40	3,417,369	2	217,512
20-Year 384-d	569	62,963,492	130	12,572,339	4,914	364,983,628	4	206,462
20-Year 1/60 384-e	760	95,027,076	154	19,839,415	6,863	594,073,181	37	6,624,722
Article 14 Police and Fire	–	–	–	–	–	–	–	–
Total	1,538	\$ 182,583,813	288	\$ 33,213,304	14,470	\$ 1,240,961,063	43	\$ 7,048,696

* Reportable Tier 6 salary is capped at the Governor's salary, which was initially \$225,000 for fiscal year 2022. The Governor's salary was increased to \$250,000 retroactive to January 1, 2021.

There may be plans with no member count and salary greater than zero. A member who works for multiple employers may have salary under multiple plans but will only be counted once, under their primary plan.

Retirees and Beneficiaries by Age

This table shows retiree and beneficiary counts as of the fiscal year ending March 31, 2022, grouped by age, with a breakdown by retirement system.

Age	ERS			PFRS		
	Retirees & Beneficiaries	Retirees	Beneficiaries	Retirees & Beneficiaries	Retirees	Beneficiaries
0 – 25	507	–	507	57	–	57
26 – 30	189	–	189	9	2	7
31 – 35	342	6	336	14	6	8
36 – 40	510	72	438	67	48	19
41 – 45	772	203	569	388	368	20
46 – 50	1,536	824	712	1,588	1,545	43
51 – 55	5,203	4,077	1,126	3,976	3,879	97
56 – 60	34,444	32,531	1,913	6,457	6,302	155
61 – 65	71,558	68,289	3,269	5,622	5,398	224
66 – 70	98,137	93,293	4,844	5,343	5,020	323
71 – 75	100,767	94,097	6,670	6,316	5,803	513
76 – 80	68,441	62,074	6,367	4,653	4,162	491
81 – 85	43,162	37,624	5,538	2,821	2,511	310
86 – 90	25,994	21,811	4,183	1,326	1,097	229
91 – 95	12,730	10,347	2,383	489	396	93
96 – 100	3,853	3,040	813	119	83	36
101+	519	401	118	14	8	6
Total	468,664	428,689	39,975	39,259	36,628	2,631

Retirees and Beneficiaries — ERS

This table shows the number (*Number*), the average annual modified pension benefit prior to option selection and without any cost-of-living adjustment (*Average Option 0 Benefit w/o COLA*), and the average cost-of-living adjustment (*Average COLA*) of surviving Employees' Retirement System retirees and beneficiaries* as of March 31, 2022. Groupings are based on the fiscal year of the member's retirement. The modified pension benefit has been reduced for any partial lump sum distribution.

Year of Retirement	Number	Average Option 0 Benefit w/o COLA	Average COLA	Total
1959	1	\$ 3,518	\$ 10,408	\$ 13,926
1960	–	–	–	–
1961	–	–	–	–
1962	–	–	–	–
1963	2	2,112	7,733	9,845
1964	–	–	–	–
1965	1	2,284	4,014	6,298
1966	2	2,779	9,174	11,953
1967	–	–	–	–
1968	1	2,307	3,101	5,408
1969	4	1,951	4,203	6,154
1970	6	2,779	4,075	6,854
1971	7	4,197	6,955	11,152
1972	16	5,955	6,999	12,954
1973	21	4,404	5,489	9,893
1974	29	7,905	8,441	16,346
1975	43	5,999	6,112	12,111
1976	90	6,278	6,243	12,520
1977	125	6,130	6,440	12,570
1978	171	6,442	5,834	12,276
1979	234	5,597	5,000	10,597
1980	304	5,997	4,568	10,565
1981	398	5,812	3,987	9,799
1982	522	6,910	4,144	11,054
1983	596	7,000	3,800	10,800
1984	900	9,256	4,497	13,753
1985	929	8,843	4,037	12,879
1986	1,326	9,215	3,985	13,200
1987	1,620	10,182	4,197	14,379
1988	1,738	11,193	4,162	15,355
1989	2,189	12,084	4,087	16,171
1990	2,688	13,364	3,961	17,326

* 8,978 of the 39,975 beneficiaries are not eligible for COLA and are not included in the above counts.

Year of Retirement	Number	Average Option 0 Benefit w/o COLA	Average COLA	Total
1991	4,654	\$ 17,707	\$ 4,322	\$ 22,030
1992	4,499	14,768	3,787	18,556
1993	3,948	15,699	3,586	19,285
1994	3,764	15,679	3,361	19,040
1995	4,796	16,480	3,365	19,845
1996	9,136	21,592	3,664	25,256
1997	8,642	19,983	3,301	23,285
1998	6,737	17,557	2,801	20,358
1999	7,582	17,393	2,645	20,038
2000	9,421	18,739	2,551	21,291
2001	10,484	22,171	2,597	24,768
2002	8,875	19,941	2,321	22,261
2003	20,139	28,931	2,479	31,410
2004	10,069	19,944	1,912	21,856
2005	12,376	22,169	1,832	24,001
2006	13,926	22,976	1,691	24,667
2007	14,665	25,457	1,610	27,067
2008	15,267	27,186	1,494	28,680
2009	14,293	27,120	1,330	28,450
2010	16,527	28,783	1,208	29,991
2011	25,899	35,010	1,142	36,151
2012	16,602	27,684	915	28,599
2013	16,772	27,335	771	28,105
2014	18,406	28,266	638	28,904
2015	19,477	29,540	488	30,028
2016	19,963	31,163	336	31,499
2017	20,370	31,939	206	32,145
2018	21,501	32,330	–	32,330
2019	20,926	33,295	–	33,295
2020	20,889	34,394	–	34,394
2021	22,458	34,253	–	34,253
2022	22,660	\$ 35,146	\$ –	\$ 35,146

* 8,978 of the 39,975 beneficiaries are not eligible for COLA and are not included in the above counts.

Retirees and Beneficiaries — PFRS

This table shows the number (*Number*), the average annual modified pension benefit prior to option selection and without any cost-of-living adjustment (*Average Option 0 Benefit w/o COLA*), and the average cost-of-living adjustment (*Average COLA*) of surviving Police and Fire Retirement System retirees and beneficiaries* as of March 31, 2022. Groupings are based on the fiscal year of the member's retirement. The modified pension benefit has been reduced for any partial lump sum distribution.

Year of Retirement	Number	Average Option 0 w/o COLA	Average COLA	Total
1959	–	\$ –	\$ –	\$ –
1960	–	–	–	–
1961	–	–	–	–
1962	–	–	–	–
1963	–	–	–	–
1964	–	–	–	–
1965	1	6,492	22,420	28,912
1966	1	3,252	11,433	14,685
1967	4	5,204	14,305	19,509
1968	2	7,081	18,684	25,765
1969	3	4,596	10,631	15,227
1970	2	5,035	9,837	14,871
1971	4	11,651	16,227	27,877
1972	19	7,335	14,485	21,820
1973	24	7,244	13,127	20,371
1974	35	8,311	14,237	22,548
1975	26	8,833	12,775	21,608
1976	30	10,085	14,040	24,125
1977	89	10,531	13,265	23,796
1978	88	11,214	13,154	24,369
1979	129	11,132	11,921	23,053
1980	134	12,513	11,418	23,932
1981	127	13,253	9,921	23,174
1982	204	14,347	9,358	23,705
1983	210	15,436	9,026	24,462
1984	221	17,700	9,147	26,848
1985	259	19,586	8,721	28,306
1986	412	20,673	8,457	29,130
1987	446	22,753	8,426	31,179
1988	563	24,718	7,909	32,626
1989	626	24,806	7,484	32,290
1990	666	27,520	6,814	34,335

* 508 of the 2,631 beneficiaries are not eligible for COLA and are not included in the above counts.

Year of Retirement	Number	Average Option 0 w/o COLA	Average COLA	Total
1991	765	\$ 30,492	\$ 6,375	\$ 36,867
1992	843	34,768	5,750	40,517
1993	820	33,857	5,461	39,317
1994	769	33,025	4,976	38,001
1995	650	38,222	4,515	42,738
1996	665	36,765	4,296	41,061
1997	655	40,599	3,948	44,547
1998	640	39,282	3,536	42,818
1999	685	40,489	3,425	43,914
2000	817	47,226	3,081	50,307
2001	1,028	52,713	3,022	55,735
2002	886	53,886	2,795	56,681
2003	1,199	60,850	2,576	63,426
2004	1,150	58,694	2,388	61,082
2005	1,050	58,763	2,110	60,872
2006	1,061	59,504	1,887	61,391
2007	1,078	60,430	1,712	62,142
2008	1,106	62,633	1,466	64,099
2009	1,045	66,255	1,322	67,578
2010	1,077	68,383	1,140	69,523
2011	1,230	69,017	945	69,962
2012	1,197	70,740	755	71,495
2013	1,212	69,323	539	69,862
2014	1,205	72,486	424	72,910
2015	1,314	75,486	303	75,789
2016	1,267	78,575	205	78,780
2017	1,214	79,993	121	80,114
2018	1,512	84,658	–	84,658
2019	1,567	86,135	–	86,135
2020	1,448	87,376	–	87,376
2021	1,674	89,075	–	89,075
2022	1,597	\$ 87,913	\$ –	\$ 87,914

* 508 of the 2,631 beneficiaries are not eligible for COLA and are not included in the above counts.

Local Government Salaries and Billings — ERS

The contribution amounts shown below are due February 1st preceding the fiscal year end (FYE).

FYE	Salaries	Contributions	Normal	Deficiency	GLIP*	Administrative
Counties						
2013	\$ 4,373,201,590	\$ 869,913,388	\$ 836,809,946	\$ -	\$ 15,242,472	\$ 17,860,970
2014	4,336,303,275	961,029,407	932,736,131	-	15,028,728	13,264,548
2015	4,268,067,445	916,967,766	884,569,811	-	14,822,845	17,575,110
2016	4,268,067,445	764,800,462	729,885,087	-	17,843,119	17,072,256
2017	4,442,433,004	718,015,326	685,263,761	-	14,981,831	17,769,734
2018	4,526,327,445	719,117,404	685,809,717	-	15,202,362	18,105,325
2019	4,550,654,486	704,395,273	671,966,793	-	18,776,511	13,651,969
2020	4,711,426,453	721,858,881	682,580,561	-	15,721,198	23,557,122
2021	4,760,305,412	731,642,789	688,184,857	-	19,656,355	23,801,577
2022	4,752,745,726	821,596,734	777,146,609	-	15,933,651	28,516,474
Cities						
2013	657,761,044	124,229,355	118,894,947	-	2,667,204	2,667,204
2014	673,091,884	137,981,259	133,304,614	-	2,672,375	2,004,270
2015	679,974,366	134,647,196	129,157,994	-	2,744,601	2,744,601
2016	679,974,366	118,631,364	112,511,612	-	3,399,861	2,719,891
2017	711,933,076	106,482,115	100,786,663	-	2,847,726	2,847,726
2018	742,043,938	108,756,209	102,819,863	-	2,968,173	2,968,173
2019	744,199,863	105,742,763	99,789,168	-	3,721,006	2,232,589
2020	758,132,484	105,255,949	98,432,744	-	3,032,535	3,790,670
2021	772,791,379	107,820,375	100,092,450	-	3,863,959	3,863,966
2022	756,927,178	116,756,626	109,187,353	-	3,027,709	4,541,564
Towns						
2013	1,523,144,059	282,487,748	269,746,224	730,975	6,003,677	6,006,872
2014	1,514,279,860	320,436,350	308,991,586	729,377	6,121,687	4,593,700
2015	1,541,087,303	304,935,776	292,018,266	704,881	6,104,792	6,107,837
2016	1,541,087,303	277,193,215	262,917,719	409,489	7,701,640	6,164,367
2017	1,579,960,510	240,525,450	227,504,169	384,233	6,317,184	6,319,864
2018	1,615,922,678	241,429,341	228,132,484	372,380	6,460,806	6,463,671
2019	1,624,034,309	236,023,695	222,651,419	385,020	8,115,114	4,872,142
2020	1,654,262,964	235,874,419	220,645,937	343,749	6,613,385	8,271,348
2021	1,666,644,088	238,596,311	221,621,654	312,725	8,328,687	8,333,245
2022	1,666,275,361	263,906,092	246,959,685	287,029	6,661,724	9,997,654
Villages						
2013	464,343,459	84,603,712	80,734,045	210,055	1,829,806	1,829,806
2014	468,173,558	96,707,532	93,193,118	224,737	1,879,811	1,409,866
2015	475,868,379	93,000,032	88,986,865	214,831	1,899,168	1,899,168
2016	475,868,379	84,779,246	80,364,318	134,970	2,377,750	1,902,208
2017	492,146,116	74,142,234	70,095,276	109,818	1,968,570	1,968,570
2018	505,159,356	74,546,172	70,399,418	105,502	2,020,626	2,020,626
2019	514,793,219	73,871,365	69,638,093	114,888	2,573,977	1,544,407
2020	526,403,820	74,482,744	69,641,376	103,704	2,105,622	2,632,042
2021	537,296,960	76,180,937	70,693,112	114,846	2,686,487	2,686,492
2022	547,228,239	85,752,128	80,151,189	128,655	2,188,914	3,283,370

* Group Life Insurance Plan (GLIP).

Local Government Salaries and Billings — ERS

continued

FYE	Salaries	Contributions	Normal	Deficiency	GLIP*	Administrative
Miscellaneous						
2013	\$ 3,971,661,743	\$ 749,635,292	\$ 716,057,300	\$ 835,444	\$ 16,371,274	\$ 16,371,274
2014	3,968,529,764	826,997,637	797,752,084	791,616	16,258,823	12,195,114
2015	4,016,329,736	786,826,716	753,471,524	785,464	16,284,864	16,284,864
2016	4,016,329,736	692,441,164	656,011,033	285,120	20,080,556	16,064,455
2017	4,218,674,267	624,983,230	590,938,378	295,426	16,874,713	16,874,713
2018	4,400,266,244	636,996,945	601,504,023	292,092	17,600,415	17,600,415
2019	4,548,171,902	639,193,644	602,507,287	300,990	22,740,865	13,644,502
2020	4,769,848,444	656,970,743	613,752,143	289,923	19,079,412	23,849,265
2021	4,928,473,582	681,965,509	632,481,941	198,772	24,642,379	24,642,417
2022	4,953,008,124	753,565,970	703,828,602	207,282	19,812,034	29,718,052
Schools						
2013	3,295,559,464	623,154,200	595,786,408	426,060	13,470,866	13,470,866
2014	3,295,866,762	685,241,928	661,805,954	135,753	13,314,400	9,985,821
2015	3,337,348,846	654,771,133	627,945,059	139,518	13,343,278	13,343,278
2016	3,337,348,846	593,311,380	563,142,438	134,423	16,685,833	13,348,686
2017	3,463,921,681	524,114,526	496,273,503	129,599	13,855,712	13,855,712
2018	3,591,452,866	533,074,424	504,209,323	133,487	14,365,807	14,365,807
2019	3,656,797,566	527,849,814	498,457,959	137,491	18,283,980	10,970,384
2020	3,739,951,074	528,865,706	495,064,555	141,616	14,959,764	18,699,771
2021	3,841,977,275	544,514,579	505,949,072	145,661	19,209,895	19,209,951
2022	3,758,535,947	587,739,235	550,003,627	150,240	15,034,149	22,551,219

* Group Life Insurance Plan (GLIP).

For the FYEs 2013-2015, the contribution amounts include the normal cost of benefits including supplemental pensions and, in some cases, the Retirement Incentive Program, Deficiency Contributions, the Group Life Insurance Plan (GLIP), and the administrative cost of the System for the fiscal year.

For FYE 2016, **and all subsequent FYEs**, the contribution amounts include the normal cost of benefits including supplemental pensions, Deficiency Contributions, GLIP, the administrative cost of the System for the fiscal year, and accounting adjustments. Accounting adjustments include prior year adjustments, prepayment discounts, and reconciliation of actual versus estimated salary amounts.

Legislation enacted in July of 2015 (Chapter 94, Laws of 2015), requires the System to use prior year actual salaries rather than current year estimated salaries in the calculation of required contributions. This change eliminates the need for reconciliation of actual versus estimated salaries, the result of which is reflected in the FYE 2016 salaries.

Local Government Salaries and Billings — PFRS

The contribution amounts shown below are due February 1st preceding the fiscal year end (FYE).

FYE	Salaries	Contributions	Normal	Deficiency	GLIP	Administrative
Counties						
2013	\$ 750,476,797	\$ 186,487,909	\$ 182,070,522	\$ -	\$ 736,230	\$ 3,681,157
2014	742,952,940	215,606,426	212,605,235	-	-	3,001,191
2015	748,062,218	204,532,593	200,811,227	-	744,273	2,977,093
2016	748,062,218	183,660,699	180,668,452	-	-	2,992,247
2017	813,351,565	197,749,660	193,682,901	-	-	4,066,759
2018	837,536,191	205,595,002	201,407,318	-	837,538	3,350,146
2019	826,111,820	194,974,879	192,496,544	-	-	2,478,335
2020	829,447,380	197,111,060	192,963,822	-	-	4,147,238
2021	820,311,457	204,533,703	199,611,831	-	-	4,921,872
2022	817,314,990	235,991,642	232,722,382	-	-	3,269,260
Cities						
2013	904,451,691	242,732,696	237,147,463	-	930,870	4,654,363
2014	940,121,957	270,589,638	266,868,512	-	-	3,721,126
2015	935,625,377	266,374,021	261,525,612	-	969,687	3,878,722
2016	935,625,377	220,521,730	216,779,231	-	-	3,742,499
2017	1,012,327,983	244,289,630	239,227,991	-	-	5,061,639
2018	1,032,008,361	249,454,963	244,294,924	-	1,032,013	4,128,026
2019	1,046,903,046	244,069,656	240,928,943	-	-	3,140,713
2020	1,073,918,736	249,937,319	244,567,724	-	-	5,369,595
2021	1,068,635,389	258,554,169	252,142,350	-	-	6,411,819
2022	1,072,164,847	302,975,473	298,686,813	-	-	4,288,660
Towns						
2013	344,465,630	90,102,480	88,024,012	-	346,422	1,732,046
2014	351,821,273	101,830,050	100,430,452	-	-	1,399,598
2015	361,105,021	99,600,409	97,809,899	-	358,100	1,432,410
2016	361,105,021	103,194,597	101,750,184	-	-	1,444,413
2017	375,409,567	91,053,202	89,176,144	-	-	1,877,058
2018	385,731,210	94,187,748	92,259,099	-	385,724	1,542,925
2019	386,276,966	90,799,386	89,640,559	-	-	1,158,827
2020	396,084,139	92,527,775	90,547,356	-	-	1,980,419
2021	406,409,795	98,904,597	96,466,136	-	-	2,438,461
2022	405,318,283	115,075,298	113,454,025	-	-	1,621,273
Villages						
2013	289,479,125	72,871,202	71,130,551	-	290,108	1,450,543
2014	296,688,354	83,549,031	82,367,874	-	-	1,181,157
2015	298,766,157	81,460,417	79,943,884	-	303,296	1,213,237
2016	298,766,157	69,981,037	68,788,007	-	-	1,193,030
2017	316,804,801	73,308,396	71,724,373	-	-	1,584,023
2018	323,473,812	75,751,635	74,134,267	-	323,456	1,293,912
2019	327,388,623	73,872,681	72,890,527	-	-	982,154
2020	337,679,673	76,094,089	74,405,690	-	-	1,688,399
2021	344,249,844	80,165,375	78,099,874	-	-	2,065,501
2022	346,200,166	94,477,950	93,093,149	-	-	1,384,801

Local Government Salaries and Billings — PFRS

continued

FYE	Salaries	Contributions	Normal	Deficiency	GLIP	Administrative
Miscellaneous						
2013	\$ 303,608,075	\$ 77,558,504	\$ 75,734,743	\$ -	\$ 303,957	\$ 1,519,804
2014	324,198,568	88,966,389	87,744,530	-	-	1,221,859
2015	322,131,168	89,840,321	88,189,827	-	330,099	1,320,395
2016	322,131,168	73,328,115	72,039,593	-	-	1,288,522
2017	332,682,130	78,709,281	77,045,873	-	-	1,663,408
2018	345,926,023	82,341,868	80,612,241	-	345,923	1,383,704
2019	355,303,151	81,963,609	80,897,700	-	-	1,065,909
2020	368,595,543	84,573,906	82,730,930	-	-	1,842,976
2021	612,045,010	147,894,883	144,222,611	-	-	3,672,272
2022	441,412,586	122,175,420	120,409,769	-	-	1,765,651

For the FYEs 2013-2015, the contribution amounts include the normal cost of benefits including supplemental pensions and, in some cases, the Retirement Incentive Program, Deficiency Contributions, the Group Life Insurance Plan (GLIP), and the administrative cost of the System for the fiscal year.

For FYE 2016, **and all subsequent FYEs**, the contribution amounts include the normal cost of benefits including supplemental pensions, Deficiency Contributions, GLIP, the administrative cost of the System for the fiscal year, and accounting adjustments. Accounting adjustments include prior year adjustments, prepayment discounts, and reconciliation of actual versus estimated salary amounts.

Legislation enacted in July 2015 (Chapter 94, Laws of 2015) requires the System to use prior year actual salaries rather than current year estimated salaries in the calculation of required contributions. This change eliminates the need for reconciliation of actual versus estimated salaries, the result of which is reflected in the FYE 2016 salaries.

Contributions Recorded 2013 – 2022

Contributions recorded are the amounts presented in the System’s financial statements and include employer costs plus or minus any adjustments in amounts receivable and changes resulting from legislation.

(Dollars in Millions)

Year Ended 3/31	Employer Contributions*	Member Contributions
2013		
Total	\$ 5,336.0	\$ 269.1
State	1,950.1	
Local	3,385.9	
2014		
Total	\$ 6,064.1	\$ 281.4
State	2,372.7	
Local	3,691.4	
2015		
Total	\$ 5,797.4	\$ 284.8
State	2,263.0	
Local	3,534.4	
2016		
Total	\$ 5,140.2	\$ 306.6
State	1,958.4	
Local	3,181.8	
2017		
Total	\$ 4,787.0	\$ 328.8
State	1,813.6	
Local	2,973.4	
* Includes employer premiums to Group Life Insurance Plan.		

Year Ended 3/31	Employer Contributions*	Member Contributions
2018		
Total	\$ 4,823.3	\$ 349.4
State	1,802.1	
Local	3,021.2	
2019		
Total	\$ 4,744.3	\$ 386.5
State	1,771.5	
Local	2,972.8	
2020		
Total	\$ 4,782.7	\$ 453.7
State	1,759.3	
Local	3,023.4	
2021		
Total	\$ 5,029.8	\$ 492.3
State	1,870.5	
Local	3,159.3	
2022		
Total	\$ 5,627.7	\$ 577.6
State	2,049.4	
Local	3,578.3	
* Includes employer premiums to Group Life Insurance Plan.		

20-Year Summary*

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Participants	1,193,373	1,172,147	1,160,743	1,139,971	1,122,626	1,104,779	1,088,342	1,073,486	1,066,064
Number of Members	685,450	675,519	673,336	658,176	652,030	652,324	647,399	643,178	643,659
ERS (a)	650,251	640,581	637,746	623,090	616,906	617,143	612,294	608,637	609,565
State	204,937	206,913	207,643	203,421	201,912	203,317	202,153	201,194	201,192
Counties	107,099	105,523	105,939	103,965	103,438	104,452	104,756	105,582	106,688
Cities	19,047	18,530	18,583	18,251	18,138	18,146	18,048	18,079	18,182
Towns	49,743	48,351	47,833	46,611	45,897	45,608	45,450	44,826	44,676
Villages	16,020	15,543	15,257	14,867	14,615	14,474	14,256	14,129	14,073
Miscellaneous	105,659	103,731	101,807	99,042	98,035	97,376	95,759	94,341	94,396
School Districts	147,746	141,990	140,684	136,933	134,871	133,770	131,872	130,486	130,358
PFRS (a)	35,199	34,938	35,590	35,086	35,124	35,181	35,105	34,541	34,094
State	6,407	6,493	6,785	6,712	6,606	6,596	6,309	6,009	5,792
Counties	5,399	5,149	5,306	5,303	5,386	5,323	5,348	5,179	5,003
Cities	11,785	11,654	11,745	11,659	11,757	11,880	12,018	11,856	11,812
Towns	4,138	4,108	4,147	4,090	4,061	4,127	4,182	4,196	4,162
Villages	4,208	4,181	4,175	4,072	4,160	4,213	4,340	4,343	4,330
Miscellaneous	3,262	3,353	3,432	3,250	3,154	3,042	2,908	2,958	2,995
Members by Tier (b)									
ERS Tier 1	1,043	1,305	1,552	1,937	2,313	3,241	3,809	4,520	5,249
ERS Tier 2	1,042	1,364	1,762	2,278	2,817	3,668	4,420	5,375	6,297
ERS Tiers 3 through 6	648,166	637,912	634,432	618,875	611,776	610,234	604,065	598,742	598,019
PFRS Tier 1	17	19	24	27	40	54	77	92	123
PFRS Tier 2	17,032	18,763	20,500	21,938	23,733	25,518	27,364	28,179	29,188
PFRS Tiers 3, 5 & 6	18,150	16,156	15,066	13,121	11,351	9,609	7,664	6,270	4,783
Retirees & Beneficiaries	507,923	496,628	487,407	481,795	470,596	452,455	440,943	430,308	422,405
ERS	468,664	458,261	449,806	444,719	434,553	417,499	407,112	396,781	389,288
PFRS	39,259	38,367	37,601	37,076	36,043	34,956	33,831	33,527	33,117
Employers	3,539	3,623	3,616	3,692	3,044	3,040	3,040	3,032	3,027
ERS	2,969	3,052	2,959	3,015	3,017	3,013	3,010	3,006	3,002
PFRS	570	571	657	677	684	687	686	682	681
Benefit Payments (c)	\$ 14,719.7	\$ 14,022.7	\$ 13,246.1	\$ 12,741.6	\$ 12,027.3	\$ 11,448.7	\$ 10,908.5	\$ 10,436.2	\$ 9,898.8
Retirement Allowances	13,791.6	13,096.1	12,424.6	11,880.3	11,197.8	10,617.5	10,113.8	9,651.2	9,098.4
Death Benefits (Lump Sum)	237.8	258.0	159.5	214.7	201.2	216.2	188.2	183.1	203.8
COLA Payments	690.3	668.6	662.0	646.6	628.3	615.0	606.5	601.9	596.6
# of Service Retirements	24,170	25,212	23,159	22,928	28,312	22,762	21,984	18,039	19,702
# of Death Benefits Paid	1,458	1,108	897	793	857	915	751	900	810
# of Disability Retirements	379	297	477	883	922	718	626	720	963
Employer Contributions	\$ 5,518.0	\$ 5,029.8	\$ 4,782.7	\$ 4,744.3	\$ 4,823.3	\$ 4,787.0	\$ 5,140.2	\$ 5,797.4	\$ 6,064.1
ERS	4,352.5	3,932.9	3,818.3	3,766.8	3,852.5	3,858.6	4,232.4	4,802.2	5,045.6
PFRS	1,060.5	967.5	862.3	854.1	869.8	837.3	792.6	901.0	926.3
Group Life Insurance Plan	105.0	129.4	102.1	123.4	101.0	91.1	115.2	94.2	92.2
Rate (as a % of Salary) (d)									
ERS	16.2%	14.6%	14.6%	14.9%	15.3%	15.5%	18.2%	20.1%	20.9%
PFRS	28.3%	24.4%	23.5%	23.5%	24.4%	24.3%	24.7%	27.6%	28.9%
Employee Contributions	\$ 577.6	\$ 492.3	\$ 453.7	\$ 386.5	\$ 349.4	\$ 328.8	\$ 306.6	\$ 284.8	\$ 281.4
ERS	494.8	427.0	395.3	345.8	318.4	306.2	289.3	272.0	273.5
PFRS	82.8	65.3	58.4	40.7	31.0	22.6	17.3	12.8	7.9
Investments (e)	\$ 272,121.3	\$ 258,135.8	\$ 194,317.2	\$ 210,523.7	\$ 207,416.0	\$ 192,410.6	\$ 178,639.7	\$ 184,502.0	\$ 176,835.1
Equities	133,460.2	133,744.2	93,221.9	109,560.6	114,797.1	103,688.4	90,755.4	94,293.5	93,191.7
Global Fixed Income	52,497.5	47,722.9	45,410.3	45,651.6	44,820.8	44,002.6	44,661.2	47,652.2	41,410.6
Commercial Mortgages	1,421.1	1,043.6	1,011.8	897.0	843.4	800.3	796.4	852.9	853.9
Short-Term Investments	3,852.3	11,082.7	5,697.7	6,119.0	3,366.6	5,653.3	5,578.8	5,252.5	6,592.8
Private Equity	37,026.1	29,470.2	20,314.2	19,751.0	17,500.5	15,348.5	13,961.4	14,247.4	14,369.8
Equity Real Estate	22,873.1	17,648.0	15,693.7	15,678.5	14,182.7	12,937.4	12,639.7	12,123.4	12,529.3
Opportunistic/ Absolute Return Strategy	5,730.0	5,016.1	9,881.9	10,646.0	10,386.3	9,589.5	9,748.7	9,681.0	7,887.0
Credit	9,209.8	8,478.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	6,051.2	3,929.6	3,085.7	2,220.0	1,518.6	390.6	498.1	399.1	0.0
Rate of Return (f)	9.5%	33.6%	(2.7)%	5.2%	11.4%	11.5%	0.2%	7.2%	13.0%
Core Fixed Income	2.9%	2.6%	7.4%	4.8%	2.1%	2.5%	1.8%	5.5%	(0.5)%
Equity Investments	13.3%	44.2%	(5.4)%	5.6%	14.5%	14.8%	(0.4)%	8.3%	19.1%
Administrative Cost	\$ 163.5	\$ 165.1	\$ 139.1	\$ 136.5	\$ 122.8	\$ 107.1	\$ 106.6	\$ 107.2	\$ 105.7
Financial Statement Assets	\$ 273,718.7	\$ 260,081.1	\$ 198,079.8	\$ 215,169.2	\$ 212,076.8	\$ 197,602.2	\$ 183,640.2	\$ 189,412.4	\$ 181,275.3

20-Year Summary*

continued

2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
1,061,010	1,059,398	1,057,754	1,055,020	1,046,086	1,035,430	1,012,699	995,536	982,009	970,078	964,140
647,574	656,224	672,723	679,217	679,908	677,321	662,633	653,291	647,758	641,721	650,543
613,930	622,107	637,921	643,875	643,700	641,119	626,923	617,989	612,410	606,155	614,555
202,570	203,274	213,089	216,582	219,741	220,216	215,296	211,041	208,899	207,641	216,005
108,302	111,051	114,111	115,722	116,515	117,084	115,944	115,472	118,006	117,514	119,319
18,176	18,420	18,667	18,897	18,893	18,992	18,843	18,891	18,979	18,933	19,637
44,407	44,644	44,416	44,361	43,403	43,203	41,989	41,393	40,561	39,841	39,395
14,040	14,051	14,165	14,150	14,000	13,891	13,597	13,388	13,106	12,878	12,823
95,199	97,225	98,115	97,960	97,272	95,601	92,736	90,879	86,791	85,732	85,708
131,236	133,442	135,358	136,203	133,876	132,132	128,518	126,925	126,068	123,616	121,668
33,644	34,117	34,802	35,342	36,208	36,202	35,710	35,302	35,348	35,566	35,988
5,630	5,548	5,779	5,973	6,222	6,223	6,219	5,955	6,038	5,898	5,802
5,076	5,372	5,499	5,560	5,841	5,898	5,873	5,850	5,833	5,814	5,901
11,868	11,974	12,137	12,289	12,433	12,414	12,206	12,147	12,113	12,374	12,541
4,153	4,178	4,205	4,249	4,340	4,364	4,295	4,261	4,217	4,231	4,233
4,370	4,433	4,512	4,547	4,592	4,621	4,591	4,641	4,653	4,732	4,867
2,547	2,612	2,670	2,724	2,780	2,682	2,526	2,448	2,494	2,517	2,644
6,230	7,551	10,718	13,395	16,829	20,513	25,053	29,492	34,980	39,622	50,032
7,538	9,222	12,911	15,651	18,097	20,315	22,458	24,263	25,938	27,398	30,122
600,162	605,334	614,292	614,829	608,774	600,291	579,412	564,234	551,492	539,135	534,401
172	230	304	393	576	745	924	1,143	1,503	2,076	2,597
30,295	31,830	33,091	34,261	35,632	35,457	34,786	34,159	33,845	33,490	33,391
3,177	2,057	1,407	688	0	0	0	0	0	0	0
413,436	403,174	385,031	375,803	366,178	358,109	350,066	342,245	334,251	328,357	313,597
380,899	371,468	353,940	345,106	336,273	328,726	321,113	313,837	306,531	301,528	287,341
32,537	31,706	31,091	30,697	29,905	29,383	28,953	28,408	27,720	26,829	26,256
3,029	3,040	3,039	3,035	3,026	3,021	3,010	3,001	2,993	2,985	2,968
3,004	3,016	3,016	3,011	3,001	2,995	2,983	2,974	2,967	2,959	2,943
681	682	681	681	683	683	683	685	684	684	681
\$ 9,450.2	\$ 8,862.8	\$ 8,464.6	\$ 7,663.1	\$ 7,212.1	\$ 6,835.6	\$ 6,383.4	\$ 6,028.9	\$ 5,674.7	\$ 5,347.5	\$ 4,984.6
8,669.8	8,109.3	7,717.0	6,931.8	6,497.1	6,142.8	5,722.9	5,388.6	5,041.0	4,722.1	4,373.3
194.2	185.0	192.3	183.0	180.5	181.7	164.6	161.2	161.9	157.3	148.4
586.2	568.5	555.3	548.3	534.5	511.1	495.9	479.1	471.8	468.1	462.9
19,962	28,259	19,092	19,193	17,979	17,261	16,390	16,827	14,533	23,655	16,078
844	879	984	955	935	1,014	832	932	1,041	1,025	1,019
1,026	1,161	844	1,421	1,020	950	1,227	1,267	1,463	1,103	1,064
\$ 5,336.1	\$ 4,585.2	\$ 4,164.5	\$ 2,344.2	\$ 2,456.2	\$ 2,648.4	\$ 2,718.6	\$ 2,782.2	\$ 2,964.8	\$ 1,286.5	\$ 651.9
4,435.6	3,790.6	3,525.8	1,785.5	1,898.7	2,073.5	2,116.0	2,271.4	2,434.5	1,052.3	525.5
808.5	706.4	538.8	465.0	492.8	510.6	502.5	433.4	455.3	158.4	66.3
92.0	88.2	99.9	93.7	64.7	64.3	100.1	77.3	75.0	75.8	60.1
18.9%	16.3%	11.9%	7.4%	8.5%	9.6%	10.7%	11.3%	12.9%	5.9%	1.5%
25.8%	21.6%	18.2%	15.1%	15.8%	16.6%	17.0%	16.3%	17.6%	5.8%	1.4%
\$ 269.1	\$ 273.2	\$ 286.2	\$ 284.3	\$ 273.3	\$ 265.7	\$ 250.2	\$ 241.2	\$ 227.3	\$ 221.9	\$ 219.2
264.8	268.5	284.5	282.8	269.0	263.1	247.2	237.7	224.5	217.4	214.1
4.3	4.7	1.7	1.5	4.3	2.6	2.9	3.5	2.8	4.5	5.1
\$ 160,660.8	\$ 150,658.9	\$ 147,237.0	\$ 132,500.2	\$ 108,960.7	\$ 153,877.7	\$ 154,575.5	\$ 140,453.3	\$ 126,083.5	\$ 119,245.0	\$ 95,598.3
83,049.5	79,059.2	79,945.0	72,674.0	47,871.0	83,153.7	90,119.7	88,550.9	80,917.2	74,876.5	51,357.0
38,559.5	33,440.5	31,037.9	33,726.1	36,541.6	36,571.4	33,536.2	28,889.0	29,310.8	29,691.2	32,019.7
812.7	803.0	851.3	845.7	710.2	772.4	889.7	1,162.7	1,281.9	1,530.0	1,723.6
6,461.3	7,397.7	8,360.2	3,086.1	3,826.7	6,443.1	8,551.1	6,619.3	2,602.5	1,879.1	771.2
14,072.6	14,925.9	14,620.4	12,584.0	10,563.7	12,699.4	10,044.8	8,284.8	6,832.4	6,738.8	5,564.8
11,195.4	9,339.5	7,631.0	5,551.1	7,066.5	8,909.4	6,752.7	5,430.7	4,634.0	4,529.4	4,162.0
6,509.8	5,693.1	4,791.2	4,033.2	2,381.0	5,328.3	4,681.3	1,516.0	504.7	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.4%	6.0%	14.6%	25.9%	(26.4)%	2.6%	12.6%	14.6%	8.5%	28.8%	(10.2)%
4.7%	9.0%	8.0%	7.4%	2.4%	8.6%	6.0%	1.7%	3.0%	8.9%	16.8%
12.5%	4.9%	17.1%	41.3%	(30.8)%	0.9%	15.0%	19.1%	10.6%	42.8%	(24.3)%
\$ 105.7	\$ 100.6	\$ 101.3	\$ 100.0	\$ 99.2	\$ 90.3	\$ 79.8	\$ 78.5	\$ 65.3	\$ 69.6	\$ 67.5
\$ 164,221.8	\$ 153,394.4	\$ 149,548.6	\$ 134,251.7	\$ 110,937.8	\$ 155,845.9	\$ 156,625.2	\$ 142,620.1	\$ 128,037.7	\$ 120,799.0	\$ 97,372.7

Notes to 20-Year Summary

* Combined Systems unless noted; dollars in millions; data as of March 31 fiscal year end.

- (a) Includes active members and inactive members identified with their last employer.
- (b) Tiers 3 through 6 membership statistics are combined. Tier 6 was enacted on April 1, 2012.
- (c) Total does not include Employee Contributions Refunded or Other Benefits found in the Financial Statements.
- (d) Beginning in the 2006 fiscal year, all rates assume a February 1 payment date prior to the close of the fiscal year. Previous years assume rates based on a December 15 payment date. Contributions include normal, administrative, retirement incentive and deficiency costs.
- (e) Investments for 1995 and later years are shown at (and rate of return is calculated on) fair value as required by GASB 25, which the System adopted that year.
- (f) Generally, the Rate of Return is calculated on a time-weighted, gross-of-fees, basis.



Office of the New York State Comptroller
Thomas P. DiNapoli

