

**ANNUAL COMPREHENSIVE
FINANCIAL REPORT**
for the Fiscal Year Ended June 30, 2022



Liberty and Prosperity has been the official state motto of New Jersey since 1777. It's theme is illustrated by two Roman goddesses that embody the state seal. Liberty, on the left, carries the liberty cap on her staff which was worn as a symbol of rebellion by the patriots in colonies signifying New Jersey's claim of freedom from royal rule. The figure to the right, Ceres, holds a cornucopia representing the state's hope for abundance and prosperity.



NJDPB
Pensions & Benefits

Explore Your Benefits

State of New Jersey
Department of the Treasury
Division of Pensions & Benefits

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OUR MISSION . . .

To provide benefits and services that meet the needs of our clients and others we are committed to serve, through our efficient and responsive workforce

OUR VISION . . .

WE will achieve satisfaction through equitable, effective responsive service, and clear and accessible communications that meet the needs of our clients.

WE will encourage and support an accomplished workforce that is knowledgeable, flexible, technically proficient, and committed to excellence.

WE will be committed to working with executive and legislative agencies and governing boards to improve the design and implementation of the benefit programs.

WE will support technologies that simplify procedures and improve services, manage our resources in a responsible and creative manner, and hold contracted service providers to high standards.

WE will work with participating employers to enhance their role in the administration of benefits for their employees through integrated technology that allows them to access and process benefit information directly.

OUR VALUES . . .

WE are customer-focused, recognizing each client individually.

WE acknowledge as our greatest asset our knowledgeable, hardworking, dedicated, and caring staff.

WE are financially responsible in the administration, oversight, and delivery of our benefit programs.

WE are committed to providing quality, timely, accurate, efficient, and cost-effective services.

WE are committed to creating and developing a quality work environment using state-of-the-art technologies, and processes

that foster improvement of our organization through teamwork, motivation, and communication among staff.

OUR GOALS . . .

Customer Service —

TO create and maintain a customer-focused work environment that anticipates and meets client needs.

Staff —

TO have a full complement of staff that is well trained, undergoes continual development, and is motivated to provide benefit services effectively and efficiently in a customer friendly manner.

Technology —

TO have an integrated, easily maintained and modified, information processing system that supports the efficient and effective delivery of services.

Planning —

TO have an effective planning system that facilitates improvement, anticipates change, and properly focuses resources on priorities.

Benefits Processing —

TO provide benefits to clients in a timely and efficient manner.

Advocacy—

TO help structure a well-funded system of benefits that meets the needs of public employees and employers.

Oversight and Compliance—

TO administer programs with clear and consistent policies and procedures and provide oversight to safeguard fund assets and ensure benefit entitlement.

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**NEW JERSEY
DIVISION OF PENSIONS & BENEFITS**

**67th
ANNUAL COMPREHENSIVE
FINANCIAL REPORT
FOR THE FISCAL YEAR ENDED JUNE 30, 2022**



PHILIP D. MURPHY

Governor

ELIZABETH MAHER MUOIO

State Treasurer

JOHN MEGARIOTIS

Acting Director



**State of New Jersey | Department of the Treasury
Division of Pensions & Benefits
P.O. Box 295
Trenton, NJ 08625-0295
(609) 292- 7524**

PROGRAMS ADMINISTERED BY THE DIVISION OF PENSIONS & BENEFITS

PERS	Public Employees' Retirement System
TPAF	Teachers' Pension and Annuity Fund
PFRS	Police and Firemen's Retirement System
SPRS	State Police Retirement System
JRS	Judicial Retirement System
DCRP ¹	Defined Contribution Retirement Program
ABP ¹	Alternate Benefit Program
POPF	Prison Officers' Pension Fund
CPFPF	Consolidated Police and Firemen's Pension Fund
NJSEDCP	New Jersey State Employees Deferred Compensation Plan
SACT	Supplemental Annuity Collective Trust
ACTS ²	Additional Contributions Tax-Sheltered Program
CPF	Central Pension Fund
UCTDSE ²	Unemployment Compensation and Temporary Disability for State Employees
SHBP	State Health Benefits Program
SEHBP ¹	School Employees' Health Benefits Program
PDP	Prescription Drug Plans
EDP	Employee Dental Plans
Tax\$ave ²	New Jersey State Employees' Tax Savings Program: Premium Option Plan, Unreimbursed Medical Flexible Spending Account, and Dependent Care Flexible Spending Account
Commuter Tax\$ave ²	New Jersey State Employees' Commuter Tax Savings Program
LTC ²	Long Term Care Insurance Plan

¹ Programs moved to the State (OMB) financial statement, including SHBP/PDP-State and EDP-State.

² Third-party programs.

INDEPENDENT AUDITOR KPMG LLP — 51 John F. Kennedy Parkway, Short Hills, NJ 07078-2702

ACTUARIAL REPORTS Cheiron — 701 East Gate Drive, Suite 330, Mount Laurel, NJ 08054
 Segal — 333 West 34th Street, New York, NY 10001-2402
 AON Hewitt — 400 Atrium Drive, Somerset, NJ 08873

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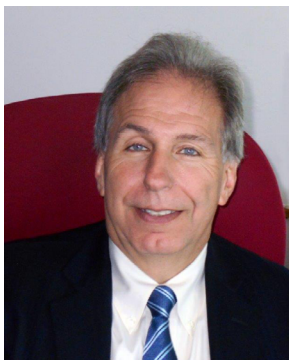
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Philip D. Murphy
Governor



Elizabeth Maher Muoio
State Treasurer



John Megariotis
Acting Director
Division of Pensions & Benefits



State of New Jersey
Department of the Treasury
Division of Pensions & Benefits
(609) 292-7524 TRS 711 (609) 292-6683
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Mailing Address:
PO Box 295
Trenton, NJ 08625-0295
Location:
50 West State Street
Trenton, New Jersey

Letter of Transmittal

July 2023

To the Honorable

Philip D. Murphy, Governor
Elizabeth Maher Muoio, State Treasurer
Members of the Legislature
Members of the Boards of Trustees

On behalf of the New Jersey Division of Pensions & Benefits (NJDPB), I am pleased to submit the 67th Annual Comprehensive Financial Report (Annual Report) of the New Jersey State-administered retirement systems and related benefit programs for the fiscal year ended June 30, 2022. The management of the NJDPB is responsible for the accuracy of the data and the completeness and fairness of the presentation. To the best of my knowledge and belief, the enclosed information is accurate in all material respects and is reported in a manner that fairly represents the financial position and results of the NJDPB's operations.

The Reporting Entity

The NJDPB was established in 1955 as the Division of Pensions to provide all administration of the State pension funds except investments. The NJDPB changed its name to the Division of Pensions & Benefits in 1992 to more accurately reflect its roles and responsibilities beyond the realm of pensions. Currently, the NJDPB administers one of the largest non-federal public benefits programs in the nation, consisting of 10 separate retirement systems, three supplemental retirement savings programs, three health benefits programs for employees, retirees, and family members, and several other employee benefits programs.

Major Initiatives

Pension Operations: The NJDPB continues to identify workflow and automation initiatives to improve service, reduce costs, and eliminate paper processing wherever possible. Recent enhancements include Electronic Funds Transfer (EFT) functionality for Pension Withdrawals and Group Life Insurance payments to beneficiaries. These systems have successfully made several hundred payments to former members and beneficiaries via EFT, reducing wait times and the paper and printing costs of paper checks. The Disability Retirements section has transitioned to paperless processing with all cases handled electronically from start to finish which reduced processing times along with paper usage. Work continues on enhancements to the Death Information Benefits System, MBOS Retirement Application, EPIC Retirement Certification, and Retirement Tracking System.

Technology upgrades transitioned all staff to laptops with remote VPN access. Ongoing upgrades will provide fully remote VoIP phone support to all staff. When completed, this initiative will assure secure access to maintain workflows and continue operation of NJDPB critical services whether employees are working in the office or remotely.

The NJDPB call center, implementing recommendations from review by the Gartner Group, added technical enhancements and expanded staff to improve call center response and member service. These actions reduced wait times to averages as short as six minutes and allowed counselors to answer 386,090 calls during FY 2022.

A Web chat portal opened to members on November 15, 2021, and has experienced robust usage. Visitors to the NJDPB website or the Member Benefits Online System (MBOS) can engage a counselor in live chat to have questions answered and receive other benefit-related information.

The NJDPB, in its ongoing efforts to prevent online fraud, worked with our partners at the myNJ Portal and DORES to implement the mandatory use of Multi-Factor Authentication (MFA) for all Member Benefits Online System (MBOS) and Employer Pensions and Benefits Connection (EPIC) accounts. Email messaging sent to member and employer populations stressed the importance of activating MFA, and all MBOS and EPIC registered users must now use MFA to access their accounts.

The Boards of Trustees continue to hold meetings electronically. Processing and distribution of meeting materials were converted to electronic format to reduce printing and paper costs.

Health Benefits: The NJDPB successfully onboarded all active and retired health benefit groups in the State Health Benefits Program (SHBP) and School Employees' Health Benefits Program (SEHBP) to the online platform, Benefitsolver. All enrollment actions: medical, Rx, or dental plan changes; adding or deleting dependents; COBRA enrollments and payments; employer certifications; etc. are now paperless and completed through Benefitsolver. The annual submission and payment process for retirees eligible for IRMAA-related Medicare Part B and Part D reimbursements is also administered through Benefitsolver.

Authorized under P.L. 2020, c.44, and amended by P.L. 2021, c. 163, the NJDPB established two new plans in the SEHBP. Current SEHBP members may join the newly created New Jersey Educators Health Plan (NJEHP) or choose to remain in the NJ DIRECT10 or NJ DIRECT15 plans. Non-Medicare retirees and all new employees in the SEHBP can only join the NJEHP. The second plan choice, the Garden State Health Plan (GSHP), held a Special Open Enrollment from May 2-30, 2022, with an effective date of coverage on July 1, 2022.

The NJDPB continues to engage additional mental health programming for members. All Direct Primary Care Medical Home (DPCMH) providers are asked to onboard additional behavioral health resources, including licensed clinical social workers, therapists, etc. In addition, new digital solutions are available to members through Livongo Whole Health Solution, Mystrength, Ableto, and Joyable.

HMS, Inc., a nationally recognized healthcare claim review and data analytics firm, began real-time medical claims review for SHBP and SEHBP claims to ensure accuracy in payment, recoupments, and integrity of plan design.

Through its vendors, the NJDPB has ensured that there is no cost-share for medically appropriate testing and treatment related to COVID-19; or for COVID-19 vaccines received in accordance with appropriate State and Federal Guidelines and continues to monitor claims data to determine COVID-19 impact on spending and population health management.

Financial Information

The Financial reports of the Fiduciary Funds of the NJDPB have been prepared in conformity with generally accepted accounting principles as applied to governmental units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for governmental accounting and financial reporting. The specific accounting policies can be found in the "Notes to Financial Statements" found in the Financial Section.

The Fiduciary Funds include 10 separate pension trust funds, one OPEB (Other Post-Employment Benefit) plan, and one custodial fund. A summary of the condition of the funds administered by the NJDPB is located in the "Management Discussion and Analysis" section that begins on page 41 of the Annual Report. Management is responsible for establishing and maintaining the accounting systems complete with internal controls so that the data presented is complete and fairly presents the financial position of the NJDPB as of June 30, 2022. KPMG LLP independently audited the funds.

Investments

The Division of Investment has the responsibility for investing the assets of the programs administered by the NJDPB. This is done under the jurisdiction of the State Investment Council. Investments are guided by the "prudent person rule." During FY 2022, investment returns on pension funds were -7.90 percent. When combined with the returns for previous years, the annualized returns over the past three- and five-year periods were +6.24 percent and +6.80 percent, respectively.

Funding

Fully funding the State's pension liabilities and offering sustainable public employee benefits are a major objective. With budgetary constraints and growing benefit liabilities, the NJDPB recognizes the importance of the significant contributions the State is making to the pension systems. The NJDPB has and will continue to devote its resources to support this important objective.

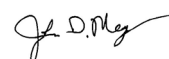
Professional Services

The NJDPB contracts with several professional organizations for advice and assistance in administering the programs for which it is responsible. The list of these organizations is found on page 107 of the Annual Report. The Office of the Attorney General provides all legal services required by the NJDPB, the retirement systems' Boards of Trustees, and the Health Benefits Commissions and Committees.

Acknowledgments

The preparation of the Annual Report required the combined efforts of many employees from different operational units within the NJDPB. The Annual Report is intended to provide extensive and reliable information to facilitate informed decisions, determine compliance with legal requirements, and demonstrate responsible stewardship for the assets contributed by the systems' members, participating employers, and the taxpayers of the State. I would like to take this opportunity to express my gratitude to the Governor, the Legislature, the Treasurer, the Boards of Trustees, the individuals providing professional services, participating employer benefits administrators, and to the outstanding employees of the Division for all their efforts and support. Such concerted effort has resulted in making New Jersey's public benefits system one of the largest and best administered in the nation.

Respectfully submitted,



John Megariotis, Acting Director

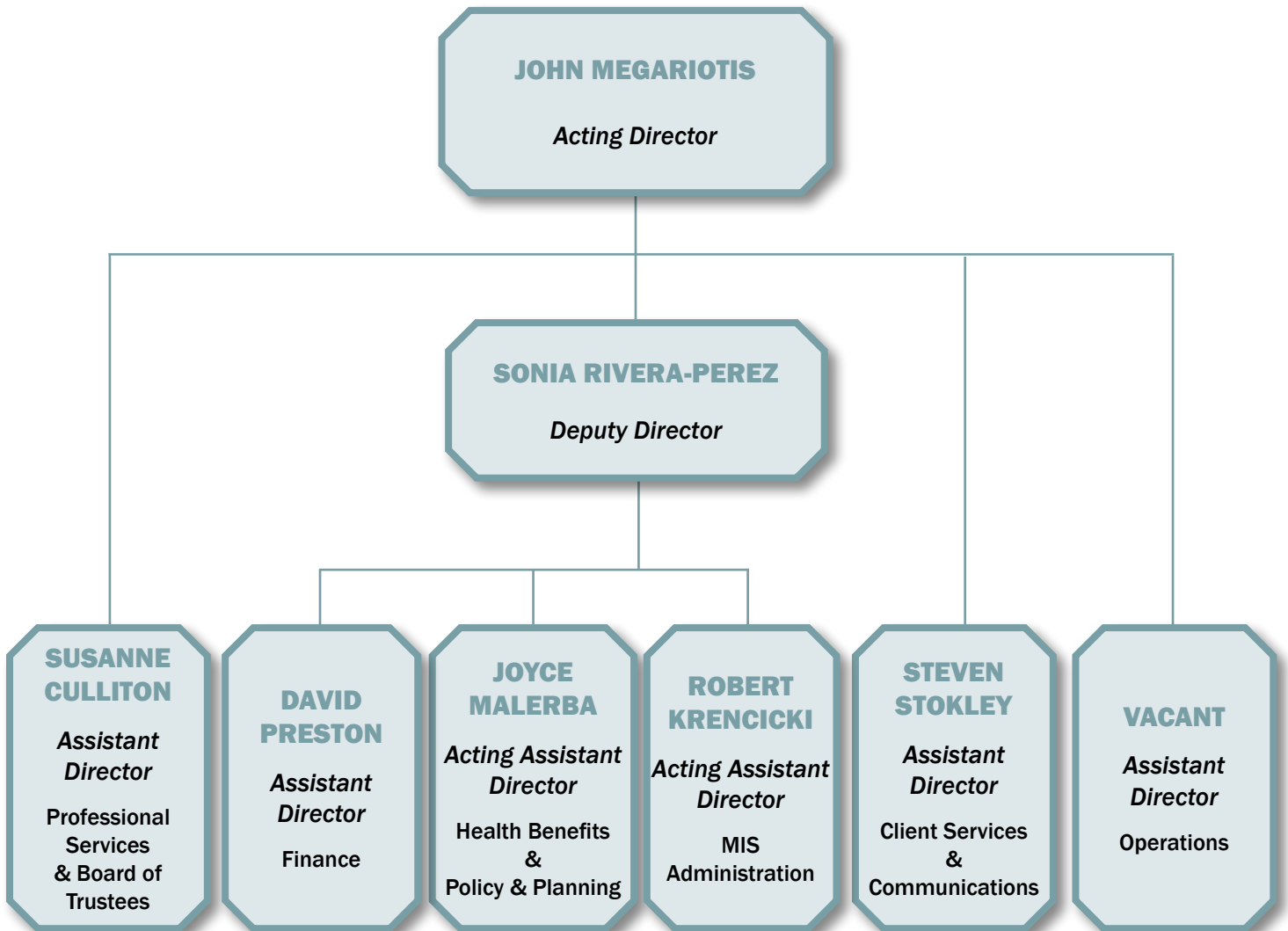
All in a Year's Work...

- There are **541,004 active members** in the defined benefit and defined contribution retirement systems.
- A total of **361,419 retirees and beneficiaries** received monthly pensions totaling in excess of **\$12 billion** annually.
- There are **2,139 participating employers** in the combined retirement systems; **8 new employers** began participating this year.
- **21,950 beneficiary claims** were processed. Premiums in excess of **\$227 million** were paid to the insurance carrier on behalf of active and retired members.
- **774,355 inbound calls** were received by the Division. **624,963 callers** selected a phone representative.
- **9,223 virtual interviews** were conducted by pension counselors. In-person interviews that were suspended as of March 19, 2020, as a precaution due to COVID-19 resumed as of January, 2022. There were **813 in-person** interviews conducted from January 3, 2022 through June 30, 2022.
- A new web-based Member Chat function was introduced in November, 2021. **11,402 inbound chats** were received by the Division from November 15, 2021 through June 30, 2022.
- **333 seminars and webinars** were conducted for over **26,647 members**.
- **15,794 service purchase requests** were processed.
- **42,857 new enrollments or transfers** were processed in our retirement systems.
- There were **8,701 paid withdrawals** from the retirement systems.
- **16,334** members retired.
- **59,087 pension loans** totaling **\$522 million** were processed.
- State and local membership in the State Health Benefits Program and School Employees' Health Benefits Program was **404,642** members with **816,577 lives** covered.
- A total of over **\$6.4 billion in premiums** was collected from State and local State Health Benefits Program employers, School Employees' Health Benefits Program employers, and combined employees. **1,083 local employers** elected to participate in the SHBP or SEHBP this year.

ORGANIZATION

State of New Jersey • Department of the Treasury

Division of Pensions & Benefits



Director

The Director is responsible for the coordination of the functions of the NJDPB, the development of the NJDPB budget, and communication with other branches of State government, local government, and the public. The Director serves as the Secretary to the Supplemental Annuity Collective Trust Council, the State Health Benefits Commission and School Employees' Health Benefits Commission, and the State House Commission in its capacity as the Board of Trustees for the Judicial Retirement System. The Director also is responsible for legal and legislative matters and Board of Trustees administration. In addition, the Treasurer has delegated the responsibility of maintaining the Federal-State Agreement for Social Security to the Director of the NJDPB.

The Division of Pensions & Benefits falls under the jurisdiction of the New Jersey Department of the Treasury. The Director of the NJDPB reports directly to the State Treasurer.

Office of Health Benefits

This office, overseen by an Assistant Director, consists of two elements: the Health Benefits Bureau and the Office of Policy and Planning. The Health Benefits Bureau processes all enrollments, changes, and terminations for active and retired members of the State Health Benefits Program (SHBP) and School Employees' Health Benefits Program (SEHBP). In addition, this bureau is responsible for the administration of benefits under the federal COBRA law, and enrollments, changes, and terminations for members of the Prescription Drug Plans and Employee and Retiree Dental Plans. The Office of Policy and Planning analyzes and makes recommendations concerning current and proposed health benefits programs to provide the highest quality programs at the least possible cost. It manages contract renewals and requests for proposals. Policy and Planning is responsible for health benefit program review and development. This office also provides administrative support to the State Health Benefits Commission and School Employees' Health Benefits Commission as well as the SHBP and SEHBP Plan Design Committees.

Office of Financial Services

The work of this office, overseen by an Assistant Director, is divided among three bureaus: Financial Reporting, Payment, and Collections; Budget and Compliance; and Defined Benefit and Contribution Plans Reporting.

The Office of Financial Services is charged with the custodianship of pension and health benefits assets. These assets are in excess of \$104.3 billion. The office is responsible for the accounting and budget functions necessary for the successful operations of the various pension funds, health benefits and agency funds, as well as the administration of the Pension Adjustment Program, the Supplemental Annuity Collective Trust, and Deferred Compensation Plan.

Office of Client Services & Communications

This office, overseen by an Assistant Director, consists of two elements: the Office of Client Services and the Office of Communications. Each office disseminates all plan and program information to employees, retirees, and employers covered by the various New Jersey State-administered retirement systems and benefit programs.

The Office of Client Services consists of the Call Center and Interview Units which provide counseling services to employees, retirees, and employers; the Education Unit which conducts seminars/webinars, employer training and various presentations concerning pension, life insurance, and health benefits; the Email and Correspondence Unit which responds to all written requests and emails; and the Support Unit which provides receptionist services for the entire Division. The Office of Communications consists of the Print and Internet Units, which are responsible for creating, editing, and updating the NJDPB's informational materials, including manuals, reports, forms, benefits statements, and guide booklets, and for the distribution of these items in printed form or online through the NJDPB's Internet site.

Office of Operations

This office, overseen by an Assistant Director, consists of two bureaus: the Enrollment, Purchase, Adjustment, Loan, and Withdrawal Bureau along with the Retirement Bureau, and Beneficiary Services.

The Office of Operations is responsible for the following: Retirement Processing Section (calculation and payment of retirement benefits); Disability Retirement Section (processing of Ordinary and Accidental Disability applications); Beneficiary Services Section (processing beneficiary designations, calculation and payment of active and retired death benefits); Quality Control Section (plan all activities related to the Judicial Retirement System, process Workers' Compensation offsets and Court Orders for Support and Qualified Domestic Relations Orders, audit and adjustments to retired member accounts); Enrollment Section (process new enrollment application into the Defined Benefits (DB) Plans including interfund and intrafund transfers); Purchase Section (quote and calculate the cost for members to purchase additional eligible service credit in the DB plans); Adjustment Section (analyze data and prepare adjustments of active member accounts); and Loans and Withdrawal Section (administer payments to members for pension loans and withdrawal from the DB Plans).

Office of Management Information and Support Services

The work of this office, overseen by an Assistant Director, is responsible for the development and maintenance of all processing and management

ORGANIZATION

information systems for the NJDPB. This office also has responsibility for the training, usage, and maintenance of all automated office and telephone equipment.

This office consists of four sections: Image Processing and Records Management; Computer Scheduling and Production Control; Systems Development; and Support Services.

Office of Professional Services

The Office of Professional Services is located within the Director's Office and operates under the direction of an Assistant Director. It is responsible for providing a structured and consistent planning function for the NJDPB, assists in analyzing proposed legislation, providing the regulatory function for the NJDPB, managing the development of contracts with external service providers, conducting research in support of NJDPB activities, reviewing all Court Orders including subpoenas and ensuring implementation, assuring compliance with the Open Public Records Act, and oversight of the Office of Board of Trustees Administration.

The Office of Board of Trustees Administration, provides administrative services for the various defined benefit plans' Boards and Commissions. The Boards and Commissions have the general responsibility for the proper operation of their respective employee benefits program. The Boards adopt rules in compliance with statute and advice of the Attorney General. The Boards may grant hearings in disputes concerning issues of law or fact. Hearings are held by the Office of Administrative Law.

The Boards maintain a record of all proceedings and hold regular meetings and special meetings when necessary.

Actuarial Advisors

The actuaries establish actuarial tables for the operation of the retirement systems, determine the annual appropriation required of participating employers, and conduct annual examinations of the systems' actuarial position.

Contracts for actuarial services for the retirement systems are awarded at specified intervals through the regulations governing the procurement of goods and services for the State of New Jersey and its constituent departments and agencies

Legal Advisor

The State Attorney General is the legal advisor for all pension funds and other employee benefit programs.

Medical Advisors

All retirement systems are served by a medical board consisting of three physicians who review claims for disability as submitted by the Disability Review Section of the Retirement Bureau for the Division of Pensions & Benefits.

ORGANIZATION — BOARDS OF TRUSTEES

(Reflects Board Members who served as of June 30, 2022)

Public Employees' Retirement System

Thomas Bruno, *Chairperson*
William O'Brien, *Vice Chairperson*
Carey Brown, *State Representative*
Tracy Smith, *County Representative*
Benjamin "Max" Hurst, *Municipal Representative*
Vacancy, *Municipal Representative*
Ronald Winthers, *Gubernatorial Appointee*
Vacancy, *Gubernatorial Appointee*
Susanne Culliton, *Treasurer's Representative*
Robert Kelly, *Deputy Attorney General*
Jeff Ignatowitz, *Board Secretary*
William Tedder, *Assistant Board Secretary*

Teachers' Pension and Annuity Fund

Howard Lipoff, *Chairperson*
Irene Savicky, *Vice Chairperson*
Edward Yurusinsky, *Retired Teacher*
Sarah Favinger, *Elected by the Board*
Vacancy, *Governor's Appointment*
Vacancy, *Governor's Appointment*
Susanne Culliton, *Treasurer's Representative*
Jeffrey Padgett, *Deputy Attorney General*
Saretta Dudley, *Board Secretary*
William Tedder, *Assistant Board Secretary*

Police and Firemen's Retirement System

Ed Donnelly, *Chairperson*
James Kompany, *Vice-Chairperson*
Timothy Colacci, *PFANJ Appointment*
Marc Morgan, *FOP Appointment*
Raymond Heck, *Police Representative*
Matthew Lubin, *Fire Representative*
Bruce Polkowitz, *Retiree Representative*
Edward T. Oatman, *Governor's Appointment*
Nicola Trasente, *Governor's Appointment*
John C. Glidden, Jr., *Governor's Appointment*
Susan Jacobucci, *Governor's Appointment*
John Megariotis, *Governor's Appointment*
Nels Lauritzen, *Deputy Director of Legal Affairs*
Lisa Pointer, *Board Secretary*
Susan Barrett, *Assistant Board Secretary*

State Police Retirement System

Wayne Korte, *Chairperson*
Sherrie Schuster, *Vice Chairperson*
Donald Tretola, *Governor's Appointment*
Edmond Brady, *Governor's Appointment*
Porter Strickler, *Deputy Attorney General*
Susanne Culliton, *Treasurer's Representative*
William Tedder, *Board Secretary*
Saretta Dudley, *Assistant Board Secretary*

Supplemental Annuity Collective Trust

David Preston, *Chairperson, Representing John Megariotis, Acting Director, Division of Pensions & Benefits*
Leslie Notor, *Representing Lynn Azarchi, Acting Director, Office of Management & Budget*
Manuel Paulino, *Representing Marlene Caride, Commissioner, Department of Banking & Insurance*

ORGANIZATION – BOARDS OF TRUSTEES

Deferred Compensation Board

Steven Harris, Chairperson, Representing Elizabeth Maher-Muoio, Treasurer, State of New Jersey
Leslie Notor, Representing Lynn Azarchi, Acting Director, Office of Management & Budget
Manuel Paulino, Representing Marlene Caride, Commissioner, Department of Banking & Insurance

Defined Contribution Retirement Program Board

David Preston, Chairperson, Representing John Megariotis Acting Director, Division of Pensions & Benefits
Carisa Marone, Representing Lynn Azarchi, Acting Director, Office of Management & Budget
Manuel Paulino, Representing Marlene Caride, Commissioner, Department of Banking & Insurance
Todd Rowahl, Representing Shoab Khan, Acting Director, Division of Investment

State Health Benefits Commission

Susanne Culliton, Chairperson, Representing State Treasurer Elizabeth Maher Muoio
Gale Simon, Representing Acting Commissioner
Deirdre Webster Cobb, Civil Service Commission
Dudley Burge, Local Employees' Representative of the AFL-CIO
Jennifer Higgins, State Employees' Representative of the AFL-CIO
Nicole Ludwig, Secretary

School Employees' Health Benefits Commission

Vacancy, Chairperson
Sonia Rivera-Perez, Representing State Treasurer Elizabeth Maher Muoio
Gale Simon, Representing Acting Commissioner Marlene Caride, Dept. of Banking and Insurance
Sarah Favinger, Representing the NJEA
Denise Graff Policastro, Representing the NJEA
Julie Giordano Plotkin, Associate Director, NJEA
Carl Tanksley, Representing the N.J. School Boards Association
Michael Maillaro, Commissioner, AFL-CIO Representative
Vacancy, Governor's Appointee
Nicole Ludwig, Secretary

Chapter 157, P.L. 2021

Effective Date: July 2, 2021

NJDPB Section(s) Affected by this Law: SHBP/SEHBP

This law requires insurance companies, health service corporations, hospital service corporations, medical service corporations, or health maintenance organizations authorized to issue health benefits plans in this State, as well as the Medicaid program, the NJ FamilyCare Program, the State Health Benefits Program, and the School Employees' Health Benefits Program to provide coverage for an "opioid antidote" without imposing prior authorization requirements or other utilization management requirements, provided that the treatment is: (1) prescribed or administered to the eligible member by a licensed medical practitioner who is authorized to prescribe or administer that treatment pursuant to State and federal law; or (2) dispensed to the eligible member by a licensed pharmacist under a standing order to dispense an opioid antidote pursuant to section 1 of P.L. 2017, c. 88 (C.45:14-67.2), which allows pharmacists to dispense opioid antidotes to any person without an individual prescription. The law provides that its provisions are not be construed to limit the coverage of an opioid antidote only when administered by a medical practitioner.

Chapter 163, P.L. 2021

Effective Date: July 7, 2021

NJDPB Section(s) Affected by this Law: SEHBP

This law changes the effective date of Garden State Health Plan; exempts certain charter and renaissance schools from healthcare plan requirements; and requires negotiations over certain health care costs.

Chapter 187, P.L. 2021

Effective Date: July 29, 2021

NJDPB Section(s) Affected by this Law: SHBP

This law requires the Department of Children and Families to establish a Statewide voluntary universal newborn home nurse visitation program to provide home visitation services for a newborn and the infant's parents, which is to be covered by the SHBP at no cost to the member, except for HD plans or catastrophic plans for which coverage is to be provided at the lowest deductible and cost-sharing requirement permitted.

Chapter 226, P.L. 2021

Effective Date: September 24, 2021

NJDPB Section(s) Affected by this Law: PERS

This law reopens the Prosecutors Part of PERS and makes membership in the Prosecutors Part mandatory for all prosecutors.

Chapter 296, P.L. 2021

Effective Date: November 8, 2021

NJDPB Section(s) Affected by this Law: TPAF

This law permits a certified school nurse who is retired from the TPAF to return to employment for up to two years without reenrollment in the TPAF.

Chapter 310, P.L. 2021

Effective Date: December 2, 2021

NJDPB Section(s) Affected by this Law: SHBP/SEHBP

This law modifies the SHBP/SEHBP coverage for telehealth and telemedicine, addresses coverage for COVID-19 testing and services, and repeals P.L. 2020, c.3 and P.L. 2020, c.7, which addresses telemedicine and COVID-19 testing.

Chapter 329, P.L. 2021

Effective Date: December 21, 2021

NJDPB Section(s) Affected by this Law: JRS

This law amends the JRS retirement provisions to permit a Judge serving as Administrative Director of the Courts to apply for deferred retirement from JRS and be appointed as Administrative Director of the Courts, if the member is at least 65 years old and has served for 20 years as a judge in any court in New Jersey.

Chapter 375, P.L. 2021

Effective Date: January 13, 2022

NJDPB Section(s) Affected by this Law: SHBP/SEHBP

This law codifies the constitutional right to freedom of reproductive choice. As specifically relates to the SHBP/SEHBP, the law requires that a contract providing hospital or medical expense benefits purchased by the State Health Benefits Commission or the School Employees' Health Benefits Commission may provide coverage for abortion.

Chapter 376, P.L. 2021

Effective Date: April 13, 2022

NJDPB Section(s) Affected by this Law: SHBP

This law expands the requirements of health insurers, including the SHBP and Medicaid, to cover prescriptions for contraceptives for up to 12 months.

SIGNIFICANT LEGISLATION

Chapter 399, P.L. 2021

Effective Date: January 18, 2022

NJDPB Section(s) Affected by this Law: SPRS

This law permits members of the State Police Retirement System (SPRS) to purchase service credit earned from public employment in another state or with the United States Government.

Chapter 408, P.L. 2022

Effective Date: January 18, 2022

NJDPB Section(s) Affected by this Law: TPAF

This law permits teachers and professional staff members who provide special services and retired from the Teachers' Pension and Annuity Fund (TPAF) to return to employment for up to two years without reenrollment in the TPAF, if the return to employment begins during the 2021-2022 or 2022-2023 school years.

Chapter 418, P.L. 2021

Effective Date: January 18, 2022

NJDPB Section(s) Affected by this Law: PERS and SHBP

This law removes the New Jersey Maritime Pilot and Docking Pilot Commissions from the appropriations act provision that limits compensation and health benefits and clarifies PERS and SHBP eligibility for members of the commission. The law takes effect immediately and is retroactive to July 1, 2021.

Chapter 428, P.L. 2021

Effective Date: February 17, 2022

NJDPB Section(s) Affected by this Law: SPRS

This law limits to 90 days the period during which members of the State Police Retirement System (SPRS) can be kept on past their mandatory retirement during a public health emergency or state of emergency.

Chapter 478, P.L. 2021

Effective Date: January 1, 2023

NJDPB Section(s) Affected by this Law: PFRS and SHBP

This law mandates access to periodic cancer screening examinations for full-time firefighters enrolled in the SHBP.

Chapter 498, P.L. 2021

Effective Date: January 18, 2022

NJDPB Section(s) Affected by this Law: PERS

This law permits Public Employees' Retirement System (PERS) retirees to return to employment in the New Jersey Legislature after retirement under certain circumstances.

Chapter 9, P.L. 2022

Effective Date: April 12, 2022

NJDPB Section(s) Affected by this Law: PFRS

This law permits current police and fire chiefs to remain active members of the Police and Firemen's Retirement System (PFRS) for a limited time under certain circumstances.

Chapter 33, P.L. 2022

Effective Date: August 29, 2022

NJDPB Section(s) Affected by this Law: SHBP and SEHBP

This law requires health insurers, specifically including the SHBP and SEHBP, to provide coverage for benefits delivered through the psychiatric Collaborative Care Model in the treatment of mental health conditions and substance use disorders.

Public Employees' Retirement System (PERS)

This system was established by Chapter 84, P.L. 1954, after the repeal of the law creating the former State Employees' Retirement System. The retirement benefits of this system are coordinated, but not integrated, with Social Security. This system is maintained on an actuarial reserve basis. Under the terms of Chapter 71, P.L. 1966, most public employees in New Jersey not required to become members of another contributory retirement program are required to enroll.

Statutes can be found in the New Jersey Statutes Annotated, Title 43, Chapter 15A. Rules governing the operation and administration of the fund may be found in Title 17, Chapter 2, of the New Jersey Administrative Code.

Teachers' Pension and Annuity Fund (TPAF)

This fund was reorganized by Chapter 37, P.L. 1955. The retirement benefits of this system are coordinated, but not integrated, with Social Security. This fund is maintained on an actuarial reserve basis. Membership is mandatory for substantially all teachers or members of the professional staff certified by the State Board of Examiners, and employees of the Department of Education who have titles that are unclassified, professional, and certified.

Statutes can be found in the New Jersey Statutes Annotated, Title 18A, Chapter 66. Rules governing the operation and administration of the system may be found in Title 17, Chapter 3, of the New Jersey Administrative Code.

Police and Firemen's Retirement System (PFRS)

This system was established by Chapter 255, P.L. 1944. All police officers and firefighters, appointed after June 1944, in municipalities where local police and fire pension funds existed or where this system was adopted by referendum or resolution are required to become members of this system. Certain State and county employees also are covered. Employer obligations are paid by the local employers and the State. This system is maintained on an actuarial reserve basis.

Statutes can be found in the New Jersey Statutes Annotated, Title 43, Chapter 16A. Rules governing the operation and administration of the system may be found in Title 17, Chapter 4, of the New Jersey Administrative Code.

State Police Retirement System (SPRS)

This system was created by Chapter 89, P.L. 1965, as a successor to the State Police Retirement and Benevolent Fund. All uniformed officers and troopers of the Division of State Police in the New Jersey Department of Law and Public Safety are required to enroll. This system is maintained on an actuarial reserve basis.

Statutes can be found in the New Jersey Statutes Annotated, Title 53, Chapter 5A. Rules governing the operation and administration of the system may be found in Title 17, Chapter 5, of the New Jersey Administrative Code.

Judicial Retirement System (JRS)

This system was established by Chapter 140, P.L. 1973, after the repeal of the laws providing pension benefits to members of the State judiciary and their eligible survivors. All members of the State judiciary are required to enroll. The system is maintained on an actuarial reserve basis. Statutes can be found in the New Jersey Statutes Annotated, Title 43, Chapter 6A. Rules governing the operation and administration of the system may be found in Title 17, Chapter 10, of the New Jersey Administrative Code.

Defined Contribution Retirement Program (DCRP)

This program was established July 1, 2007, under the provisions of Chapter 92, P.L. 2007, and Chapter 103, P.L. 2007, and expanded under the provisions of Chapter 89, P.L. 2008, and Chapter 1, P.L. 2010.

The program is a tax-qualified defined contribution money purchase pension plan under Internal Revenue Code (IRC) §401(a) et seq., and is a "governmental plan" within the meaning of IRC §414(d). Eligible members are provided with a tax-sheltered, defined contribution retirement benefit, along with life insurance and disability coverage. Individuals eligible for membership include State or local officials who are elected or appointed on or after July 1, 2007; employees enrolled in the PERS or TPAF on or after July 1, 2007, who earn salary in excess of established "maximum compensation" limits; employees enrolled in the PFRS or SPRS after May 21, 2010, who earn salary in excess of established "maximum compensation" limits; and employees otherwise eligible to enroll in the PERS or TPAF on or after November 2, 2008, who do not earn the minimum annual salary required for PERS or TPAF Tier 3 enrollment or do not work the minimum hours per week required for PERS or TPAF Tier 4 or Tier 5 enrollment.

Statutes can be found in the New Jersey Statutes Annotated, Title 43, Chapter 15C, Article 1 et seq.

SCOPE OF OPERATIONS

Alternate Benefit Program (ABP)

This program was established by several pieces of legislation between 1965 and 1968 for full-time faculty members of public institutions of higher education. It was later expanded to include certain administrative and professional titles.

Chapter 385, P.L. 1993, increased the number of investment carriers to seven. The investment carriers underwriting annuities are as follows: AXA Financial (Equitable); Mass Mutual Retirement Services; MetLife (formerly Travelers/CitiStreet); Prudential; Teachers Insurance and Annuity Association (TIAA); VALIC; and VOYA Financial Services. The ABP is a “defined contribution” plan as distinguished from “defined benefits” payable by the other State retirement systems. Immediate vesting after the first year of participation offers the mobility of pension credit among the private and public institutions of higher education in the United States and Canada. Group life insurance and long-term disability insurance are underwritten by the Prudential Insurance Company of America, Inc. Statutes can be found in the New Jersey Statutes Annotated, Title 18A, Chapter 66. Rules governing the operation and administration of this program may be found in Title 17, Chapter 7, of the New Jersey Administrative Code.

Prison Officers’ Pension Fund (POPF)

This fund was established under Chapter 220, P.L. 1941. It was closed to new employees as of January 1960. New employees are enrolled in the Police and Firemen’s Retirement System. This system is not maintained on an actuarial reserve basis.

Statutes can be found in the New Jersey Statutes Annotated, Title 43, Chapter 7.

Consolidated Police and Firemen’s Pension Fund (CPFPF)

This fund was established by Chapter 358, P.L. 1952, to place 212 local police and fire pension funds on an actuarial reserve basis. The membership consists of police and firefighters appointed prior to July 1, 1944. The liabilities of these local funds were shared: two-thirds by the participating municipalities and one-third by the State.

Statutes can be found in the New Jersey Statutes Annotated, Title 43, Chapter 16. Rules governing the operation and administration of this fund may be found in Title 17, Chapter 6, of the New Jersey Administrative Code.

New Jersey State Employees Deferred Compensation Plan (NJSEDCP)

This plan was established by Chapter 39, P.L. 1978, and is available to any State employee who is a member of a State-administered retirement system. This plan is a voluntary investment program that provides retirement income separate from and in addition to the basic pension benefit.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 18A.

Prudential Retirement was selected as the NJSEDCP’s third-party administrator on August 26, 2005. The Division of Pensions & Benefits maintains its administrative oversight functions.

Supplemental Annuity Collective Trust (SACT)

This trust was established by Chapter 123, P.L. 1963. This program includes active members of several State-administered retirement systems. Members make voluntary additional contributions through their pension funds to purchase variable retirement annuities in order to supplement the benefits provided by their basic system. Some employers agree to purchase tax-sheltered annuities for the same purpose for certain eligible employees.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 18A. Rules governing the operation and administration of the trust may be found in Title 17, Chapter 8 of the New Jersey Administrative Code.

Additional Contributions Tax-Sheltered Program (ACTS)

This program was established in 1996. ACTS is a tax-sheltered, supplemental, retirement program pursuant to Internal Revenue Code (IRC) §403(b) offered to employees of institutions of higher education, the Commission of Higher Education, the Department of Education, and the Office of Student Assistance. The eligible employees are able to obtain tax-deferred annuities with a variety of investment carriers through a salary reduction agreement. The annuities are available from the same investment carriers who service the ABP.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 18A, Section 113.

Central Pension Fund (CPF)

This fund consists of the administration of a series of noncontributory pension acts. No reserves are established for the payment of retirement benefits. These benefits are administered by the NJDPB in accordance with the governing statute and the rules and regulations of the State House Commission.

Unemployment Compensation and Temporary Disability Insurance for State Employees (UC/TDI)

The Division of Pensions & Benefits coordinates work related to the payment of unemployment compensation and temporary disability insurance benefits for State employees eligible for coverage under federal law. It is responsible for contracting with a service agency to review all questionable claims for unemployment compensation.

State Health Benefits Program (SHBP)

The program provides medical coverage to employees, retirees, and their dependents. Chapter 125, P.L. 1964, extended the program to include employees of local government. The program includes preferred provider organizations, HMO plans and High Deductible Health Plans offered through Aetna and Horizon BCBSNJ.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 14, Article 17.25 et seq. Rules governing the operation and administration of the program can be found in Title 17, Chapter 9, of the New Jersey Administrative Code.

School Employees' Health Benefits Program (SEHBP)

The program provides medical coverage to local education employees, retirees, and their dependents. Chapter 103, P.L. 2007, established the program which includes preferred provider organizations, HMO plans, and High Deductible Health Plans offered through Aetna and Horizon BCBSNJ.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 14, Article 17.46 et seq. Rules governing the operation and administration of the program can be found in Title 17, Chapter 9, of the New Jersey Administrative Code.

Prescription Drug Plans (PDP)

This plan was initiated by the State effective December 1, 1974. The passage of Chapter 41, P.L. 1976, extended coverage to all eligible State employees. The State Health Benefits Commission offered the plan to local employers on July 1, 1993. Employees and their eligible dependents are covered by the plan in the same manner as the State Health Benefits Program. The Division of Pensions & Benefits became responsible for plan administration in November 1976.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 14, Section 17.29(H). Rules governing the operation and

administration of the program can be found in Title 17, Chapter 9, of the New Jersey Administrative Code.

Employee Dental Plans (EDP)

This program was initially established February 1, 1978, and further expanded in June 1984. Eligible State and certain local employees may enroll themselves and their eligible dependents by paying the premium calculated to meet half the cost of the plan. Plans offered include the Dental Expense Plan, which is a traditional indemnity plan, and a selection of Dental Plan Organizations. Retirees were permitted to enroll in the plans in 2005. Retirees are required to pay full cost of the plan.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 14, Section 17.29(H). Rules governing the operation and administration of the program may be found in Title 17, Chapter 9, of the New Jersey Administrative Code.

Tax\$ave

The State Employees Tax Savings Program (Tax\$ave) was initially established for State employees in July 1996 and authorized under Internal Revenue Code (IRC)§125. The benefit consists of three components: the Premium Option Plan that allows employees to use pre-tax dollars deducted from their pay for health or dental benefit premiums they may be required to pay for coverage; the Flexible Spending Account for Unreimbursed Medical Expenses that allows employees to use up to \$2,500 pre-tax dollars annually deducted from their pay for medical expenses not reimbursed by their medical or dental insurance; and the Dependent Care Spending Account that allows employees to use up to \$5,000 pre-tax dollars annually deducted from their pay for dependent care expenses required to permit the employee and spouse to work.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 14, Article 15.1a. Rules governing Tax\$ave can be found in Title 17, Chapter 1, Sub-chapter 13, of the New Jersey Administrative Code.

Commuter Tax\$ave

This program, authorized by Chapter 162, P.L. 2001, and available under Internal Revenue Code (IRC) §132(f), allows eligible State employees to use pre-tax dollars to pay for qualified commuter expenses. Under the program, eligible employees may execute salary reduction agreements to have up to \$255 per month (\$3,060 per year) deducted from salary to pay for mass transit commutation costs and \$255 per month (\$3,060 per year) to pay for parking at work or at park and ride sites. The program was implemented in February 2004.

Statutes can be found in the New Jersey Statutes Annotated, Title 52,

SCOPE OF OPERATIONS

Chapter 14, Article 17.33. Rules governing Commuter Tax\$ave can be found in Title 17, Chapter 1, Sub-chapter 14, of the New Jersey Administrative Code.

Long Term Care Insurance Plan

This plan is a participant-pay-all benefit available to State and certain local employees, retirees, and family members. The Prudential Insurance Company administers the insurance plan under contract with the State. The initial offering of the benefit was effective July 1, 2003, and benefits were offered to local employees effective February 1, 2006. The plan was closed to new enrollees as of June 30, 2013.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 14, Article 15.9a, and Chapter 18, Article 11.2, and Title 34, Chapter 11, Article 4.4b(10).

Active Membership

Retirement System	2022	2021
Public Employees' Retirement System	247,019	245,810
Teachers' Pension and Annuity Fund	160,106	157,930
Police and Firemen's Retirement System	42,875	43,192
State Police Retirement System	3,232	3,027
Judicial Retirement System	396	403
Alternate Benefit Program	27,685	25,865
Defined Contribution Retirement Program	59,691	59,988
Prison Officers' Pension Fund	0	0
Consolidated Police and Firemen's Pension Fun	0	0
Central Pension Fund	NA	NA
Total	541,004	536,215

* Both the 2021 and 2022 figures represent the total number of Active and Inactive accounts.

The 2022 Inactive (noncontributing) accounts are as follows: PERS Inactive – 52,237

TPAF Inactive – 15,605, PFRS Inactive – 2,744, SPRS Inactive – 223.

Retired Membership & Beneficiaries

Retirement System	2022	2021
Public Employees' Retirement System	192,413	188,428
Teachers' Pension and Annuity Fund	112,538	110,798
Police and Firemen's Retirement System	51,766	50,466
State Police Retirement System	3,880	3,807
Judicial Retirement System	747	724
Alternate Benefit Program	NA	NA
Prison Officers' Pension Fund	38	44
Consolidated Police and Firemen's Pension Fund	23	32
Central Pension Fund	14	13
Total	361,419	354,312

* The number of retirees varies slightly from those reported in the Notes to Financial Statements due to differences in the effective dates of said tabulations.

Participation in Health Benefits Program

	2022	2021
State Health Benefits Program and School Employees' Health Benefits Program	404,642	399,757
Prescription Drug Plans	369,073	366,161
Dental Expense Program	213,754	212,012

MEMBERSHIP

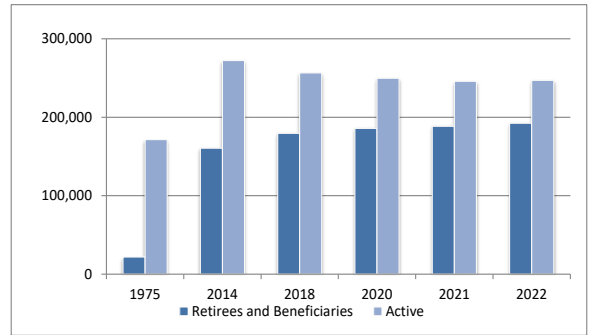
Public Employees' Retirement System

As of June 30, 2022, the active membership of the system totaled 247,019. There were 192,413 retirees and beneficiaries receiving annual pensions totaling \$4,344,478,884.

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$105,651,747.

The system's assets totaled \$33,728,312,806 at the close of fiscal year 2022.

* Includes cost-of-living adjustments paid under the provisions of the Pension Adjustment Act.



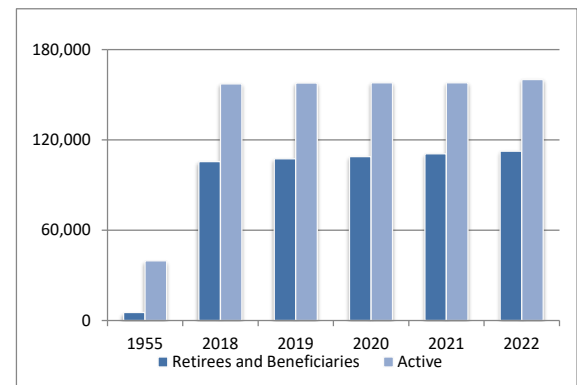
Teachers' Pension and Annuity Fund

As of June 30, 2022, the active membership of the fund totaled 160,106. There were 112,538 retirees and beneficiaries receiving annual pensions totaling \$4,694,398,663.

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$56,578,899.

The fund's assets totaled \$25,644,586,073 at the close of fiscal year 2022.

* Includes cost-of-living adjustments paid under the provisions of the Pension Adjustment Act.



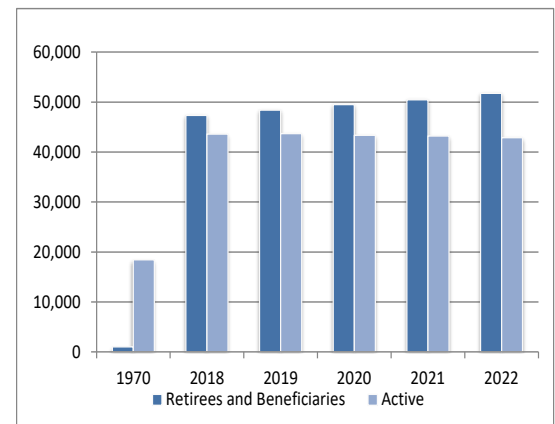
Police and Firemen's Retirement System

As of June 30, 2022, the active membership of the system totaled 42,875. There were 51,766 retirees and beneficiaries receiving annual pensions totaling \$2,898,254,034.

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$59,802,758.

The system's assets totaled \$31,463,542,037 at the close of fiscal year 2022.

* Includes cost-of-living adjustments paid under the provisions of the Pension Adjustment Act.



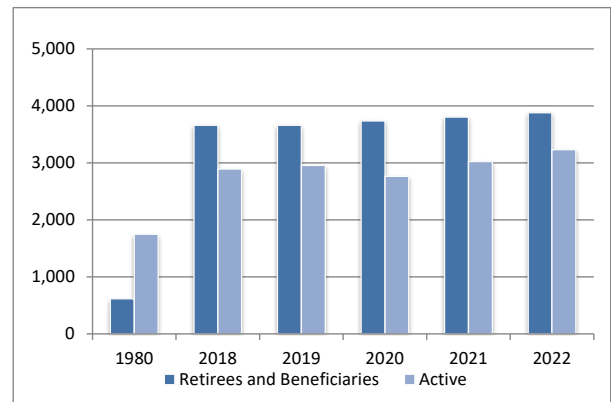
State Police Retirement System

As of June 30, 2022, the active membership of the system totaled 3,232. There were 3,880 retirees and beneficiaries receiving annual pensions totaling \$245,991,786.

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$4,844,510.

The system's assets totaled \$2,003,560,143 at the close of fiscal year 2022.

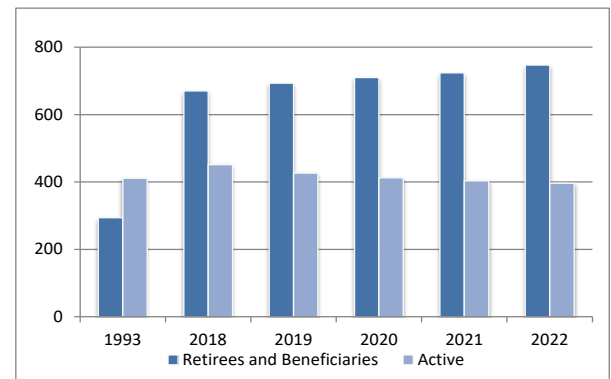
* Includes cost-of-living adjustments paid under the provisions of the Pension Adjustment Act.



Judicial Retirement System

As of June 30, 2022, the active membership of the system totaled 396. There were 747 retirees and beneficiaries receiving annual pensions totaling \$63,316,966.

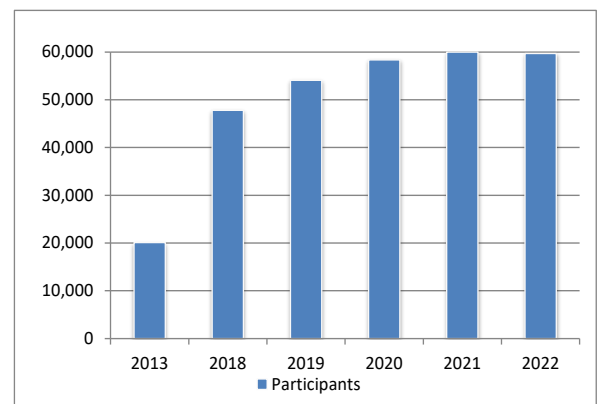
The system's assets totaled \$192,148,667 at the close of fiscal year 2022.



Defined Contribution Retirement Plan

As of June 30, 2022, the active membership of the Defined Contribution Retirement Plan totaled 59,691.

The plan's net position (participants' balances) were \$32,598,558 at the close of fiscal year 2022.

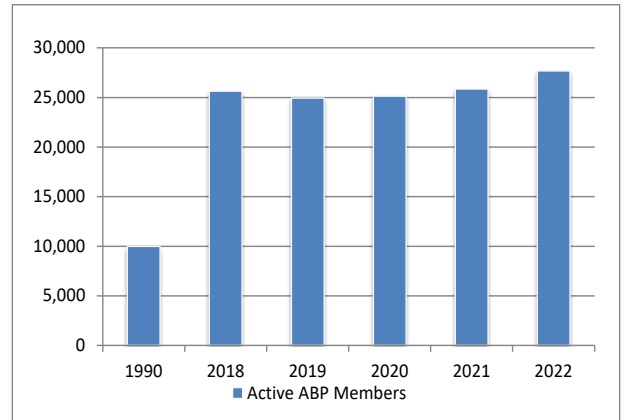


MEMBERSHIP

Alternate Benefit Program

As of June 30, 2022, the State paid \$196,940,058 on behalf of 27,685 participants to the carriers underwriting this program.

Beneficiaries of deceased active and retired members received \$28,883,067 in lump sum death benefits.



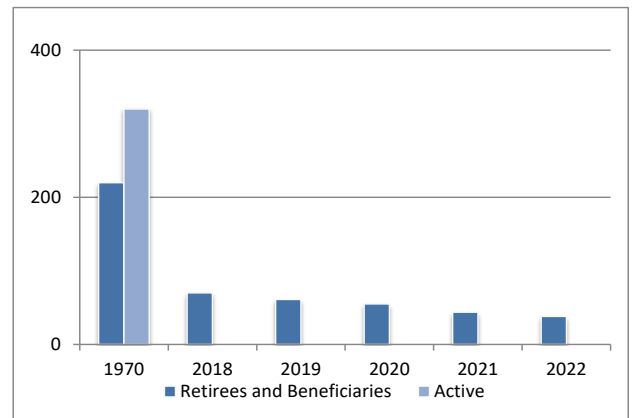
Prison Officers' Pension Fund

The activity shown to the right is consistent with a closed pension fund.

The fund was closed to new membership in January 1960.

As of June 30, 2022, the active membership of the fund totaled zero. There were 38 retirees and beneficiaries receiving annual pensions totaling \$509,871.

The fund's assets totaled \$5,007,801 at the close of fiscal year 2022.



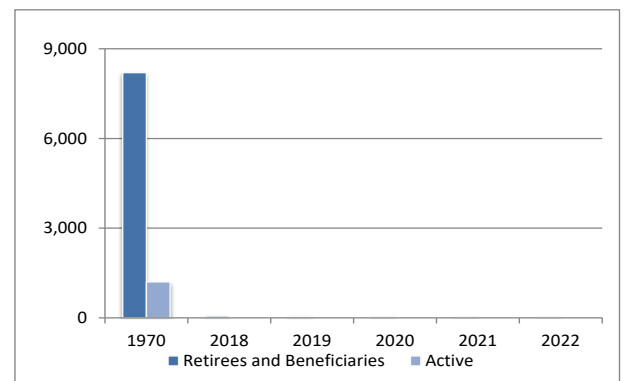
Consolidated Police and Firemen's Pension Fund

The activity shown to the right is consistent with a closed pension fund.

The fund was closed to new membership in 1944.

As of June 30, 2022, the active membership of the fund totaled zero. There were 23 retirees and beneficiaries receiving annual pensions totaling \$473,437.

The fund's assets totaled \$2,214,563 at the close of fiscal year 2022.

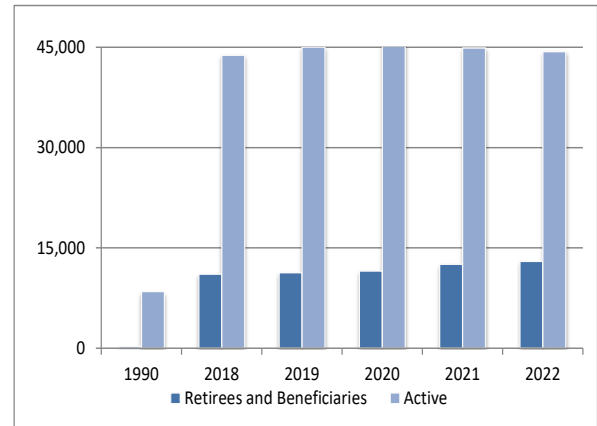


N.J. State Employees' Deferred Compensation Plan

Fiscal year 2022 continues to show a marked increase in active participation due to membership campaigns conducted by the Division of Pensions & Benefits.

As of June 30, 2022, the active membership of the New Jersey State Employees Deferred Compensation Plan totaled 44,352. There were 13,002 members receiving monthly installment payments.

The plan's net position (participants' balances) were \$5,052,290,810 at the close of fiscal year 2022.

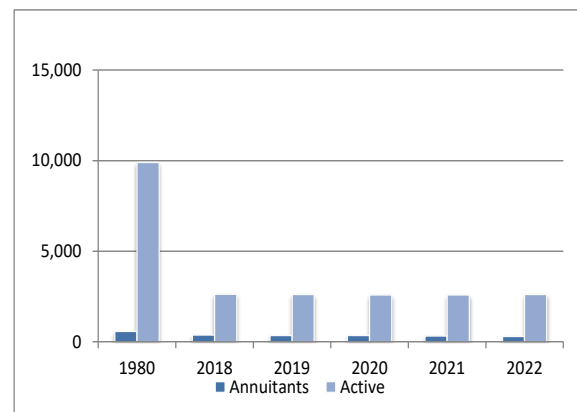


Supplemental Annuity Collective Trust

As of June 30, 2022, the active membership of the trust totaled 2,623. The unit value was \$137.6070, a decrease of \$23.8708 from the June 30, 2021, value of \$161.4778.

There were 306 annuitants.

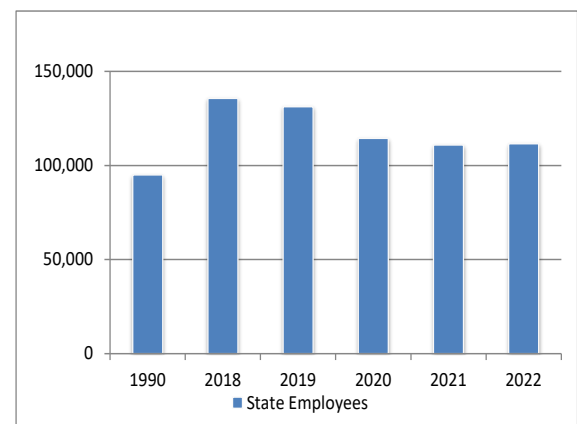
The trust's assets totaled \$258,856,063 at the close of fiscal year 2022.



Unemployment Compensation and Temporary Disability Insurance

As of June 30, 2022, the Unemployment Compensation Program for State employees covered as many as 111,522 persons, and the Division remitted \$6,183,802.11 on behalf of the State. There were 8,271 requests for unemployment benefits filed, and \$14,103,563 was paid to the employees found eligible.

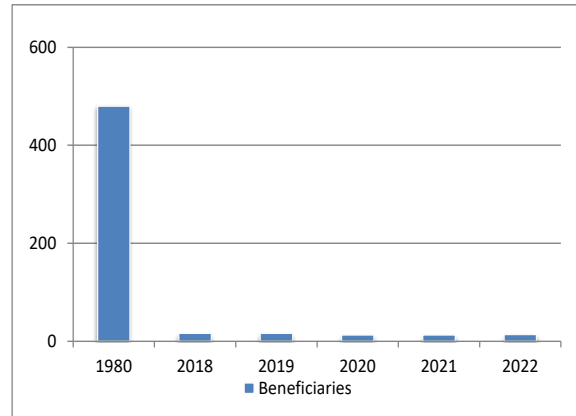
During the same time period, the Temporary Disability Insurance Program covered 126,111 employees, and the Division remitted \$81,532,772.19 on behalf of the State. Claims paid totaled \$28,498,469.



MEMBERSHIP

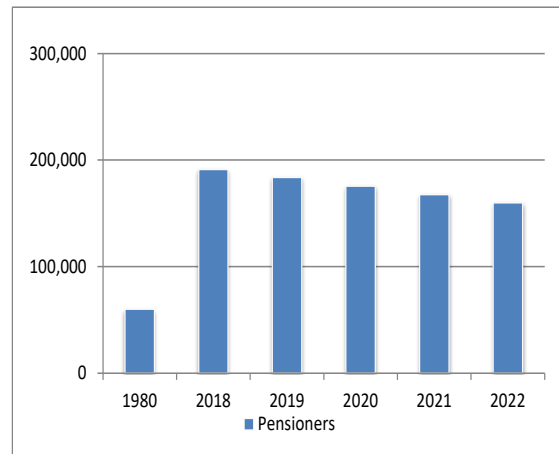
Central Pension Fund

As of June 30, 2022, there were 14 beneficiaries receiving annual pensions totaling \$234,026.



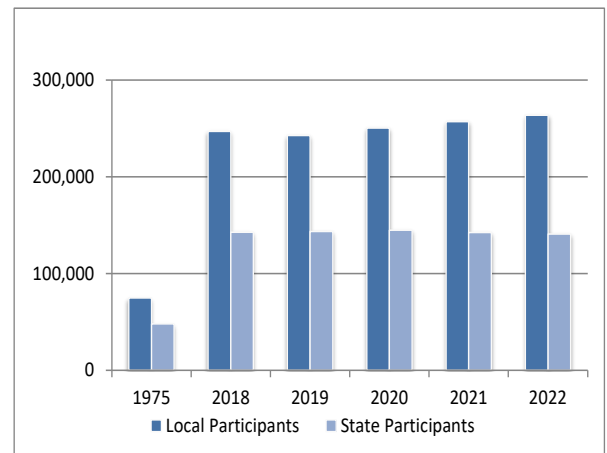
Pension Adjustment Expense

There were 159,993 pensioners who were paid \$589,746,101 during fiscal year 2022.



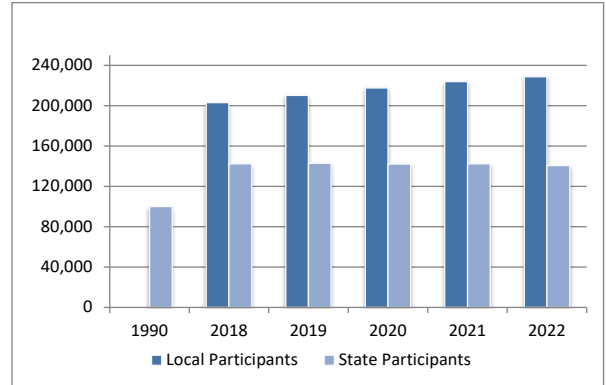
State Health Benefits and School Employees' Health Benefits Program

As of June 30, 2022, there were 404,642 participants (active and retired) consisting of 140,953 State participants and 263,689 participants of 1,083 local participating employers.



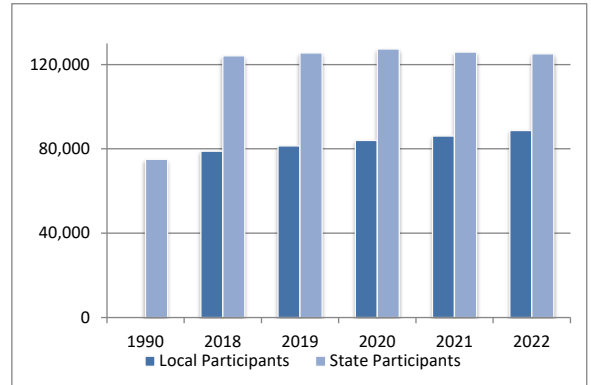
Prescription Drug Plans

The Prescription Drug plan covered as many as 140,546 State participants and 228,527 local participants during the fiscal year 2022.



Dental Expense Program

The Dental Expense Program covered as many as 125,110 eligible State participants and 88,644 local participants during fiscal year 2022. The State of New Jersey as the employer expended \$34,868,537 for active participants while payment made by local (including education) employers was \$5,191,552.



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FINANCIAL SECTION

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KPMG LLP
New Jersey Headquarters
51 John F. Kennedy Parkway
Short Hills, NJ 07078-2702

Independent Auditors' Report

The Treasurer
State of New Jersey:

Opinion

We have audited the financial statements of the State of New Jersey, Division of Pensions and Benefits (the Division), as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Division'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 Division as of June 30, 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). 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 Division 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.

Emphasis of Matter

As discussed in Note 2(a), the financial statements of the Division are intended to present the financial position, the changes in financial position, and, where applicable, cash flows of only that portion of the aggregate remaining fund information of the State of New Jersey that is attributable to the transactions of the Division. They do not purport to, and do not, present fairly the financial position of the State of New Jersey, as of June 30, 2022, the changes in its financial position, or, where applicable, its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles. Our opinion is not modified with respect to this matter.

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.

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 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

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the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, 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 Division'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.

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 and the schedules listed under Required Supplementary Information in the accompanying table of contents 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 GAAS, 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 Division's basic financial statements. The schedules listed under Supplementary Information in the accompanying table of contents 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 GAAS. In our opinion, the information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

KPMG LLP

Short Hills, New Jersey
March 29, 2023

Management's Discussion and Analysis (Unaudited) June 30, 2022

Our discussion and analysis of the financial performance of the fiduciary funds (the Funds) administered by the Division of Pensions & Benefits (the Division) provides an overview of the Funds' financial activities for the State of the State of New Jersey (the State) fiscal year ended June 30, 2022. Please read it in conjunction with the basic financial statements which follow this discussion.

Financial Highlights

Fiduciary Funds – Pension Trust Funds and Other Employee Benefit Trust Funds

- Fiduciary net position decreased by \$8.9 billion as a result of this year's operations from \$104.2 billion to \$95.3 billion.
- Additions for the year are \$4.8 billion, which are comprised of member, employer, nonemployer, and employer specific and other pension contributions (including transfer) of \$12.6 billion and net investment loss of \$7.8 billion.
- Deductions for the year are \$13.7 billion, which are comprised of benefits, refund payments, and transfers of \$13.7 billion and administrative expenses of \$61.0 million.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the basic financial statements. The basic financial statements are comprised of two components: 1) fiduciary fund financial statements and 2) notes to the financial statements. This report also contains required and other supplementary information in addition to the basic financial statements.

Fund Financial Statements

A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The Division uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements.

Fiduciary Funds

Fiduciary funds are used to account for the assets that the Division holds on behalf of others as their agent. The Division administers twelve fiduciary funds: eight pension trust funds, two other employee benefit trust funds, one other postemployment benefit (OPEB) trust fund, and one custodial fund.

The statement of changes in fiduciary net position provides information on the change in the Division's net position during the current year. Additions are comprised of investment income and member, employer, nonemployer, and employer specific and other contributions. Deductions include retirement and health benefit payments, refunds of contributions, and administrative expenses.

Notes to the Financial Statements

The notes to the financial statements provide additional information that is essential to a full understanding of the data provided in the basic financial statements and includes a description of the fiduciary funds.

Other Information

In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information, which includes the schedules of changes in net pension liability and related ratios, the schedules of employer contributions, and schedule of investment returns for the pension trust funds as well as the schedule of changes in net OPEB liability and related ratios and the schedule of investment returns for the OPEB plan.

Management's Discussion and Analysis (Unaudited) — June 30, 2022, continued
Financial Analysis
**Summary of Fiduciary Net Position
 Pension, Other Employee Benefit, and Other Postemployment Benefit Trust Funds**

	2022	2021	Increase/ (Decrease)
Assets:			
Cash and cash equivalents	\$ 18,597,254	26,185,939	(7,588,685)
Receivables	3,134,583,247	2,887,975,978	246,607,269
Investments	91,290,770,896	100,481,893,011	(9,191,122,115)
Securities lending collateral	1,518,870,669	1,513,246,971	5,623,698
Members' loans and mortgages	2,485,715,798	2,287,005,263	198,710,535
Total assets	98,448,537,864	107,196,307,162	(8,747,769,298)
Liabilities:			
Accounts payable and accrued expenses	477,462,250	345,330,968	132,131,282
Retirement benefits payable	1,073,200,823	1,033,329,927	39,870,896
Noncontributory group life insurance premiums payable	29,857,336	29,778,664	78,672
Administrative expense payable	43,877,214	33,757,174	10,120,040
Securities lending collateral and rebates payable	1,517,772,881	1,512,631,432	5,141,449
Total liabilities	3,142,170,504	2,954,828,165	187,342,339
Net position	\$ 95,306,367,360	104,241,478,997	(8,935,111,637)

Assets of the pension, other employee benefit, and OPEB trust funds consist of cash and cash equivalents, investments, contributions due from members and participating employers, accrued interest and dividends on investments, other receivables, securities lending collateral, and members' loans and mortgages. Between State fiscal years 2021 and 2022, total assets decreased by \$8.7 billion or 8.2%. This is primarily attributable to a decrease of \$9.2 billion in investments partially due to high inflation rate and the equity market fluctuation. This is offset by an increase of \$437.7 million in various receivables, cash & equivalents, and members' loans & mortgages, and an increase of \$5.6 million in securities lending collateral.

Liabilities of the pension, other employee benefit, and OPEB trust funds consist of retirement benefits payable to retirees and beneficiaries, noncontributory group life insurance (NCGI) premiums payable to the Funds' insurance provider, securities lending collateral and rebates payable, administrative expense payable, and, classified under accounts payable and accrued expenses, outstanding medical claims payable to the medical providers under the OPEB plan. Also included within accounts payable and accrued expenses are liabilities of the pension trust funds for unclaimed member accounts and checks issued to members that have not been negotiated by the members, but remain due and payable. Total liabilities increased by \$187.3 million or 6.3%. This is due to an increase of \$182.2 million in retirement benefits and other payables and an increase in securities lending collateral and rebates payable of \$5.1 million.

Net position restricted for pension, other employee benefits, and other postemployment benefits decreased by \$8.9 billion or 8.5%.

Management's Discussion and Analysis (Unaudited) — June 30, 2022, continued

**Summary of Fiduciary Net Position
Custodial Fund**

		<u>2022</u>	<u>2021</u>	<u>Increase/ (Decrease)</u>
Assets:				
Cash and cash equivalents	\$	49,598	148,387	(98,789)
Receivables		541,635	521,839	19,796
Investments		26,342,273	24,826,033	1,516,240
Total assets		26,933,506	25,496,259	1,437,247
Liabilities:				
Accounts payable and accrued expenses		8,043,093	7,244,804	798,289
Total liabilities		8,043,093	7,244,804	798,289
Net position	\$	18,890,413	18,251,455	638,958

The custodial fund is the State's Dental Expense Program Fund (DEP) – Local, for which the Division holds the funds on behalf of local employers for dental benefits.

Assets of the custodial fund consists of cash and cash equivalents, receivables, and investments. Between State fiscal years 2021 and 2022, total assets increased by \$1.4 million or 5.6%. This is primarily attributable to the increased amount invested in the Cash Management Fund (CMF) of \$1.5 million.

Liabilities in the custodial fund are basically accounts payable and accrued expenses including claims payable. Between State fiscal years 2021 and 2022, total liabilities increased by \$0.8 million or 11.0% primarily due to the increased number of claims.

Management's Discussion and Analysis (Unaudited) — June 30, 2022, continued
**Summary of Changes in Fiduciary Net Position
 Pension, Other Employee Benefit, and Other Postemployment Benefit Trust Funds**

	2022	2021	Increase/ (Decrease)
Additions:			
Member contributions	\$ 2,602,978,281	2,513,554,110	89,424,171
Employer contributions	5,488,211,668	4,441,571,772	1,046,639,896
Nonemployer contributions	4,536,215,840	3,162,797,394	1,373,418,446
Employer specific and other contributions	18,160,310	14,419,382	3,740,928
Net investment (loss)/income	(7,870,152,157)	22,361,830,260	(30,231,982,417)
Transfers	36,162,705	23,704,540	12,458,165
Total additions	4,811,576,647	32,517,877,458	(27,706,300,811)
Deductions:			
Benefits	13,395,107,646	12,854,092,147	541,015,499
Refunds of contributions	253,146,654	209,903,931	43,242,723
Transfers	37,480,801	24,332,121	13,148,680
Administrative expenses	60,953,183	54,131,330	6,821,853
Total deductions	13,746,688,284	13,142,459,529	604,228,755
Change in net position	\$ (8,935,111,637)	19,375,417,929	(28,310,529,566)

Additions to the pension, other employee benefit, and OPEB trust funds consist of member, employer, nonemployer, employer specific and other contributions, transfers, and earnings from investment activities. There was a decrease of \$27.7 billion or 85.2% in total additions mainly attributable to a decrease in net investment income of \$30.2 billion.

Member contributions increased by \$89.4 million mainly due to members' salary increases.

The State contributed \$6,909.3 million to the pension trust funds in State fiscal year 2022. It was composed of \$803.6 million of normal cost and \$6,105.7 million of accrued liability. The contributions were as follows: \$4,135.3 million to TPAF, \$1,858.8 million to PERS, \$641.4 million to the Police & Firemen's Retirement System (PFRS), \$76 thousand to Consolidated Police and Fire Pension Fund (CPFPF), \$72.4 million to JRS, and \$201.3 million to the State Police Retirement System (SPRS). Between fiscal year 2021 and 2022, the State increased its contribution to the pension trust funds by \$2,122.3 million from \$4,787.0 million to \$6,909.3 million. The State has followed a funding policy over the last several years, which is to increase its contribution to the pension trust funds by 10% of the actuarially recommended contribution each fiscal year. The contributions for fiscal year 2021 and 2022 were approximately 80% and 100% of the full actuarially recommended contribution, respectively.

State NCGI contributions for the State fiscal year totaling \$117.1 million were as follows: \$56.6 million for TPAF, \$43.2 million for PERS, \$12.0 million for PFRS, \$0.5 million for JRS, and \$4.8 million for SPRS. Between State fiscal years 2021 and 2022, the State's contribution toward NCGI decreased by \$0.4 million from \$117.5 million to \$117.1 million due to lower claims activity. State NCGI benefits are funded on a pay-as-you-go basis. The local contributions for PERS and PFRS are included in the annual billings to local employers.

The annual local employer pension appropriation billings increased per the actuarial valuation as of July 1, 2020. For PERS, the amount accrued in State fiscal year 2022 for normal contribution, accrued liability, and NCGI was \$1,171.1 million and was due on April 1, 2022. For State fiscal year 2022, the total amount accrued was \$1,261.0 million and is due April 1, 2023. For PFRS, the total amount accrued in State fiscal year 2021 for normal contributions, accrued liability, and NCGI was \$1,165.6 million and was due April 1, 2022. For State fiscal year 2022, the total amount accrued was \$1,301.3 million and is due April 1, 2023.

Management's Discussion and Analysis (Unaudited) – June 30, 2022, continued

Global financial markets encountered meaningful headwinds during fiscal year 2022. While the first half (July 2021 – December 2021) was relatively calm and generated positive performance for most markets, the second half of the fiscal year (January 2022 – June 2022) saw significant volatility caused by global inflationary pressures, tightening Federal Reserve monetary policy and slowing global economic growth. JRS, Prison Officers' Pension Fund (POPF), SPRS, CPFPPF, TPAF, PFRS and PERS (collectively the Pension Funds) returned -7.90% during fiscal year 2022, underperforming both its benchmark and long-term objectives. Pension fund returns were adversely impacted by negative performance from both public equity and public fixed income markets. The pension fund's U.S Equity portfolio returned -13.65% while Non-U.S. Developed Market Equity returned -17.37% and Emerging Market Equity returned -25.32% during fiscal year 2022. Additionally, public fixed income markets delivered lackluster performance with Investment Grade Credit delivering -12.71%, High Yield returning -12.55% and U.S. Treasuries delivering -8.68% in fiscal year 2022. However, the pension fund did benefit from its allocation to private market asset classes as each of these delivered positive performance during fiscal year 2022. Real Assets provided the highest return within private market asset classes ending the fiscal year with 16.22% return. Real Estate returns were not far behind with 11.43% for the fiscal year while Private Equity, Risk Mitigation Strategies, and Private Credit delivered 6.15%, 5.46%, and 1.25%, respectively. In reference to Schedule of Investment Returns – Annual Money-Weighted Rate of Return, Net of Investment Expense (see Required Supplementary Information Schedule 3), the State fiscal year 2022 rate was -7.66% compared to 28.60% in the prior year for JRS, SPRS, TPAF, PFRS, and PERS.

Deductions to the pension, other employee benefit, and OPEB trust funds are mainly comprised of pension benefit payments to retirees and beneficiaries, refunds of contributions to former members, transfers, and administrative costs incurred by the Funds to operate the pension trust funds and the OPEB plan. Also included are claim charges for the self-insured health and prescription drug benefit programs and premiums paid to the health insurance carriers for the insured plans. Between State fiscal years 2021 and 2022, benefit payments increased by \$541.0 million or 4.2% due to an increase in the number of retirees receiving retirement and other benefits.

The change in net position of \$(28.3) billion was mainly attributable to the decrease in net investment income of \$30.2 billion and the increase in benefit and other expenses of \$0.6 billion offset by the increase of \$2.5 billion in member, employer, and nonemployer contributions.

For the OPEB plan, total expenses incurred exceeded total revenues recognized by \$108.9 million, decreasing the surplus at the beginning of the year from \$50.3 million to \$-58.7 million at year-end. There was a 4.9% increase in Net Change in Plan Fiduciary Net Position from July 1, 2021 to June 30, 2022 due to a \$488.4 million in member, employer and nonemployer contributions offset by \$585.3 million in benefit payments for the same period.

Management’s Discussion and Analysis (Unaudited) – June 30, 2022, continued

**Summary of Changes in Fiduciary Net Position
Custodial Fund**

		<u>2022</u>	<u>2021</u>	<u>Increase/ (Decrease)</u>
Additions:				
Other contributions	\$	64,125,310	62,851,672	1,273,638
Net investment income		59,433	24,070	35,363
Total additions		64,184,743	62,875,742	1,309,001
Deductions:				
Payments on behalf of local governments		63,545,785	61,770,294	1,775,491
Total deductions		63,545,785	61,770,294	1,775,491
Change in net position	\$	638,958	1,105,448	(466,490)

Additions to the custodial fund consists of funds collected for local government employees’ and retirees’ dental benefits, which are not administered through a trust, and earnings from investment activities. There was an increase of \$1.3 million or 2.1% in total additions mainly attributable to an increase in the funds collected.

Deductions to the custodial fund are mainly comprised of amounts paid on behalf of local government employees and retirees related to the premiums for dental insurance. Between State fiscal years 2021 and 2022, the amounts disbursed increased by \$1.8 million or 2.9% due to an increase in the number of claims.

Management's Discussion and Analysis (Unaudited) – June 30, 2022, continued

Investment Performance

The rates of return (i.e. investment performance, which includes income and changes in the fair value of investments) for the Pension Funds and various market indices are as follows:

	<u>Year ended June 30, 2022</u>		<u>Year ended June 30, 2022</u>
U.S. Equity	(13.65)	Private Credit	1.25
<i>Custom US Policy Benchmark</i>	(13.74)	<i>Bloomberg US Corp HY 1 Month lag +100bps</i>	(4.32)
Non-U.S. Developed Markets Equity	(17.37)	Investment Grade Credit	(12.71)
<i>Custom EAFE + Canada Benchmark</i>	(16.63)	<i>Custom Investment Grade Credit Benchmark</i>	(12.55)
Emerging Markets Equity	(25.32)	Income	(7.54)
<i>Custom EM Benchmark</i>	(25.41)	Income Benchmark	(9.38)
Private Equity	6.15	Cash Equivalents	0.33
<i>Custom Cambridge Blend</i>	21.76	<i>ICE BofA US 3-Month Treasury Bill</i>	0.17
Global Growth	(11.96)	U.S. Treasuries	(8.68)
Global Growth Benchmark	(8.71)	<i>Custom Government Benchmark</i>	(8.90)
Real Estate	11.43	Risk Mitigation Strategies	5.46
<i>Real Estate Index</i>	27.26	<i>T-Bill + 300 BP</i>	3.21
Real Assets	16.22	Defensive	(2.14)
<i>Custom Commodities and Real Asset Benchmark</i>	28.34	Liquidity Benchmark	(2.71)
Real Return	12.79	Total Pension Funds	(7.90)
Real Return Benchmark	27.61	Pension Fund Policy Index	(4.67)
High Yield	(12.55)		
<i>Custom High Yield Benchmark</i>	(12.82)		

Overall Financial Condition of the Funds

Based on GASB 67 and actuaries' GASB 67 disclosures for State fiscal year 2022, for the defined benefit pension trust funds, the combined state and local ratios of plan fiduciary net position as a percentage of the total pension liability was 45.0% and the net pension liability as a percentage of covered payroll was 392.2%. For the prior year, the combined state and local ratios of plan fiduciary net position as a percentage of the total pension liability was 50.07% and the net pension liability as a percentage of covered payroll was 351.57%.

For the New Jersey State Employees Deferred Compensation Plan and the Supplemental Annuity Collective Trust, members are 100% vested in the present value of their contributions, and the funds have sufficient assets to meet future benefit obligations.

Contacting System Financial Management

This financial report is designed to provide our members, beneficiaries, investors, and other interested parties with a general overview of the Funds' finances and to show the Funds' accountability for the money it receives. This report is available on the Division of Pensions and Benefits website at www.state.nj.us/treasury/pensions. If you have any questions about this report or need additional financial information, contact the Division of Pensions and Benefits, P.O. Box 295, Trenton, NJ 08625-0295.

Statement of Fiduciary Net Position – Fiduciary Funds
June 30, 2022

	Pension, Other Employee Benefit, and Other Postemployment Benefit Trust Funds	Custodial Fund
Assets:		
Cash and cash equivalents	\$ 18,597,254	49,598
Receivables:		
Contributions:		
Members	221,254,273	–
Employers and nonemployer	2,816,025,641	40,965
Accrued interest and dividends	4,186,702	–
Other	93,116,631	500,670
Total receivables	3,134,583,247	541,635
Investments, at fair value:		
Cash Management Fund	1,798,348,224	26,342,273
Common Pension Fund A	477,626,308	–
Common Pension Fund D	54,689,876,516	–
Common Pension Fund E	29,031,201,374	–
Domestic equities	888,605,889	–
Fixed income mutual funds	527,240,987	–
Equity mutual funds	3,877,871,598	–
Total investments	91,290,770,896	26,342,273
Securities lending collateral	1,518,870,669	–
Members' loans and mortgages	2,485,715,798	–
Total assets	98,448,537,864	26,933,506
Liabilities:		
Accounts payable and accrued expenses	477,462,250	8,043,093
Retirement benefits payable	1,073,200,823	–
Noncontributory group life insurance premiums payable	29,857,336	–
Administrative expense payable	43,877,214	–
Securities lending collateral and rebates payable	1,517,772,881	–
Total liabilities	3,142,170,504	8,043,093
Net position:		
Restricted for pension, other employee benefits, and other postemployment benefits	\$ 95,306,367,360	–
Restricted for individuals, organizations, and other governments	–	18,890,413

See accompanying notes to financial statements.

Combining Statement of Fiduciary Net Position
Fiduciary Funds – Pension, Other Employee Benefit, and Other Postemployment Benefit Trust Funds
June 30, 2022

	Defined Benefit Pension Plans							Other Employee Benefit Plans		Other Postemployment Benefit Plan		Total
	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Central Pension Fund	New Jersey State Employees Deferred Compensation Plan	Supplemental Annuity Collective Trust	State Health Benefits Local Government Retired Employees Plan	
Assets:												
Cash and cash equivalents	\$ 121,909	54,630	471,793	197,388	3,772,940	4,764,008	8,336,933	22,891	12,231	269,101	573,430	18,597,254
Receivables:												
Contributions:												
Members	372,060	—	1,221,535	—	96,518,716	57,936,788	63,633,001	—	—	514,664	1,057,509	221,254,273
Employers and nonemployer	—	—	167,630	155,413	108,197,129	1,353,737,668	1,339,578,448	—	—	—	14,189,353	2,816,025,641
Accrued interest and dividends	294	4	1,188	3	24,033	3,187,188	22,357	2	690,171	261,462	—	4,186,702
Other	499,161	2,676	974,061	5,955	36,133,246	7,915,519	21,464,942	—	—	—	26,121,071	93,116,631
Total receivables	871,515	2,680	2,364,414	161,371	240,873,124	1,422,777,163	1,424,698,748	2	690,171	776,126	41,367,933	3,134,583,247
Investments, at fair value:												
Cash Management Fund	10,609,143	4,950,491	44,476,368	1,855,804	488,500,304	735,124,536	441,096,163	137,138	14,004,477	1,744,947	55,848,853	1,798,348,224
Common Pension Fund A	1,289,591	—	16,382,582	—	200,507,524	—	259,446,611	—	—	—	—	477,626,308
Common Pension Fund D	123,521,358	—	1,227,846,308	—	15,836,973,905	17,579,497,276	19,922,037,669	—	—	—	—	54,689,876,516
Common Pension Fund E	52,256,163	—	667,717,632	—	8,178,089,427	9,554,168,372	10,578,969,780	—	—	—	—	29,031,201,374
Domestic equities	—	—	—	—	—	—	—	—	632,540,000	256,065,889	—	888,605,889
Fixed income mutual funds	—	—	—	—	—	—	—	—	527,240,987	—	—	527,240,987
Equity mutual funds	—	—	—	—	—	—	—	—	3,877,871,598	—	—	3,877,871,598
Total investments	187,676,255	4,950,491	1,956,422,890	1,855,804	24,704,071,160	27,868,790,184	31,201,550,223	137,138	5,051,657,062	257,810,836	55,848,853	91,290,770,896
Securities lending collateral	3,430,488	—	34,100,273	—	439,831,221	488,225,326	553,283,361	—	—	—	—	1,518,870,669
Members' loans and mortgages	48,500	—	10,200,773	—	256,037,628	1,678,985,356	540,443,541	—	—	—	—	2,485,715,798
Total assets	192,148,667	5,007,801	2,003,560,143	2,214,563	25,644,586,073	31,463,542,037	33,728,312,806	160,031	5,052,359,464	258,856,063	97,790,216	98,448,537,864
Liabilities:												
Accounts payable and accrued expenses	262	—	248,388	—	136,509,363	9,431,150	175,927,027	137,782	68,654	499,672	154,639,952	477,462,250
Retirement benefits payable	5,489,768	53,640	20,689,887	51,641	404,281,058	248,435,581	393,798,752	22,249	—	378,247	—	1,073,200,823
Noncontributory group life insurance premiums payable	—	—	167,630	—	7,002,045	9,149,443	13,538,218	—	—	—	—	29,857,336
Administrative expense payable	213,888	3,747	1,042,804	3,394	16,749,749	—	24,043,034	—	—	—	1,820,598	43,877,214
Securities lending collateral and rebates payable	3,428,009	—	34,075,627	—	439,513,326	487,872,453	552,883,466	—	—	—	—	1,517,772,881
Total liabilities	9,131,927	57,387	56,224,336	55,035	1,004,055,541	754,888,627	1,160,190,497	160,031	68,654	877,919	156,460,550	3,142,170,504
Net position (deficit):												
Restricted for pension, other employee benefits, and other postemployment benefits	\$ 183,016,740	4,950,414	1,947,335,807	2,159,528	24,640,530,532	30,708,653,410	32,568,122,309	—	5,052,290,810	257,978,144	(58,670,334)	95,306,367,360

See accompanying notes to financial statements.

Statement of Changes in Fiduciary Net Position — Fiduciary Funds
Year ended June 30, 2022

	Pension, Other Employee Benefit, and Other Postemployment Benefit Trust Funds	Custodial Fund
Additions:		
Contributions:		
Members	\$ 2,602,978,281	—
Employers	5,488,135,668	—
Nonemployer	4,536,291,840	—
Employer specific and other	18,160,310	64,125,310
Total contributions	12,645,566,099	64,125,310
Investment income:		
Net decrease in fair value of investments	(9,793,018,042)	—
Interest and dividends	1,939,317,250	59,433
	(7,853,700,792)	59,433
Less investment expense	16,451,365	—
Net investment income	(7,870,152,157)	59,433
Transfers	36,162,705	—
Total additions	4,811,576,647	64,184,743
Deductions:		
Benefits	13,395,107,646	—
Refunds of contributions	253,146,654	—
Transfer	37,480,801	—
Administrative and miscellaneous expenses	60,953,183	—
Payments on behalf of local governments	—	63,545,785
Total deductions	13,746,688,284	63,545,785
Change in net position	(8,935,111,637)	638,958
Net position:		
Beginning of year	104,241,478,997	18,251,455
End of year	\$ 95,306,367,360	18,890,413

See accompanying notes to financial statements.

Combining Statement of Changes in Fiduciary Net Position
Fiduciary Funds – Pension, Other Employee Benefit, and Other Postemployment Benefit Trust Funds
Year ended June 30, 2022

	Defined Benefit Pension Plans							Other Employee Benefit Plans		Other Postemployment Benefit Plan	Total	
	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Central Pension Fund	New Jersey State Employees Deferred Compensation Plan	Supplemental Annuity Collective Trust		State Health Benefits Local Government Retired Employees Plan
Additions:												
Contributions:												
Members	\$ 9,608,031	—	27,081,021	—	907,326,471	430,285,900	933,155,302	—	235,366,280	6,988,916	53,166,360	2,602,978,281
Employers	72,954,420	—	206,165,510	—	3,758,422	1,701,099,844	3,114,403,554	263,915	—	—	389,490,003	5,488,135,668
Nonemployer	—	—	—	76,000	4,188,158,390	253,611,000	48,654,369	—	—	—	45,792,081	4,536,291,840
Employer specific and other	—	313,575	—	368,072	395,540	6,897,992	10,185,131	—	—	—	—	18,160,310
Total contributions	82,562,451	313,575	233,246,531	444,072	5,099,638,823	2,391,894,736	4,106,398,356	263,915	235,366,280	6,988,916	488,448,444	12,645,566,099
Investment income:												
Net decrease in fair value of investments	(23,049,819)	—	(210,844,001)	—	(2,702,433,239)	(2,869,063,331)	(3,294,896,203)	—	(654,967,567)	(37,763,882)	—	(9,793,018,042)
Interest and dividends	3,886,039	14,413	40,790,417	6,822	540,627,832	631,742,118	705,610,651	421	11,505,058	4,897,517	235,962	1,939,317,250
	(19,163,780)	14,413	(170,053,584)	6,822	(2,161,805,407)	(2,237,321,213)	(2,589,285,552)	421	(643,462,509)	(32,866,365)	235,962	(7,853,700,792)
Less investment expense	33,221	521	333,042	168	4,209,549	6,197,390	5,218,217	—	459,257	—	—	16,451,365
Net investment income / (loss)	(19,197,001)	13,892	(170,386,626)	6,654	(2,166,014,956)	(2,243,518,603)	(2,594,503,769)	421	(643,921,766)	(32,866,365)	235,962	(7,870,152,157)
Transfers	2,026,661	—	592,961	—	19,857,109	3,210,733	10,475,241	—	—	—	—	36,162,705
Total additions	65,392,111	327,467	63,452,866	450,726	2,953,480,976	151,586,866	1,522,369,828	264,336	(408,555,486)	(25,877,449)	488,684,406	4,811,576,647
Deductions:												
Benefits	63,896,385	509,871	250,836,296	473,437	4,750,977,562	2,958,056,792	4,450,130,631	234,026	304,646,810	30,053,885	585,291,951	13,395,107,646
Refunds of contributions	818,343	—	280,470	—	72,009,660	12,166,977	167,840,894	30,310	—	—	—	253,146,654
Transfers	36,541	—	222,176	—	10,469,821	701,846	26,050,417	—	—	—	—	37,480,801
Administrative and miscellaneous expenses	183,857	3,226	701,981	3,226	12,635,916	15,261,328	18,030,213	—	568,913	1,230,082	12,334,441	60,953,183
Total deductions	64,935,126	513,097	252,040,923	476,663	4,846,092,959	2,986,186,943	4,662,052,155	264,336	305,215,723	31,283,967	597,626,392	13,746,688,284
Change in net position	456,985	(185,630)	(188,588,057)	(25,937)	(1,892,611,983)	(2,834,600,077)	(3,139,682,327)	—	(713,771,209)	(57,161,416)	(108,941,986)	(8,935,111,637)
Net position (deficit) restricted for pension, other employee benefits, and other postemployment benefits:												
Beginning of year	182,559,755	5,136,044	2,135,923,864	2,185,465	26,533,142,515	33,543,253,487	35,707,804,636	—	5,766,062,019	315,139,560	50,271,652	104,241,478,997
End of year	\$ 183,016,740	4,950,414	1,947,335,807	2,159,528	24,640,530,532	30,708,653,410	32,568,122,309	—	5,052,290,810	257,978,144	(58,670,334)	95,306,367,360

See accompanying notes to financial statements.

**Notes to Financial Statements
June 30, 2022**

(1) Description of the Plans

(a) Organization

The State of New Jersey, Division of Pensions and Benefits (the Division) was created and exists pursuant to N.J.S.A. 52:18A to oversee and administer the pension, other employee benefit, and the other postemployment benefit (OPEB) trust funds sponsored by the State of New Jersey (the State). The following is a list of the benefit plans, which have been included in the basic financial statements of the Division, collectively referred to as the Plans:

Plan Name	Type of Plan
Defined benefit pension plans:	
Judicial Retirement System (JRS)	Single-employer
Prison Officers' Pension Fund (POPF)	Single-employer
State Police Retirement System (SPRS)	Single-employer
Consolidated Police and Firemen's Pension Fund (CPFPPF)	Cost-sharing multiple-employer with special funding situation
Teachers' Pension and Annuity Fund (TPAF)	Cost-sharing multiple-employer with special funding situation
Police and Firemen's Retirement System (PFRS)	Cost-sharing multiple-employer with special funding situation
Public Employees' Retirement System (PERS)	Cost-sharing multiple-employer with special funding situation
Central Pension Fund (CPF)	Single-employer
Other employee benefit plans:	
New Jersey State Employees Deferred Compensation Plan (NJSEDCP)	Single-employer
Supplemental Annuity Collective Trust (SACT)	Multiple-employer
Defined benefit other postemployment benefit plan:	
State Health Benefits Local Government Retired Employees Plan*	Cost-sharing multiple-employer with special funding situation

* Includes the respective Prescription Drug Program (PDP) of the State, Local and Education SHBP.

The Division's custodial fund accounts for monies held on behalf of local government active employees and retirees that are participating in the State's Dental Expense Program Fund (DEP) – Local. These monies, which are not held in trust, represent amounts collected from active employees, retirees, or local employers that cover the premiums for their active or retired employees, which have not yet been paid to the third-party insurance providers or returned to the party that had contributed them.

Notes to Financial Statements – June 30, 2022, continued

(b) Defined Benefit Pension Plans

Each defined benefit pension plan’s designated purpose is to provide retirement, death, and disability benefits to its members. Below is a summary description of each defined benefit pension plan administered by the Division:

Plan	Established as of	Legislation	Membership
JRS	June 1, 1973	N.J.S.A. 43:6A	All members of the State Judiciary.
POPF*	January 1, 1941	N.J.S.A. 43:7	Various employees in the state penal institutions appointed prior to January 1, 1960.
SPRS	July 1, 1965	N.J.S.A. 53:5A	All uniformed officers and troopers of the Division of State Police.
CPFPF*	January 1, 1952	N.J.S.A. 43:16	County and municipal police and firemen appointed prior to July 1, 1944.
TPAF	January 1, 1955	N.J.S.A. 18A:66	Substantially all teachers or members of the professional staff certified by the State Board of Examiners and employees of the Department of Education, who have titles that are unclassified, professional and certified.
PFRS	July 1, 1944	N.J.S.A. 43:16A	Substantially all full-time county and municipal police or firemen and state firemen or officer employees with police powers appointed after June 30, 1944.
PERS	January 1, 1955	N.J.S.A. 43:15A	Substantially all full-time employees of the State of New Jersey or any county, municipality, school district or public agency, provided the employee is not required to be a member of another state-administered retirement system or other state pension fund or local jurisdiction’s pension fund.
CPF*	Various	Various	The CPF is a “pay-as-you-go” benefit plan. The CPF’s designated purpose is to provide retirement allowances under the following series of noncontributory pension acts: Veterans Act Pensioners (N.J.S.A. 43:4-1 to 4-6); Health Pension Act (N.J.S.A. 43:5-1 to 5-4); Pension to Widows of Governors (N.J.S.A. 43:8-2); Disabled Veterans Pension; Surviving Spouse of Veterans (N.J.S.A. 38:18-1 to 18-2 and N.J.S.A. 38:18A-1); and Special Act (N.J.S.A. 43:5A to 5A-1).

*Represents a closed plan.

The authority to amend the provisions of the above plans rests with legislation passed by the State of New Jersey. Pension reforms enacted pursuant to P.L. 2011, c. 78 included provisions creating special Pension Plan Design Committees for JRS, SPRS, TPAF, and PERS, once a Target Funded Ratio (TFR) is met. These Pension Plan Design Committees will have the discretionary authority to modify certain plan design features, including member contribution rate; formula for calculation of final compensation or final salary; fraction used to calculate a retirement allowance; age at which a member may be eligible and the benefits for service or early retirement; and benefits provided for disability retirement. The committees will also have the authority to reactivate the cost-of-living adjustment (COLA) on pensions. However, modifications can only be made to the extent that the resulting impact does not cause the funded ratio to drop below the TFR in any one year of a 30-year projection period.

The State Legislature adopted P.L. 2018, c. 55 in July 2018, which transferred management of PFRS from the Division to a newly constituted twelve-member PFRS Board of Trustees (PFRSNJ). The PFRSNJ was established in February 2019 per the legislation. In addition to overseeing the management of PFRS, the PFRSNJ has the authority to direct investment decisions, to adjust current benefit levels, and to

Notes to Financial Statements – June 30, 2022, continued

change member and employer contribution rates. With regard to changes to current benefit provisions, such changes can only be made with the approval of a supermajority of eight (8) of the twelve (12) members of the PFRSNJ. Also, benefit enhancement can only be made if an independent actuary certifies that the benefit enhancements will not jeopardize the long-term viability of PFRS.

Although not currently fully operationalized, in accordance with P.L. 2018, c. 55, the PFRSNJ has the authority to formulate investment policies and direct the investment activities of the assets of the PFRS. The Treasurer, the Division of Investment and PFRSNJ continue to memorialize processes and procedures pertaining to the transition of the assets.

Plan Membership and Contributing Employers

Membership and contributing employers of the defined benefit pension plans consisted of the following at June 30, 2022:

	JRS	POPF	SPRS	CPFPF	TPAF*	PFRS	PERS	CPF
Inactive plan members or beneficiaries currently receiving benefits	655	47	3,544	33	109,677	47,518	187,372	14
Inactive plan members entitled to but not yet receiving benefits	9	—	—	—	354	60	1,782	—
Active plan members	404	—	3,018	—	156,047	42,188	239,902	—
Total	1,068	47	6,562	33	266,078	89,766	429,056	14
Contributing employers	1	1	1	17	4	579	1,678	1
Contributing nonemployers	—	—	—	1	1	1	1	—

* In addition to the State, who is the sole payer of regular employer contributions to the fund, TPAF's contributing employers include boards of education, who elected to participate in the Early Retirement Incentive Program and continue to pay towards their incurred liability.

The Defined Benefit Pension Plans' Boards and Composition

The table below represents the composition and source of selection for the defined benefit pension plans' boards:

	SPRS	TPAF	PFRS	PERS
Appointments by:				
Governor	2	2	5	2
Treasurer	1	1	—	1
Superintendent of the State Police	2	—	—	—
President of police and firemen organizations*	—	—	4	—
Elected by Board or Members	—	4	3	6
Total	5	7	12	9

* One policeman is selected by the President of the New Jersey State Policemen's Benevolent Association and the New Jersey State Fraternal Order of Police. One fireman is selected by the President of the New Jersey State Firemen's Mutual Benevolent Association and the Professional Firefighters Association of New Jersey.

POPF, CPFPF and CPF are managed by the Division. General responsibility for JRS is vested with the State House Commission.

Notes to Financial Statements – June 30, 2022, continued

Contribution Requirements and Benefit Provisions

Significant Legislation

P.L. 2009, c. 19, effective March 17, 2009, provided an option for local employers of PFRS and PERS to contribute 50% of the normal and accrued liability contribution amounts certified for payments due in State fiscal year 2009. Such an employer will be credited with the full payment and any such amounts will not be included in their unfunded liability. The actuaries will determine the unfunded liability of those retirement systems, by employer, for the reduced normal and accrued liability contributions provided under this law. This unfunded liability is paid by the employer in level annual payments over a period of 15 years beginning with fiscal year ended June 30, 2012 and will be adjusted by the rate of return on the actuarial value of assets

Pursuant to the provisions of P.L. 2011, c. 78, COLA increases were suspended for all current and future retirees of all retirement systems.

In accordance with the Lottery Enterprise Contribution Act, L. 2018, c. 98 (LECA), the net proceeds from the New Jersey State Lottery are contributed to the TPAF, PFRS, and PERS beginning in State fiscal year 2018. For the purpose of depositing the lottery contribution made to the eligible pension plans, LECA established Common Pension Fund L within the Division of Investment. The net lottery proceeds are contributed to the respective pension plans based upon percentages detailed in LECA on a periodic basis through Common Pension Fund L. The Common Pension Fund L investment account is managed and invested by the Director of the Division of Investment, subject to the oversight of the State Investment Council. The Director of the Division of Investment has full discretion to distribute proceeds and all investments thereof and investment earnings thereon from the investment account into investment vehicles managed by the Division of Investment on behalf of the retirement systems.

During fiscal year 2022, the TPAF, PFRS, and PERS recognized \$1.111 billion in net lottery proceeds, which has been included as employer contributions in TPAF, PFRS, and PERS in the accompanying financial statements.

The following are specific contribution requirements and benefit provisions related to each defined benefit plan:

JRS

The contribution policy is set by N.J.S.A. 43:6A and requires contributions by active members and the State of New Jersey. Members enrolled on January 1, 1996 or after, contribute on their entire base salary. Contributions by active members enrolled prior to January 1, 1996 are based on the difference between their current salary and the salary of the position on January 18, 1982. Pursuant to the provisions of P.L. 2011, c. 78, the member contribution rate was 12% in State fiscal year 2022. The State's contribution is based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 43:6A. JRS provides retirement benefits as well as death and disability benefits. Retirement is mandatory at age 70. Service retirement benefits are available to members who have reached certain ages and various years of service. Benefits of 75% of final salary are available to members at age 70 with 10 years or more of judicial service; members between ages 65-69 with 15 years or more of judicial service or between ages 60-64 with 20 years or more of judicial service. Benefits of 50% of final salary are available to those with both judicial service and non-judicial service for which five or more consecutive years are judicial service. These benefits are available at age 65 or older with 15 years or more of aggregate service or age 60 or older with 20 years or more of aggregate service. Benefits of 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year in excess of 25 years are available at age 60 with five consecutive years of judicial service plus 15 years in the aggregate of public service or at age 60 while serving as a judge.

Early retirement benefits of 2% of final salary for each year of service up to 25 years and 1% of final salary for each year over 25 years is available to members who retire before age 60, have 5 or more consecutive years of judicial service, and 25 years or more in aggregate public service. The amount of benefits is actuarially reduced for the number of months remaining until the member reaches age 60.

POPF

There are no active members in POPF. Additionally, based on the recent actuarial valuation, there was no normal cost or unfunded accrued liability contribution required by the State for the fiscal year ended June 30, 2022. The vesting and benefit provisions were set by N.J.S.A. 43:7.

Notes to Financial Statements — June 30, 2022, continued

COLAs are separately funded on a pay-as-you-go basis, which was established pursuant to P.L. 1958, c. 143.

SPRS

The contribution policy is set by N.J.S.A. 53:5A and requires contributions by active members and the State of New Jersey. Pursuant to the provisions of P.L. 2011, c. 78, the active member contribution rate was 9% in State fiscal year 2022. The State’s contribution is based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 53:5A. SPRS provides retirement benefits as well as death and disability benefits. All benefits vest after ten years of service, and members are always fully vested in their contributions. Mandatory retirement is at age 55. Voluntary retirement is prior to age 55 with 20 years of credited service. The benefit is an annual retirement allowance equal to the greater of (a), (b), or (c), as follows: (a) 50% of final compensation; (b) for members retiring with 25 years or more of service, 65% of final compensation, plus 1% for each year of service in excess of 25 years, to a maximum of 70% of final compensation; or (c) for members as of August 29, 1985 who would not have 20 years of service by age 55, benefit as defined in (a) above. For members as of August 29, 1985, who would have 20 years of service, but would not have 25 years of service at age 55, benefit is as defined in (a) above plus 3% for each year of service.

CPFPF

There are no active members in CPFPF. Additionally, based on the recent actuarial valuation, the State made a contribution of \$76.0 thousand towards the normal cost or unfunded accrued liability during the fiscal year ended June 30, 2022. The vesting and benefit provisions were set by N.J.S.A. 43:16.

COLAs are separately funded on a pay-as-you-go basis, which was established pursuant to P.L. 1958, c. 143.

TPAF

The contribution policy is set by N.J.S.A. 18A:66 and requires contributions by active members and contributing employers. Pursuant to the provisions of P.L. 2011, c. 78, the member contribution rate was 7.5% in State fiscal year 2022. The State’s contribution is based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 18A:66. TPAF provides retirement, death, and disability benefits. All benefits vest after ten years of service. Members are always fully vested for their own contributions and, after three years of service credit, become vested for 2% of related interest earned on the contributions. In the case of death before retirement, members’ beneficiaries are entitled to full interest credited to the members’ accounts.

The following represents the membership tiers for TPAF:

Tier	Definition
1	Members who were enrolled prior to July 1, 2007
2	Members who were eligible to enroll on or after July 1, 2007, and prior to November 2, 2008
3	Members who were eligible to enroll on or after November 2, 2008, and prior to May 22, 2010
4	Members who were eligible to enroll on or after May 22, 2010, and prior to June 28, 2011
5	Members who were eligible to enroll on or after June 28, 2011

Service retirement benefits of 1/55th of final average salary for each year of service credit is available to tiers 1 and 2 members upon reaching age 60 and to tier 3 members upon reaching age 62. Service retirement benefits of 1/60th of final average salary for each year of service credit is available to tier 4 members upon reaching age 62 and tier 5 members upon reaching age 65. Early retirement benefits are available to tiers 1 and 2 members with 25 years or more service credit before reaching age 60, tiers 3 and 4 with 25 years or more of service credit before age 62, and tier 5 before age 65 with 30 years or more of service credit. Benefits are reduced by a

Notes to Financial Statements – June 30, 2022, continued

fraction of a percent for each month that a member retires prior to the retirement age for his/her respective tier. Deferred retirement is available to members who have at least 10 years of service credit and have not reached the service retirement age for the respective tier.

PFRS

The contribution policy is set by N.J.S.A. 43:16A and requires contributions by active members and contributing employers. Pursuant to the provisions of P.L. 2011, c. 78, the active member contribution rate was 10.0% in State fiscal year 2022. Employers' contributions are based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 43:16A. PFRS provides retirement as well as death and disability benefits. All benefits vest after ten years of service, except disability benefits, which vest after four years of service.

The following represents the membership tiers for PFRS:

Tier	Definition
1	Members who were enrolled prior to May 22, 2010
2	Members who were eligible to enroll on or after May 22, 2010 and prior to June 28, 2011
3	Members who were eligible to enroll on or after June 28, 2011

Service retirement benefits are available at age 55 and are generally determined to be 2% of final compensation for each year of creditable service up to 30 years plus 1% for each year of service in excess of 30 years. Members may seek special retirement after achieving 25 years of creditable service, in which benefits would equal 65% (tiers 1 and 2 members) and 60% (tier 3 members) of final compensation plus 1% for each year of creditable service over 25 years, but not to exceed 30 years. Members may elect deferred retirement benefits after achieving ten years of service, in which case benefits would begin at age 55 equal to 2% of final compensation for each year of service.

PERS

The contribution policy is set by N.J.S.A. 43:15A and requires contributions by active members and contributing employers. Pursuant to the provisions of P.L. 2011, c. 78, the member contribution rate was 7.5% in State fiscal year 2022. The rate for members who are eligible for the Prosecutors Part of PERS (P.L. 2001, c. 366) was 10% in State fiscal year 2022. Employers' contributions are based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 43:15A. PERS provides retirement, death, and disability benefits. All benefits vest after ten years of service.

The following represents the membership tiers for PERS:

Tier	Definition
1	Members who were enrolled prior to July 1, 2007
2	Members who were eligible to enroll on or after July 1, 2007, and prior to November 2, 2008
3	Members who were eligible to enroll on or after November 2, 2008, and prior to May 22, 2010
4	Members who were eligible to enroll on or after May 22, 2010, and prior to June 28, 2011
5	Members who were eligible to enroll on or after June 28, 2011

Service retirement benefits of 1/55th of final average salary for each year of service credit is available to tiers 1 and 2 members upon reaching age 60 and to tier 3 members upon reaching age 62. Service retirement benefits of 1/60th of final average salary for each year

Notes to Financial Statements – June 30, 2022, continued

of service credit is available to tier 4 members upon reaching age 62 and tier 5 members upon reaching age 65. Early retirement benefits are available to tiers 1 and 2 members with 25 years or more of service credit before reaching age 60, tiers 3 and 4 with 25 years or more of service credit before age 62, and tier 5 with 30 years or more of service credit before age 65. Benefits are reduced by a fraction of a percent for each month that a member retires prior to the age at which a member can receive full early retirement benefits in accordance with their respective tier. Tier 1 members can receive an unreduced benefit from age 55 to age 60 if they have at least 25 years of service. Deferred retirement is available to members who have at least 10 years of service credit and have not reached the service retirement age for the respective tier.

CPF

The State of New Jersey makes an annual appropriation payment to CPF to pay current year benefits. The contribution requirements were established by the statutes mentioned in the previous table and are not actuarially determined.

COLAs are separately funded on a pay-as-you-go basis, which was established pursuant to P.L. 1958, c. 143. Benefits are payable under various State of New Jersey legislation in an amount equal to one half of the compensation received by the participant for his/her service.

(c) Other Employee Benefit Plans

The Division administers the following other employee benefit plans to certain members as further discussed below:

Plan	Established as of	Legislation	Membership
NJSEDCP	June 19, 1978	Chapter 39, P.L. 1978, amended by Chapter 449, P.L. 1985, effective January 14, 1986, and further amended by Chapter 116, P.L. 1997, effective June 6, 1997	Any state employee who is a member of a state-administered retirement system or an employee of an eligible state agency, authority, commission or instrumentality of state government provided the employee has at least 12 continuous months of employment, and any individual employed through a Governor’s appointment.
SACT	1963	Chapter 123, P.L. 1963, amended by Chapter 90, P.L. 1965	Active members of several state-administered retirement systems to provide specific benefits to supplement the guaranteed benefits that are provided by their basic retirement system.

Plan Membership

At June 30, 2022, membership in the other employee benefit plans consisted of the following:

Plan	Members
NJSEDCP	57,354
SACT	2,929

Contribution Requirements and Benefit Provisions

NJSEDCP

Participants may defer between 1% and 100% of their salary, less any Internal Revenue Code (IRC) Section 414(h) reductions, or \$20,500 annually. Under the limited “catch-up” provision, a participant may be eligible to defer up to a maximum in the three years immediately preceding the retirement age at which no reduction in benefits would be applicable.

Notes to Financial Statements — June 30, 2022, continued

There are no employer or nonemployer entities that are required to contribute to the plan.

Assets in the plan are held in trust for the exclusive benefit of plan members and their beneficiaries in accordance with Governmental Accounting Standards Board (GASB) Statement No. 32, *Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*. Plan members are fully vested for the current valuation of their account from the date of enrollment in the plan. Benefits are payable upon separation from service with the State of New Jersey.

SACT

Participants contribute through payroll deductions and may contribute from 1% to 100% of their base salary. Contributions are voluntary and may be suspended at the beginning of any quarter. Contributions under the Tax Sheltered Supplemental Annuity Plan are subject to Federal law limitations and qualify for tax sheltered treatment permitted under Section 403(b) of the IRC. Participants are always fully vested for the accumulated units in their accounts.

Upon retirement, a participant receives a life annuity benefit or may elect to receive a benefit paid as a single cash payment or various forms of monthly annuity payments with a beneficiary provision based on the value of the participant’s account in the month of retirement. Upon the death of a participant, the designated beneficiary may elect to receive a lump sum equal to the account value or an annuity under any of the settlement options, which a retiree could elect under SACT. Upon termination of employment and withdrawal from the basic retirement systems, a participant must also withdraw his/her account under SACT as a lump-sum settlement.

(d) Defined Benefit Other Postemployment Benefit Plan

The Division administers the State Health Benefits Local Government Retired Employees plan. The plan was established in 1961 under Title 52 Article 14 – 17.25 et. seq. and offers medical and prescription coverage to qualified local government public retirees and their spouses. Local employers must adopt a resolution to participate. The OPEB plan is overseen by the State Health Benefits Commission (the Commission), which was established by N.J.S.A. 52:14-17.27. The Commission reviews any member appeals related to member eligibility, benefit or claim denial, and benefit payments for the medical and prescription drug claims. They also have contracting authority for vendors to administer the medical and prescription drug programs as well as the health benefit consultant and actuary. Further, they approve the premiums for the various plans on an annual basis. The Commission is comprised of one representative each from the Office of the Treasurer, Department of Banking and Insurance, Civil Service Commission, State Employee Union, and Local Employee Union.

Plan Membership and Contributing Employers

Membership and contributing employers/nonemployers of the defined benefit OPEB plan consisted of the following at June 30, 2022:

Inactive plan members or beneficiaries currently receiving benefits	33,684
Inactive plan members entitled to but not yet receiving benefits	—
Active plan members	65,360
Total	99,044
Contributing employers	591
Contributing nonemployers	1

Contribution Requirements and Benefit Provisions

The funding policy for the OPEB plan is pay-as-you-go; therefore, there is no prefunding of the liability. However, due to premium rates being set prior to each calendar year, there can be a minimal amount of net position available to cover benefits in future years. Contributions to pay for the health benefit premiums of participating employees in the OPEB plan are collected from the State of New Jersey, participating local employers, and retired members. The State of New Jersey makes contributions to cover those employees eligible under P.L. 1997, c. 330 as disclosed below. Local employers remit employer contributions on a monthly basis. Retired member contributions are generally received on a monthly basis.

Notes to Financial Statements — June 30, 2022, continued

The employers participating in the OPEB plan made a contribution of \$389.5 million and the State of New Jersey, as the nonemployer contributing entity, contributed \$45.8 million for fiscal year 2022.

Pursuant to P.L. 2011, c. 78, future retirees eligible for postretirement medical coverage who have less than 20 years of creditable service on June 28, 2011 will be required to pay a percentage of the cost of their health care coverage in retirement provided they retire with 25 or more years of pension service credit. The percentage of the premium for which the retiree will be responsible will be determined based on the retiree's annual retirement benefit and level of coverage.

The State provides partially funded benefits to certain local police officers and firefighters who retire with 25 years of service or on disability from an employer who does not provide coverage under the provisions of P.L. 1997, c. 330. To be eligible for Chapter 330 postretirement medical benefits, the employee must have retired from an employer who does not provide any payment toward health insurance at retirement.

(2) Summary of Significant Accounting Policies

(a) Reporting Entity

The financial statements include all funds, which are administered by the Division over which operating controls are with the individual Plan's governing Boards and/or the State of New Jersey. The financial statements of the Plans and the custodial fund are included in the financial statements of the State of New Jersey; however, the accompanying financial statements are intended to present solely the funds listed above, which are administered by the Division and not the State of New Jersey as a whole.

(b) Measurement Focus and Basis of Accounting

The accompanying financial statements were prepared in accordance with U.S. generally accepted accounting principles as applicable to governmental organizations. In doing so, the Division adheres to reporting requirements established by GASB.

The accrual basis of accounting is used for measuring financial position and changes in net position of the pension trust funds, other employee benefit trust funds, other postemployment benefit trust fund, and custodial fund. Under this method, contributions are recorded in the accounting period in which they are legally due from the employer or plan member, and deductions are recorded at the time the liabilities are due and payable in accordance with the terms of each plan. The accounts of the Division are organized and operated on the basis of funds. All funds are accounted for using an economic resources measurement focus.

Fiduciary Funds

The Division reports the following types of funds:

Pension, other employee benefit, and other postemployment benefit plan trust funds – Account for monies received for, expenses incurred by and the net position available for plan benefits of the various public employee retirement systems, other employee benefit plans, and an OPEB plan. The pension trust funds include JRS, POPF, SPRS, CPFPF, TPAF, PFRS, PERS, CPF, NJSEDCP, and SACT.

Custodial fund – Custodial fund is used to account for the assets that the Division holds on behalf of others as their agent.

(c) Receivables

Receivables consist primarily of member and employer contributions and other amounts that are legally required to be due to the Plans.

(d) Capital Assets

Capital assets utilized by the Division include equipment, which is owned and paid for by the State of New Jersey.

Notes to Financial Statements — June 30, 2022, *continued*

(e) *Investments*

The Division of Investment, Department of the Treasury, State of New Jersey (Division of Investment) manages and invests certain assets of seven of the defined benefit pension plans (JRS, POPF, SPRS, CPFPPF, TPAF, PFRS and PERS) and two other employee benefit plans (SACT and certain accounts in NJSEDCP). Accounts managed by the Division of Investment included in the accompanying statement of fiduciary net position are: Common Pension Fund A, Common Pension Fund D and Common Pension Fund E (collectively known as the Common Pension Funds), SACT and certain accounts in NJSEDCP. Common Pension Fund D invests primarily in global equity and fixed income securities. Common Pension Fund A and E invests primarily in global diversified credit funds and alternative investments, which includes private equity, real estate, real asset, and absolute return strategy funds.

In addition, the Division of Investment manages the State of New Jersey Cash Management Fund (CMF), which is available on a voluntary basis for investment by State and certain non-State participants. CMF is considered to be an investment trust fund as defined in GASB Statement No. 31, *Certain Investments and External Investment Pools*. Units of ownership in CMF may be purchased or redeemed on any given business day (excluding State holidays) at the unit cost or value of \$1.00. Participant shares are valued on a fair value basis. For additional information about CMF, refer to the audited financial statements, which can be obtained at <https://www.nj.gov/treasury/doinvest/cmfcmf%20Financial%20Statements%20FY22a.pdf>.

Prudential Retirement is the third-party administrator for the NJSEDCP. Prudential Retirement provides recordkeeping, administrative services and access to 22 investment options through a combination of their separate account product offerings and retail branded mutual funds. The four state-managed investments options (NJSEDCP Fixed Income Fund, NJSEDCP Equity Fund, NJSEDCP Small Capitalization Equity Fund, and NJSEDCP Cash Management Fund) were closed to new contributions on December 31, 2005. On August 1, 2014, the NJSEDCP Fixed Income Fund and the NJSEDCP Cash Management Fund were closed. On December 15, 2014, the NJSEDCP Equity Fund and the NJSEDCP Small Capitalization Fund were opened to new contributions. The Board of the NJSEDCP is the fiduciary for the investments of the Plan. The Division of Pensions and Benefits maintains its administrative oversight functions for the Plan.

Investment transactions are accounted for on a trade or investment date basis. Interest and dividend income is recorded on the accrual basis, with dividends accruing on the ex-dividend date. The net increase in the fair value of investments includes the net realized and unrealized gains or losses on investments.

(f) *Members' Loans*

Members of JRS, SPRS, TPAF, PFRS, and PERS who have at least three years of service in these plans may borrow up to 50% of their accumulated member contributions. Repayment of loan balances is deducted from payroll checks and bears a commercially reasonable interest rate as set by the State Treasurer. For 2022, the interest rate was 5.75%. There was a \$15 processing fee per loan. Members who retire with an outstanding loan have the option of paying the loan in full prior to receiving any benefits or continuing their monthly loan payment schedule into retirement.

(g) *Administrative Expenses*

Administrative expenses are paid by the plans to the State of New Jersey, Department of the Treasury and are included in the accompanying financial statements.

In certain funds (JRS, SPRS, TPAF, PFRS and PERS) miscellaneous expenses and reimbursements from the fund that comprise various adjustments to member and employer accounts are incorporated into the administrative expense amounts included in the accompanying financial statements.

Notes to Financial Statements – June 30, 2022, continued

(h) Income Tax Status

Based on Internal Revenue Service (IRS) determination letters received in January 2012 for JRS, POPF, SPRS, TPAF, and PERS and in June 2012 for CPFPF and PFRS, the seven pension funds comply with the qualification requirements of the Internal Revenue Code (IRC). NJSEDCP and SACT are eligible plans as described in Section 457 and Section 401(a) of the IRC, respectively.

(i) Commitments

Common Pension Funds A and E are obligated, under certain private equity, real estate, real asset, absolute return strategy, and global diversified credit fund agreements to make additional capital contributions up to contractual levels over the investment period specified for each investment. As of June 30, 2022, Common Pension Fund A and E had unfunded commitments totaling approximately \$8.1 billion.

(j) Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make significant estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

(k) Adoption of Accounting Pronouncements

In 2022, the Division adopted GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans—an amendment of GASB Statements No. 14 and No. 84, and a supersession of GASB Statement No. 32*. This Statement (1) requires that a Section 457 plan be classified as either a pension plan or an other employee benefit plan depending on whether the plan meets the definition of a pension plan and (2) clarifies that Statement 84, as amended, should be applied to all arrangements organized under IRC Section 457 to determine whether those arrangements should be reported as fiduciary activities. There was no significant impact of the adoption recognized in the current year.

(3) Employers’ Net Pension Liability (Asset) – Defined Benefit Plans

Components of Net Pension Liability (Asset)

The components of the net pension liability (asset) of the participating employers for the defined benefit plans at June 30, 2022 are as follows:

	<u>JRS</u>	<u>POPF</u>	<u>SPRS</u>	<u>CPFPF</u>	<u>TPAF</u>	<u>PFRS</u>	<u>PERS</u>
Total pension liability	\$ 901,205,780	2,821,728	4,222,410,235	2,235,283	76,317,117,835	48,518,717,954	70,174,138,275
Plan fiduciary net position	183,016,740	4,950,414	1,947,335,807	2,159,528	24,640,530,532	30,708,653,410	32,568,122,309
Net pension liability (asset)	\$ 718,189,040	(2,128,686)	2,275,074,428	75,755	51,676,587,303	17,810,064,544	37,606,015,966
Plan fiduciary net position as a percentage of the total pension liability	20.31%	175.44%	46.12%	96.61%	32.29%	63.29%	46.41%

The total pension liability was determined by actuarial valuations as of July 1, 2021, which was rolled forward to June 30, 2022, using the following actuarial assumptions, applied to all periods in the measurement:

Notes to Financial Statements — June 30, 2022, continued

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Inflation rate:							
Price	2.75%	N/A	2.75%	N/A	2.75%	2.75%	2.75%
Wage	3.25%	N/A	3.25%	N/A	3.25%	3.25%	3.25%
Salary increases:							
Initial fiscal year applied through	2025	N/A	All future years	N/A	All future years	All future years	All future years
Rate	2.00%	N/A	2.75 - 6.75% based on years of service	N/A	2.75 - 4.25% based on years of service	3.25 - 16.25% based on years of service	2.75 - 6.55% based on years of service
Thereafter	2.75%	N/A	Not Applicable	N/A	Not Applicable	Not Applicable	Not Applicable
Long-term expected rate of return	7.00%	3.54%	7.00%	3.54%	7.00%	7.00%	7.00%
Period of actuarial experience study upon which actuarial assumptions were based	July 1, 2018 - June 30, 2021	N/A	July 1, 2018 - June 30, 2021	N/A	July 1, 2018- June 30, 2021	July 1, 2018 - June 30, 2021	July 1, 2018 - June 30, 2021

N/A – This is a closed plan, therefore there are no active employees.

The following table represents the mortality table and improvement assumptions used:

Plan	Pre-retirement mortality	Post-retirement mortality	Disability
JRS	The Pub-2010 Teachers Above-Median Income Employee mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Non-safety Disabled Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.
POPF	Not applicable as there are no active members.	The Pub-2010 Public Safety Healthy Retiree mortality table, unadjusted, for healthy retirees, and the Pub-2010 General Healthy Retiree mortality table, unadjusted, for beneficiaries, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	PUB-2010 Public Safety Disabled Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.
SPRS	The Pub-2010 Public Safety Above-Median Income Employee mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Public Safety Above-Median Income Healthy Retiree mortality table, unadjusted, for healthy retirees (healthy annuitants) and the Pub-2010 General Above-Median Income Healthy Retiree mortality table, unadjusted, for beneficiaries (contingent annuitants), with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Public Safety Disabled Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.
CPFPF	Not applicable as there are no active members.	The Pub-2010 Public Safety Healthy Retiree mortality table for healthy retirees and the Pub-2010 General Healthy Retiree mortality table for beneficiaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	Not applicable as there are no disabled retirees.

Notes to Financial Statements – June 30, 2022, continued

Plan	Pre-retirement mortality	Post-retirement mortality	Disability
TPAF	The Pub-2010 Teachers Above-Median Income Employee mortality table with a 93.9% adjustment for males and 85.3% adjustment for females, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table with a 114.7% adjustment for males and 99.6% adjustment for females, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Non-Safety Disabled Retiree mortality table with a 106.3% adjustment for males and 100.3% adjustment for females, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.
PFRS	The PubS-2010 amount-weighted mortality table (sex-specific) with MP-2021 mortality projection.	The PubS-2010 amount-weighted mortality table (sex-specific) with MP-2021 mortality projection.	144% of the PubS-2010 amount-weighted mortality table for males and 100% of the PubS-2010 amount-weighted mortality table for females, with MP-2021 mortality projection.
PERS	The Pub-2010 General Below-Median Income Employee mortality table with a 82.2% adjustment for males and 101.4% adjustment for females, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 General Below-Median Income Healthy Retiree mortality table with a 91.4% adjustment for males and 99.7% adjustment for females, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.	The Pub-2010 Non-Safety Disabled Retiree mortality table with a 127.7% adjustment for males and 117.2% adjustment for females, with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2021.

Long-Term Expected Rate of Return

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 returns, net of pension trust funds' investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension trust funds' target asset allocation as of June 30, 2022 are summarized in the following table:

Notes to Financial Statements – June 30, 2022, continued

Asset Class	JRS, SPRS, TPAF, PFRS and PERS	POPF & CPFPF
U.S. Equity	8.12%	—
Non-U.S. Developed Market Equity	8.38%	—
Emerging Market Equity	10.33%	—
Private Equity	11.80%	—
Real Estate	11.19%	—
Real Assets	7.60%	—
High Yield	4.95%	—
Private Credit	8.10%	—
Investment Grade Credit	3.38%	—
Cash Equivalents	1.75%	1.75%
U.S. Treasuries	1.75%	—
Risk Mitigation Strategies	4.91%	—

Discount Rate

The discount rates used to measure the total pension liabilities of the plans were as follows:

Plan	Discount Rate
JRS	7.00%
POPF	3.54%
SPRS	7.00%
CPFPF	3.54%
TPAF	7.00%
PFRS	7.00%
PERS	7.00%

The following table represents the crossover period, if applicable, for each defined benefit plan:

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Period of projected benefit payments for which the following rates were applied:							
Long-term expected rate of return	All periods	Not applicable	All periods	Not applicable	All periods	All periods	All periods
Municipal Bond rate*	Not applicable	All periods	Not applicable	All periods	Not applicable	Not applicable	Not applicable

* The municipal bond return rate used is 3.54%. The source is the Bond Buyer Go 20-Bond Municipal Bond Index, which includes tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Notes to Financial Statements – June 30, 2022, continued

Sensitivity of Net Pension Liability (Asset)

The following presents the net pension liability (asset) of each plan calculated using the discount rates as disclosed above as well as what each plan's net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

<u>Pension Plan (rates used)</u>	<u>At 1% decrease</u>	<u>At current discount rate</u>	<u>At 1% increase</u>
JRS (6.00%, 7.00%, 8.00%)	\$ 801,080,652	718,189,040	646,590,787
POPF (2.54%, 3.54%, 4.54%)	(1,996,969)	(2,128,686)	(2,248,280)
SPRS (6.00%, 7.00%, 8.00%)	2,792,748,947	2,275,074,428	1,846,440,869
CPFPF (2.54%, 3.54%, 4.54%)	166,420	75,755	(6,589)
TPAF (6.00%, 7.00%, 8.00%)	60,591,896,759	51,676,587,303	44,166,559,329
PFRS (6.00%, 7.00%, 8.00%)	23,535,653,362	17,810,064,544	13,043,206,326
PERS (6.00%, 7.00%, 8.00%)	45,097,325,163	37,606,015,966	31,237,697,265

(4) Employers' Net Pension Liability – Defined Benefit OPEB Plan

Components of Net OPEB Liability – OPEB Plan

The components of the net OPEB liability of the participating employers for the OPEB plan at June 30, 2022 are as follows:

Total OPEB liability	\$	16,090,925,144
Plan fiduciary net position (deficit)		(58,670,334)
Net OPEB liability	\$	<u>16,149,595,478</u>
Plan fiduciary net position (deficit) as a percentage of the total OPEB liability		-0.36%

The total OPEB liability was determined by an actuarial valuation as of July 1, 2021, which was rolled forward to June 30, 2022 using the following actuarial assumptions, applied to all periods in the measurement:

Salary increases*

PERS	2.75% to 6.55% based on years of service
PFRS	3.25% to 16.25% based on years of service

Mortality

PERS	Pub-2010 General classification headcount-weighted mortality table with fully generation mortality improvement projections from the central year using Scale MP-2021
PFRS	Pub-2010 Safety classification headcount-weighted mortality table with fully generation mortality improvement projections from the central year using Scale MP-2021

Long-term rate of return	3.54%
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*Salary increases are based on the defined benefit plan that the individual is enrolled in and his or her age.

Notes to Financial Statements – June 30, 2022, continued

Actuarial assumptions used in the July 1, 2021 valuation were based on the results of the PFRS and PERS experience studies prepared for July 1, 2018 to June 30, 2021.

As the OPEB plan only invests in the State of New Jersey CMF, the long-term expected rate of return on OPEB investments was based off the best-estimate ranges of future real rates of return (expected returns, net of OPEB plan investment expense and inflation) for cash equivalents, which is 0.50%.

The discount rate for the OPEB plan was 3.54%. This represents the municipal bond return rate as chosen by the Division. The source is the Bond Buyer Go 20-Bond Municipal Bond Index, which includes tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. As the long-term rate of return is less than the municipal bond rate, it is not considered in the calculation of the discount rate, rather the discount rate is set at the municipal bond rate.

Sensitivity of Net OPEB Liability to changes in the discount rate:

At 1% decrease (2.54%)	At current discount rate (3.54%)	At 1% increase (4.54%)
\$ 18,720,632,230	16,149,595,478	14,080,955,857

Sensitivity of Net OPEB Liability to changes in the healthcare trend rate:

1% Decrease	Healthcare Cost Trend Rate	1% Increase
\$ 13,700,188,049	16,149,595,478	19,286,596,671

(5) Investments

Investments (including investments held directly by the Common Pension Funds) as of June 30, 2022 are as follows:

Common Pension Fund A:

Cash Management Fund	\$ 28,327,596
Private credit funds	194,610,329
Private equity funds	98,732,374
Real assets	92,160,384
Real estate funds	63,795,625
	477,626,308

Common Pension Fund D:

Cash	\$ 216,370,541
Cash Management Fund	3,267,958,772
Domestic equities	22,462,084,701
International equities	15,286,251,235
Domestic fixed income	12,160,984,607
International fixed income	1,102,405,788
Other ⁽¹⁾	193,820,872
	54,689,876,516

Notes to Financial Statements – June 30, 2022, continued

Common Pension Fund E:

Cash	\$	36,831,555
Cash Management Fund		2,911,775,068
Private equity funds		10,924,843,274
Private credit funds		5,089,188,226
Real estate funds		4,448,314,651
Absolute return strategy funds		3,017,205,538
Real assets		2,195,712,533
Domestic equities		397,694,193
Other ⁽¹⁾		9,636,336
		29,031,201,374

All Other Investments:

Cash Management Fund		1,824,690,497
Domestic equities		888,605,889
Fixed income mutual funds		527,240,987
Equity mutual funds		3,877,871,598
		7,118,408,971
Total	\$	91,317,113,169

⁽¹⁾ Includes assets (other than investments) and liabilities included in the net position of the Common Pension Funds. Common Pension Fund D excludes assets and liabilities related to securities lending.

New Jersey State statute provides for a State Investment Council (the Council) and a Director. Investment authority is vested in the Director of the Division of Investment, and the role of the Council is to formulate investment policies. The Council issues regulations, which establish guidelines for permissible investments for the Common Pension Funds managed by the Division of Investment, which include global equity investments, non-convertible preferred stocks, covered call options, put options, futures contracts, obligations of the U.S. Treasury, government agencies, corporations, international governments and agencies, global diversified credit investments, swap transactions, state and municipal general obligations, public authority revenue obligations, collateralized notes and mortgages, commercial paper, certificates of deposit, repurchase agreements, money market funds, private equity funds, real estate funds, other real assets, absolute return strategy funds, and the CMF.

Notes to Financial Statements — June 30, 2022, continued

The Council approves an investment plan that includes a targeted asset allocation, as well as long-term targeted ranges for asset classes. The asset allocation targets approved on July 22, 2020, effective October 1, 2020 by the Council for the Pension Fund, are as follows:

Asset Class	Target
U.S. equity	27.00%
Non-U.S. developed markets equity	13.50%
Emerging markets equity	5.50%
Private equity	13.00%
Global Growth	59.00%
Real estate	8.00%
Real assets	3.00%
Real Return	11.00%
High yield	4.00%
Private credit	8.00%
Investment grade credit	7.00%
Income	19.00%
Cash equivalents	4.00%
U.S. Treasuries	4.00%
Risk mitigation strategies	3.00%
Defensive	11.00%
Total	100.00%

The asset allocation policy is reviewed on at least an annual fiscal year basis.

Rate of Return

The annual money-weighted rates of return were (7.66%) for JRS, SPRS, TPAF, PFRS, and PERS and 0.24% for POPF, CPFPPF, and the OPEB Plan. The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amounts of pension plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the end of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

Deposit and Investment Risk Disclosure

Custodial credit risk, as it relates to investments, is the risk that in the event of the failure of the custodian, the Plans will not be able to recover the value of investments or collateral securities that are in the possession of the third party. The Plans' investment securities are not exposed to custodial credit risk as they are held in segregated accounts in the name of the Plans with the custodians.

The Plans' investments are subject to various risks. Among these risks are credit risk, concentration of credit risk, interest rate risk, and foreign currency risk. Each one of these risks is discussed in more detail below.

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit risk of issuers and debt instruments is evaluated by nationally recognized statistical rating agencies, such as Moody's Investors Service, Inc. (Moody's), Standard & Poor's Corporation (S&P), and Fitch Ratings (Fitch). Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer. There are no restrictions in the amount that can be invested in U.S. Treasury and government agency obligations. Council regulations require minimum credit ratings for certain categories of fixed income obligations held directly by the various funds and limit the amount that can be invested in any one issuer or issue.

Notes to Financial Statements – June 30, 2022, continued

The credit ratings and limits for the Pension Funds as of June 30, 2022 are as follows:

Category	Minimum rating			Limitation of issuer's outstanding debt/stock	Limitation of issue	Other limitations
	Moody's	S&P	Fitch			
Certificates of deposit Domestic International	P-1 P-1	A-1 A-1	F-1 F-1	10% 10%	– –	Split rating allowable. Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Collateralized notes and mortgages	Baa3	BBB-	BBB-	–	25%	Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Commercial paper	P-1	A-1	F-1	–	–	Split rating allowable. Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Global debt obligations	Baa3	BBB-	BBB-	10%	–	Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Private credit investments Direct bank loans	–	–	–	10%	–	Not more than 13% of pension fund assets can be invested in this category. Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
International government and agency obligations	Baa3	BBB-	BBB-	25%	25%	Not more than 5% of pension fund assets can be invested in this category.

Notes to Financial Statements – June 30, 2022, continued

Category	Minimum rating			Limitation of issuer's outstanding debt/stock	Limitation of issue	Other limitations
	Moody's	S&P	Fitch			
Money market funds	–	–	–	–	–	Not more than 5% of pension fund assets can be invested in money market funds; limited to 5% of shares or units outstanding.
Mortgage backed						
Pass-through securities	A3	A-	A-	–	–	Not more than 10% of pension fund assets can be invested in mortgage-backed securities.
Senior debt securities	–	–	–	–	25%	
Non-convertible preferred stocks	Baa3	BBB-	BBB-	10%	25%	Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Repurchase agreements						
Broker	P-1	A-1	F-1	–	–	–
State, municipal, and public authority obligations	A3	A-	A-	–	10%	Not more than 2% of pension fund assets can be invested in debt of any one obligor.
Swap transactions	Baa2	BBB	BBB	–	–	Notional value of net exposure to any one counterparty shall not exceed 1% of pension fund assets. Notional value of all swap transactions shall not exceed 5% of pension fund assets, but may be increased to 10% for a fixed period of time.

Up to 8% of the fair value of the combined assets of the Pension Funds may be invested in global debt obligations, collateralized notes and mortgages, non-convertible preferred stock, and mortgage-backed pass-through securities that do not meet the minimum credit rating requirements set forth above.

Notes to Financial Statements – June 30, 2022, continued

The total amount of a particular class of stock directly purchased of any one entity by the Common Pension Funds cannot exceed 10% of that class of stock outstanding. The total amount of shares or interests directly purchased or acquired of any one exchange traded fund or global, regional or country fund by the Common Pension Funds shall not exceed 10% of the total shares outstanding or interests of such fund.

The NJSEDCP Equity Fund and the NJSEDCP Small Capitalization Equity Fund are invested in equity securities that are denominated in U.S. dollars that trade on a securities exchange in the United States or the over-the-counter market. The NJSEDCP Equity Fund and the NJSEDCP Small Capitalization Equity Fund may hold up to 25% of their assets either in short-term fixed income securities, as permitted by the Council regulations, or in CMF. Not more than 10% of the market value of the NJSEDCP Equity Fund or the NJSEDCP Small Capitalization Equity Fund can be invested in the equity of any one issuer and affiliated entities. The total amount of a particular class of stock directly purchased or acquired of any one entity cannot exceed 5% of that class of stock outstanding. The total amount of shares directly purchased or acquired of any one exchange traded fund shall not exceed 5% of the total shares outstanding of such fund.

The funds managed by Prudential Retirement investments for the NJSEDCP consist of a number of individual investment managers, which individually have investment guidelines that they comply with and follow. For Prudential Retirement, the NJSEDCP is a participant-directed program offering a range of diversified investment alternatives. The options include bond investments, which are diversified by sector and number of securities held, mitigating undue concentration of both credit and foreign currency risks as well as interest rate risk.

SACT can only invest in equity securities denominated in U.S. dollars that are traded on a securities exchange in the United States or over-the-counter market. For SACT, not more than 10% of the market value of the fund can be invested in the equity of any one issuer and affiliated entities. The total amount of shares directly purchased or acquired of any one exchange traded fund shall not exceed 5% of the total shares outstanding of such fund. The total amount of a particular class of stock directly purchased or acquired of any one entity shall not exceed 5% of that class of stock outstanding.

The following tables disclose aggregate fair value, by major credit quality rating category as of June 30, 2022 for the fixed income securities held directly by the Common Pension Funds. The first table includes fixed income securities rated by Moody's. The second table discloses S&P's and Fitch's ratings for fixed income securities not rated by Moody's (in thousands).

	Moody's rating									Totals
	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C	
Corporate obligations	\$ 594,622	622,380	3,588,463	632,447	601,438	675,048	169,005	1,062	93	6,884,558
U.S. Treasury bonds	3,963,389	–	–	–	–	–	–	–	–	3,963,389
Foreign government obligations	171,593	449,244	27,234	–	–	–	–	–	–	648,071
International corporate obligations	9,986	87,839	54,607	24,103	98,934	136,679	27,007	254	–	439,409
Federal agency obligations	253,892	–	–	–	–	–	–	–	–	253,892
Mortgages (FHLMC/FNMA/GNMA)	5,654	–	–	–	–	–	–	–	–	5,654
	\$4,999,136	1,159,463	3,670,304	656,550	700,372	811,727	196,012	1,316	93	12,194,973

Notes to Financial Statements — June 30, 2022, continued

	Standard and Poor's rating					Fitch's rating			Totals
	A	BBB	BB	B	CCC	BB	B	C	
Corporate obligations	\$ 41,757	134,770	7,284	1,054	—	736	185	255	186,041
International corporate obligations	—	1,311	7,782	3,680	1,207	—	661	—	14,641
	\$ 41,757	136,081	15,066	4,734	1,207	736	846	255	200,682

The tables do not include certain domestic and international corporate obligations and certain fixed income mutual funds, which invest in an underlying portfolio of fixed income securities, totaling \$1,394,976,085 and do not have a Moody's, S&P, or Fitch rating. The above tables also do not include investment in the Cash Management Fund totaling \$8,032,751,933, which is not rated.

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Commercial paper must mature within 270 days. Certificates of deposits are limited to a term of one year or less. Repurchase agreements must mature within 30 days. Council regulations permit the Common Pension Funds to enter into foreign exchange contracts for the purpose of hedging the international portfolio.

The following table summarizes the maturities (or, in the case of Remics and mortgage-backed securities, the expected average life) of the Common Pension Funds' fixed income portfolio as of June 30, 2022 (in thousands):

Fixed income investment type	Maturities in years				Total fair value
	Less than 1	1 - 5	6 - 10	More than 10	
Corporate obligations	\$ 355,251	2,535,511	2,260,199	1,920,593	7,071,554
U.S. Treasury bonds	43,990	2,143,249	1,000,723	775,427	3,963,389
Foreign government obligations	50,093	281,345	316,633	—	648,071
International corporate obligations	5,032	242,052	172,828	34,422	454,334
Federal agency obligations	38,565	135,629	79,698	—	253,892
Mortgages (FHLMC/FNMA/GNMA)	14	750	4,890	—	5,654
Bank loans	—	403	—	—	403
	\$ 492,945	5,338,939	3,834,971	2,730,442	12,397,297

The fixed income exchange traded funds held by the Common Pension Funds and the fixed income mutual funds held by NJSEDPC as of June 30, 2022 were \$866,092,917 and \$527,240,987, respectively. These funds have a weighted average duration of 4.82 and 6.55 years, respectively.

Notes to Financial Statements — June 30, 2022, continued

The Common Pension Funds invest in global markets. Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The Common Pension Funds had the following foreign currency exposure as of June 30, 2022 (expressed in thousands of U.S. dollars):

Currency	Equities	Fixed income	Alternative investments	Total fair value
Australian dollar	\$ 706,529	—	—	706,529
Brazilian real	242,613	—	—	242,613
Canadian dollar	1,156,923	55,696	—	1,212,619
Chilean peso	12,497	—	—	12,497
Czech koruna	19,190	—	—	19,190
Danish krone	231,738	—	—	231,738
Euro	2,539,861	49,805	12,281,631	14,871,297
Hong Kong dollar	1,403,003	—	—	1,403,003
Hungarian forint	19,131	—	—	19,131
Indonesian rupiah	104,827	—	—	104,827
Japanese yen	1,967,294	—	—	1,967,294
Malaysian ringgit	32,929	—	—	32,929
Mexican peso	96,014	—	—	96,014
New Israeli sheqel	55,622	—	—	55,622
New Taiwan dollar	12,775	—	—	12,775
New Zealand dollar	15,873	—	—	15,873
Norwegian krone	60,195	—	—	60,195
Philippine peso	15,422	—	—	15,422
Polish zloty	17,849	—	—	17,849
Pound sterling (U.K.)	1,340,430	—	—	1,340,430
Qatari rial	29,505	2,498	54,492	86,495
Singapore dollar	124,487	—	—	124,487
South African rand	178,233	—	—	178,233
South Korean won	491,196	—	—	491,196
Swedish krona	295,766	—	—	295,766
Swiss franc	855,866	—	—	855,866
Thailand baht	69,531	—	—	69,531
Turkish lira	19,956	—	—	19,956
UAE dirham	50,580	—	—	50,580
	\$ 12,165,835	107,999	12,336,123	24,609,957

Notes to Financial Statements — June 30, 2022, *continued*

The Pension Funds' interests in alternative investments may contain elements of credit, currency and market risk. Such risks include, but are not limited to, limited liquidity, absence of regulatory oversight, dependence upon key individuals, speculative investments (both derivatives and nonmarketable investments), and nondisclosure of portfolio composition. Council regulations provide that not more than 38% of the market value of the Pension Funds can be invested in alternative investments, with limits on the individual investment categories of real estate (9%), real assets (7%), private equity (12%) and absolute return strategy (15%). On July 1, 2020 the limits for real estate and private equity were amended to 10% and 15%, respectively.

Not more than 5% of the market value invested through direct investments, separate accounts, fund of funds, commingled funds, co-investments and joint ventures in global diversified credit, private equity, real asset and absolute return strategy investments, plus outstanding commitments, may be committed to any one partnership or investment. Investments made through separate accounts, fund of funds, commingled funds, co-investments and joint ventures cannot comprise more than 20% of any one investment managers' total assets.

As of June 30, 2022, the net position of Common Pension Fund E includes receivables of \$974 thousand related to the redemption of hedge funds.

(6) Securities Lending Collateral

The State Investment Council policies permit the Common Pension Funds and several of the direct pension plan portfolios to participate in securities lending programs, whereby securities are loaned to brokers or other borrowers and, in return, the Common Pension Funds have rights to the collateral received. All of the publicly traded securities held in Common Pension Funds are eligible for the securities lending program. Collateral received may consist of cash, letters of credit, or U.S. Treasury obligations having a fair value equal to or exceeding 102% (U.S. dollar denominated) or 105% (non-U.S. dollar denominated) of the value of the loaned securities at the time the loan is made. Collateral is marked to market daily and adjusted as needed to maintain the required minimum level.

For loans of U.S. government securities or sovereign debt issued by non-U.S. governments, in the event that the fair value of the collateral falls below 100% of the fair value of the outstanding loaned securities to an individual borrower, or the fair value of the collateral of all loans of such securities falls below the collateral requirement, additional collateral shall be transferred by the borrower to the respective funds no later than the close of the next business day so that the fair value of such additional collateral together with collateral previously delivered meets the collateral requirements.

For loans of all other types of securities, in the event that the fair value of the collateral falls below the collateral requirement of either 102% or 105% (depending on whether the securities are denominated in U.S. dollars or a foreign currency, respectively) of the fair value of the outstanding loaned securities to an individual borrower, additional collateral shall be transferred in an amount that will increase the aggregate of the borrower's collateral to meet the collateral requirements. As of June 30, 2022, the Common Pension Funds had no aggregate credit risk exposure to borrowers because the collateral amount held by the Common Pension Funds exceeded the fair value of the securities on loan.

The contract with the Common Pension Funds' securities lending agent requires them to indemnify the Common Pension Funds if the brokers or other borrowers fail to return the securities and provide that collateral securities may be sold in the event of a borrower default. The Common Pension Funds are also indemnified for any loss of principal or interest on collateral invested in repurchase agreements. The Common Pension Funds cannot participate in any dividend reinvestment program or vote with respect to any securities that are on loan on the applicable record date. The securities loans can be terminated by notification by either the borrower or the Common Pension Funds. The term to maturity of the securities loans is generally matched with the term to maturity of the investment of the cash collateral.

The securities lending collateral is subject to various risks. Among these risks are custodial credit risk, credit risk, concentration of credit risk, and interest rate risk. Securities lending collateral is invested in repurchase agreements, the maturities of which cannot exceed 30 days. The collateral for repurchase agreements is limited to obligations of the U.S. Government or certain U.S. Government agencies, collateralized notes and mortgages, and corporate obligations meeting certain minimum rating criteria. Total exposure to any individual issuer is limited consistent with internal policies for funds managed by the Division of Investment.

Notes to Financial Statements — June 30, 2022, continued

For securities exposed to credit risk in the collateral portfolio, the following table discloses aggregate fair value, by major credit quality rating category as of June 30, 2022 (in thousands):

	Rating		Totals
	Aaa/AAA	Not rated	
Repurchase agreements	\$ 1,317,171	–	1,317,171
State Street Navigator Securities Lending Money Market Portfolio	–	199,227	199,227
Cash	–	3,413	3,413
	\$ 1,317,171	202,640	1,519,811

Custodial credit risk for investments is the risk that in the failure of the counterparty to the transaction, the Pension Funds will not recover the value of the investments that are in the possession of an outside party. The repurchase agreement’s underlying securities are held in a segregated account at the tri-party bank.

As of June 30, 2022, the Pension Funds had outstanding loaned investment securities with an aggregate fair value of \$1,464,910,568 and did not hold any noncash collateral. There were no borrowers or lending agent default losses, and no recoveries or prior period losses during the year.

(7) Derivatives

The Pension Funds invest in derivative securities through the Common Pension Funds. A derivative security is an investment whose value is derived from other financial instruments such as commodity prices, bonds and stock prices, or a market index. The Common Pension Funds’ derivative securities are considered investment derivative instruments. The fair value of all derivative securities is reported in the statement of fiduciary net position, and the change in fair value is recorded in the statement of changes in fiduciary net position as a net increase or decrease in fair value of investments.

Derivative transactions involve, to varying degrees, credit risk and market risk. Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to terms. Market risk includes, but is not limited to, the possibility that a change in interest rate risk, foreign currency risk, or the value of the underlying securities will cause the value of a financial instrument to decrease or become more costly to settle. The market or the value of underlying security, or securities, risk associated with derivatives, the prices of which are constantly fluctuating, is regulated by imposing limits as to the types, amounts and degree of risk that the Common Pension Funds may undertake as set forth in the Council Regulations.

The Common Pension Funds may use financial futures to replicate an underlying security or indices they wish to hold in the portfolio. In certain instances, it may be beneficial to own a futures contract rather than the underlying security. Additionally, the Common Pension Funds may use futures contracts to improve the yield or adjust the duration of the fixed income portfolio or may sell futures contracts to hedge the portfolio. A financial futures contract is an agreement between a buyer and a seller that is based on a referenced item, such as financial indices, or interest rates or a financial instrument, such as equity or fixed income securities, physical commodities or currencies. Futures contracts may call for physical delivery of specified quantity of the underlying asset at a specified price (futures or strike price) and date, or be settled in cash. Futures contracts must be traded on a securities exchange or over-the-counter market. The net change in the futures contracts value is settled daily in cash with the exchanges. The cash to fulfill these obligations is held in a margin account. As the fair value of the futures contract varies from the original contract price, a gain or loss is paid to or received from the clearinghouse and recognized in the statement of changes in fiduciary net position.

Foreign currency forward contracts are used as a means to hedge against currency risks in the Common Pension Funds. Foreign currency forward contracts are agreements to buy or sell a specific amount of a foreign currency at a specified delivery or maturity date for an agreed upon price. Foreign currency forward contracts are marked to market on a daily basis with the change in fair value included in investment income in the statement of changes in fiduciary net position.

The Common Pension Funds utilize covered call and put options in an effort to add value to or reduce the risk level in the portfolio. Options are

Notes to Financial Statements — June 30, 2022, continued

agreements that give the owner of the option the right, but not obligation, to buy (in the case of a call option) or to sell (in the case of a put option) a specific amount of an asset for a specific price (called the strike price) on or before a specified expiration date. The Common Pension Funds enter into covered calls when they write (or sell) call options on underlying stocks held by the Common Pension Funds or stock indices. The Common Pension Funds enter into covered put options when they purchase put options on underlying stocks held by the Common Pension Funds or stock indices. The Common Pension Funds enter into put spreads when they purchase put options while simultaneously writing put options on the same underlying securities or indices at a lower strike price. The purchaser of put options pays a premium at the outset of the agreement and stands to gain from an unfavorable change (i.e., a decrease) in the price of the instrument underlying the option. The writer of call options receives a premium at the outset of the agreement and may bear the risk of an unfavorable change (i.e., an increase) in the price of the instrument underlying the option.

As of June 30, 2022, the Common Pension Fund's derivative investments included foreign currency forward contracts:

	Notional value (local currency)		Receivable	Payable	Change in fair value
Foreign currency forward contracts:					
Buy:					
Euro	2,009,404	\$	2,103,907	2,124,919	(21,012)
Pound sterling	53,849		65,458	66,320	(862)
Sell:					
Euro	52,747,131	\$	55,659,083	55,230,258	428,825
Pound sterling	2,364,690		2,922,345	2,873,594	48,751
Total forward contracts		\$	60,750,793	60,295,091	455,702

Certain of the alternative investment funds and partnerships may use derivative instruments to hedge against market risk and to enhance investment returns. At any point during the year, the Common Pension Funds may have additional exposure to derivatives primarily through limited liability vehicles such as limited partnerships and commingled investment funds.

(8) Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent market participants at the measurement date. Inputs refer broadly to the assumptions that market participants would use in pricing the asset or liability, including assumptions about risk. Inputs may be observable or unobservable. Observable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the reporting entity. Unobservable inputs are inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances. The three levels of the fair value hierarchy are as follows:

Level 1 – Quoted prices are available in active markets for identical investments as of the reporting date.

Level 2 – Pricing inputs are other than quoted prices in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies.

Level 3 – Pricing inputs are unobservable for the investment and inputs into the determination of fair value require significant management judgment or estimation, including assumptions about risk.

Notes to Financial Statements – June 30, 2022, continued

Investments are reported at fair value as follows:

- Domestic and international equity securities and exchange traded funds are valued using closing sales prices reported on recognized securities exchanges on which the securities are principally traded; these securities are included as Level 1 in the chart below. For listed securities having no sales reported and for unlisted securities, such securities will be valued based upon the last reported bid price; these securities are included as Level 2 in the chart below.
- Fixed income and equity mutual funds are valued using the published daily closing prices reported by Prudential and are included as Level 1 in the chart below.
- Foreign and domestic government, agency and corporate obligations, municipal bonds, mortgages, bank loans and asset-backed securities are valued using an evaluated price, which is based on a compilation of primarily observable market information or broker quotes in a non-active market. These are included as Level 2 in the chart below.
- Foreign exchange contracts are valued using industry recognized market-based models to calculate the value that a holder or counterparty would receive within the bid-ask spread, in an orderly transaction under current market conditions. These securities are included as Level 2 in the chart below.
- Distributions from alternative investment vehicles are received as the underlying investments are liquidated. The Plan's ownership interest in partners' capital can never be redeemed, but could be sold subject to approval by the fund's management. As of June 30, 2022, a buyer (or buyers) for these investments have not yet been identified. The partnership interest may be sold at an amount different from the net asset value (NAV) per share (or its equivalent) of the plan's ownership interest in partners' capital.

Notes to Financial Statements — June 30, 2022, continued

The following table summarizes the fair value hierarchy of the investment portfolio as of June 30, 2022 (in thousands):

	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>
Investments at fair value			
Equity securities			
Domestic equities	\$ 23,748,385	23,748,385	—
International equities	13,435,423	13,435,423	—
Equity mutual funds	3,877,872	3,877,872	—
Exchange traded funds	<u>1,850,828</u>	<u>1,850,828</u>	<u>—</u>
Total equity securities	42,912,508	42,912,508	—
Debt securities			
Corporate obligations	7,071,554	1,047	7,070,507
U. S. Treasury bonds	3,963,389	—	3,963,389
Foreign government obligations	648,071	—	648,071
International corporate obligations	454,334	—	454,334
Federal agency obligations	253,892	—	253,892
Fixed income mutual funds	1,393,334	1,393,334	—
Municipal obligations	—	—	—
Mortgages (FHLMC/FNMA/GNMA)	5,654	—	5,654
Exchanged traded funds	—	—	—
Bank loans	403	—	403
Asset backed securities	<u>—</u>	<u>—</u>	<u>—</u>
Total debt securities	<u>13,790,631</u>	<u>1,394,381</u>	<u>12,396,250</u>
Total investments by fair value level	56,703,139	\$ 44,306,889	12,396,250
Investments measured at the net asset value (NAV)			
Buyout private equity funds	8,893,876		
Private credit funds	5,283,799		
Real estate funds - equity	4,178,443		
Real assets	2,287,873		
Multi-strategy hedge funds	1,939,378		
Debt related private equity funds	1,137,776		
Opportunistic private equity funds	632,896		
Opportunistic hedge funds	571,253		
Venture capital private equity funds	354,083		

Notes to Financial Statements — June 30, 2022, continued

	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>
Real estate funds - debt	333,667		
Credit oriented hedge funds	289,832		
Equity oriented hedge funds	216,743		
Secondary private equity funds	4,944		
Total investments measured at NAV	<u>26,124,563</u>		
Local Government Investment Pool			
Cash Management Fund	8,032,752		
Total investments	\$ <u>90,860,454</u>		
Investments derivative instruments			
Foreign currency forward contracts (assets)	\$ 60,751	—	60,751
Foreign currency forward contracts (liabilities)	(60,295)	—	(60,295)
Total investment derivative instruments	\$ <u>456</u>	<u>—</u>	<u>456</u>

The following table represents the unfunded commitments, redemptions frequency and redemption notice period for investments measured at NAV as of June 30, 2022 (in thousands):

	Fair Value	Unfunded Commitments*	Redemption Frequency (if currently eligible)	Redemption Notice Period
Buyout private equity funds ⁽¹⁾	\$ 8,893,876	2,588,139	None	N/A
Private credit funds ⁽²⁾	5,283,799	1,569,658	Quarterly, Semi- annual	45 and 90 days
Real estate funds - equity ⁽³⁾	4,178,443	1,570,112	Quarterly	15 and 90 days
Real assets ⁽⁴⁾	2,287,873	942,573	None	None
Multi-strategy hedge funds ⁽⁵⁾	1,939,378	268,791	Quarterly, Semi-annual	45 and 90 days
Debt related private equity funds ⁽⁶⁾	1,137,776	527,354	None	N/A
Opportunistic private equity funds ⁽⁷⁾	632,896	332,716	None	N/A
Opportunistic hedge funds ⁽⁸⁾	571,253	—	Monthly, quarterly	2-90 days
Venture capital private equity funds ⁽⁹⁾	354,083	31,628	None	N/A
Real estate funds - debt ⁽¹⁰⁾	333,667	254,478	None	N/A
Credit oriented hedge funds ⁽¹¹⁾	289,832	—	None	N/A
Equity oriented hedge funds ⁽¹²⁾	216,743	—	Quarterly	65 days
Secondary private equity funds ⁽¹³⁾	4,944	11,870	None	N/A
Total investments measured at NAV	\$ 26,124,563	8,097,319		

*The unfunded commitments are comprised of funds at various points in their investment terms. Certain funds are outside of their investment period or within their dissolution period. Per the contractual fund agreements, these funds can no longer draw capital for new investments and thus are highly unlikely to utilize all of the remaining unfunded balances. In addition, the Division of Investment has contractual rights to veto further capital draws of certain funds on behalf of the Common Pension Fund A and E, limiting the ability to draw down these unfunded balances.

Notes to Financial Statements — June 30, 2022, continued

1. Buyout private equity funds include investments in 90 partnerships and 8 co-investment vehicles, which invest primarily in the equity of established operating companies in order to restructure the target company's reserve capital, management and/or organizational structure or facilitate ongoing growth of the firm. Return on investment is typically realized through an initial public offering, sale or merger of the company, or a recapitalization. All of the investments provide for transfer or sale of limited partnership interest with the prior written approval of the General Partner and seven investments further require the right of first refusal by the other partners in the investment. It is expected that the underlying assets will be liquidated over the next 6 months to 12 years.
2. Private credit funds include investments in 20 funds and separate account investments that make investment in mezzanine debt, credit structured products, commercial and residential mortgage-backed securities, commercial and residential whole loans, and other similar strategies. One of the funds has a quarterly redemption provision and one fund has a semi-annual redemption provision. Eighteen of these investments cannot be redeemed because the investments include restrictions. As of June 30, 2022, these remaining redemption restriction periods range from 1 year to 7 years. It is expected that the underlying assets will be liquidated over the next 1 to 7 years.
3. Real estate funds - equity include investments in 48 funds or separate accounts that make investments in the equity of the underlying asset, where the investor acts as a shareholder in a specific property and receives a share of the rental income the property generates. Investments representing approximately 76% of real estate equity investments can never be redeemed. One fund contains a provision that will trigger conversion into an open-ended fund. Thirty-nine of the investments provide for the transfer or sale of the limited partnership interest with the prior written approval of the General Partner and nine investments further require the right of first refusal by the other partners in the investment. Distributions from each fund and separate account will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 6 months to 13 years.
4. Real asset funds includes investments in 19 fund or separate account strategies, which invest in the equity or debt of infrastructure, energy, utilities, water, timber, agriculture, metals, mining, and commodity-related and commodity-linked investments. Real asset investments include investments in products, services and technology related to the above. No real asset investments can be redeemed. All of the investments provide for transfer or sale of limited partnership interest with the prior written approval of the General Partner and one investment further requires the right of first refusal by the other partners in the investment. Distributions from each fund and separate account will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 1 to 15 years.
5. Multi-strategy hedge funds include investments in 9 hedge funds that pursue multiple strategies to diversify risks and reduce volatility. Investments representing approximately 79% of the value of the investments cannot be redeemed because the investment includes restrictions that do not allow for redemptions. As of June 30, 2022, the remaining redemption restriction periods range from 1 to 2 years. Three of the investments are being liquidated as part of the redemption process.
6. Debt related private equity funds include investments in 22 funds employing distressed, turnaround and mezzanine debt strategies. Distressed debt involves purchasing debt securities that are trading at a distressed level, in anticipation that those securities will have a higher market valuation and generate profit at a future date, or strategies which take a position to potentially gain control of an asset. Turnaround investments focus on acquiring voting control in companies that are in distress and aim to subsequently restore the company to profitability. Mezzanine debt strategies provide a middle level of financing in leveraged buyouts, which is below the senior debt layer and above the equity layer. A typical mezzanine investment includes a loan to the borrower, in addition to the borrower's issuance of equity in the form of warrants, common stock, preferred stock, or some other equity investment. All of the investments provide for transfer or sale of the limited partnership interest with the prior written approval of the General Partner. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 1 to 7 years.
7. Opportunistic private equity funds include investments in 4 funds and separate accounts, which acquire minority equity interests in investment management companies. Investments in these funds have a perpetual term and cannot be redeemed.
8. Opportunistic hedge funds include investments in 4 hedge funds that invest in speculative opportunities with high net market exposure across varied markets. Opportunistic funds include global macro funds, commodity trading advisor funds, and funds employing other similar strategies. Investments representing approximately 34% of the value of the investments in this type cannot be redeemed because the investments include restrictions. As of June 30, 2022, the remaining redemption restriction period is 1 year.
9. Venture capital private equity funds include investments in 7 partnership vehicles that make equity investments primarily in high growth companies during their early or expansion stages. These companies may or may not have revenues or a client base and in most cases will not be cash flow positive. Distributions from each vehicle will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 1 to 2 years of the investment.

Notes to Financial Statements – June 30, 2022, continued

10. Real estate funds – debt include investments in 8 funds or separate accounts that make investments in the debt of the underlying asset, where the investor acts as a lender to the property owner and receives an interest rate on the loan. Investments can never be redeemed. Six of the investments provide for transfer or sale of the limited partnership interest with the prior written approval of the General Partner and two investments further require the right of first refusal by the other partners in the investment. Distributions from each fund and separate account will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 1 to 4 years.
11. Credit oriented hedge funds include investments in 5 hedge fund and separate account strategies that include both credit and distressed debt funds. Credit strategies typically invest both long and short in high yield and high-grade bonds, and structured products using fundamental credit analysis. These securities tend to be relatively liquid. Distressed debt strategies take advantage of corporate securities in default, under bankruptcy protection, in distress, or in liquidation. All of the investments are being liquidated in an orderly fashion as part of the redemption process.
12. Equity oriented hedge funds include investments in 1 hedge fund and separate account strategies that include both equity long/short and event driven funds. Equity long/short funds hold a combination of long and short positions primarily in publicly traded equities. Event driven funds invest in merger arbitrage, capital structure arbitrage, relative value, activist or other similar strategies. One of the investments is liquidating and the other investment provides quarterly liquidity.
13. Secondary private equity funds include investments in 3 funds that purchase secondary interests in private equity partnerships. The underlying investments represent ownership interests in private equity funds managed by buyout or venture capital firms after the capital has been deployed. Distributions from each fund will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 2 years.

(9) Local Employer’s Contributions under P.L. 2009, c. 19

As discussed in note 1, in the fiscal year ended June 30, 2009, the State passed P.L. 2009, c. 19 to allow local employers of PFRS and PERS to contribute 50% of the normal and accrued liability contributions amounts, while deferring the remaining amount for a 15-year period with payments beginning in the fiscal year ended June 30, 2012. At June 30, 2022, the remaining receivable balances related to P.L. 2009, c. 19 were \$32.3 million and \$10.1 million for PFRS and PERS, respectively.

(10) Reserves

The Plans maintain the following legally required reserves as follows (amounts indicated in parenthesis represent net position restricted for the respective reserve as indicated):

Members’ Annuity Savings Reserve and Accumulative Interest Reserve – JRS (\$108,336,304); SPRS (\$254,475,911); TPAF (\$16,748,986,830); PFRS (\$4,211,552,581); PERS (\$17,049,470,964)

The Members’ Annuity Savings Reserve (New Jersey Statutes Annotated (N.J.S.A.): JRS 43:6A- 34.1 and 34.2; SPRS 53:5A-35; TPAF 18A:66-19 and 25; PFRS 43:16A-16; PERS 43:15A-25 and 33) is credited with all contributions made by active members of the Plans. Interest earned on member contributions is credited to the Accumulative Interest Reserve, which is applied to JRS, TPAF and PERS. Member withdrawals are paid out of these reserves.

Contingent Reserve – JRS (\$-46,392,518); SPRS (\$1,434,642,609); TPAF (\$-36,904,537,297); PERS (\$-24,652,458,320)

The Contingent Reserve (N.J.S.A.: JRS 43:6A-33; SPRS 53:5A-34; TPAF 18A:66-18; PERS 43:15A-24) is credited with the contributions of contributing employers. Interest earnings, after crediting the Accumulative Interest Reserve and Retirement Reserve, as required, are credited to this account. Additionally, payments for administrative and miscellaneous expenses are made from this reserve.

Notes to Financial Statements – June 30, 2022, continued

Retirement Reserve – JRS (\$121,072,954); SPRS (\$258,217,287); TPAF (\$44,796,080,999); PFRS (\$32,725,269,016); PERS (\$40,100,653,064)

The Retirement Reserve (N.J.S.A.: JRS 43:6A-34; SPRS 53:5A-36; TPAF 18A:66-21; PFRS 43:16A-16; PERS 43:15A-27) is the account from which retirement benefits including COLA adjustments are paid. Upon retirement of a member, accumulated contributions together with accumulated interest are transferred to the Retirement Reserve from the Members' Annuity Savings Reserve and Accumulative Interest Reserve. Any additional reserves needed to fund the balance of the retirement benefit are transferred from the Contingent Reserve or Pension Accumulation Reserve. Annually, interest as determined by the State Treasurer (7.3% for State fiscal year 2022) is credited to the Retirement Reserve.

Retirement Reserve – POPF (\$4,950,414)

The Retirement Reserve (N.J.S.A.: POPF 43:7-13) is credited with State of New Jersey contributions and investment income. In addition, all benefits are paid from this account.

Non-Contributory Group Insurance Premium Reserve – PFRS – Local (\$53,085,669); PERS – Local (\$70,456,601)

The Non-Contributory Group Insurance Premium Reserve (N.J.S.A.: PFRS 43:16A-56; PERS 43:15A-91) represents the accumulation of employer group life insurance contributions in excess of premiums disbursed to the insurance carrier since the inception of the noncontributory death benefit program plus reserves held by the insurance carrier. Members are eligible by statute for the noncontributory group life insurance plan in the first year of membership. TPAF, PFRS – State and PERS – State show no balance as these premium expenses are funded on a monthly basis.

Pension Accumulation Reserve – PFRS (\$-6,281,253,856)

The Pension Accumulation Reserve (N.J.S.A.: PFRS 43:16A-16) is credited with the contributions of the State of New Jersey and other employers. Interest earnings, after crediting the Retirement Reserve, as required, are credited to this account. Additionally, payments for administrative and miscellaneous expenses are made from this Reserve.

Pension Reserve – CPFPF (\$2,159,528)

The Pension Reserve (N.J.S.A.: CPFPF 43:16-5) is credited with State of New Jersey contributions and investment income.

Benefit Enhancement Reserve – PERS – Local (\$0)

The Benefit Enhancement Reserve (N.J.S.A.: 43:15A-22) is a special reserve from which the required normal contributions to provide benefit increases under P.L. 2001, c. 353 and P.L. 2001, c. 133 will be charged. The reserve was established in 2002 and credited with excess assets equivalent to member contributions for State fiscal years 2000 and 2001 by transferring reserves in the Contingent Reserve to the Benefit Enhancement Reserve. Additional transfers will be made, as required, to maintain a reserve balance equal to the present value of expected additional normal contributions due to the increased benefits.

SHBP Reserve Fund – Local – Retired (\$-58,670,334)

The net position of SHBP – Local (N.J.S.A.: SHBP 52:14-17.42) is available to pay claims of future periods. These reserves are maintained by the fund to stabilize rates and to meet unexpected increase in claims.

Variable Accumulation Reserve – NJSEDCP (\$5,052,290,810); SACT (\$203,567,232)

The Variable Accumulation Reserve (N.J.S.A.: NJSEDCP 52:18A-164; SACT 52:18A-109) is credited with member contributions and interest earnings on those contributions. Payments for administrative and miscellaneous expense are made from this reserve.

Variable Benefits Reserve – SACT (\$54,410,912)

The Variable Benefits Reserve (N.J.S.A.: SACT 52:18A-109) represents contributions accumulations that are transferred to Annuity Benefits for retirees that are receiving monthly life annuity payments.

The State has not made the full actuarial required contribution to the defined benefit pension plans over the past several years resulting in a negative fund balance in certain reserves. However, the defined benefit pension plans have sufficient net position to make benefit payments as they become due and the State has started making its full actuarial required contribution in fiscal year 2022.

Notes to Financial Statements – June 30, 2022, continued

Various reserve balances as of June 30, 2022 are as follows:

	Pension Reserves	Postemployment Benefit Plan Reserves
Members' Annuity Savings Reserve and Accumulated		
Interest Reserve	\$ 38,372,822,590	—
Contingent Reserve	(60,168,745,526)	—
Retirement Reserve	118,006,243,734	—
Non-Contributory Group Insurance Premium Reserve	123,542,270	—
Pension Accumulation Reserve	(6,281,253,856)	—
Pension Reserve	2,159,528	—
Benefit Enhancement Reserve	—	—
SHBP Reserve	—	(58,670,334)
Variable Accumulation Reserve	5,255,858,042	—
Variable Benefits Reserve	54,410,912	—
Total	\$ 95,365,037,694	(58,670,334)

(11) Contingencies

The Division is a party to various legal actions arising in the ordinary course of its operations. While it is not feasible to predict the ultimate outcome of these actions, it is the opinion of management that the resolution of these matters will not have a material adverse effect on the Division's financial statements.

SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Defined Benefit Pension Plans – Judicial Retirement System (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ 25,155,887	51,347,166	43,552,248	37,584,273	35,477,981	37,224,230	33,333,864	30,702,986	32,123,341
Interest on total pension liability	61,145,172	39,537,147	45,751,351	38,067,870	36,209,627	30,788,977	36,471,524	41,473,055	40,332,123
Effect of economic/demographic (gains) or losses	311,962	(1,657,542)	2,816,229	19,557,727	(8,553,096)	14,120,673	254,822	(1,733,197)	–
Effect of assumptions changes or inputs	(1,861,080)	(402,501,116)	112,739,048	151,274,804	(23,084,707)	(70,235,370)	85,677,552	(41,873,530)	26,907,821
Transfers from other systems	1,990,120	–	1,025,802	1,310,118	2,859,841	1,121,097	726,284	2,081,523	–
Benefit payments	(64,714,728)	(62,705,183)	(60,949,109)	(59,591,606)	(58,286,421)	(56,365,718)	(54,686,521)	(52,430,016)	(49,604,080)
Net change in total pension liability	22,027,333	(375,979,528)	144,935,569	188,203,186	(15,376,775)	(43,346,111)	101,777,525	(21,779,179)	49,759,205
Total pension liability-beginning	879,178,447	1,255,157,975	1,110,222,406	922,019,220	937,395,995	980,742,106	878,964,581	900,743,760	850,984,555
Total pension liability-ending (a)	\$ 901,205,780	879,178,447	1,255,157,975	1,110,222,406	922,019,220	937,395,995	980,742,106	878,964,581	900,743,760
Plan fiduciary net position:									
Contributions-employer	\$ 72,954,420	52,508,011	37,496,113	29,702,700	24,023,637	20,341,379	14,794,774	17,031,026	15,874,857
Contributions-employee	9,608,031	9,426,354	9,239,505	9,688,270	9,177,453	10,348,191	9,271,869	6,310,124	5,096,577
Net investment (loss) income	(19,197,001)	37,225,810	1,972,315	9,230,701	14,809,869	20,031,152	(2,721,949)	8,475,641	34,448,036
Net transfers from other systems	1,990,120	–	1,025,802	1,310,118	2,859,841	1,121,097	726,284	2,081,523	–
Benefit payments, including refunds of employee contributions	(64,714,728)	(62,705,183)	(60,949,109)	(59,591,606)	(58,286,421)	(56,365,718)	(54,686,521)	(52,430,016)	(49,604,080)
Administrative expense	(183,857)	(324,080)	(219,976)	(200,338)	(185,364)	(150,588)	(168,008)	(168,762)	(162,372)
Net change in Plan fiduciary net position	456,985	36,130,912	(11,435,350)	(9,860,155)	(7,600,985)	(4,674,487)	(32,783,551)	(18,700,464)	5,653,018
Plan fiduciary net position-beginning	182,559,755	146,428,843	157,864,193	167,724,348	175,325,333	179,999,820	212,783,371	231,483,835	225,830,817
Plan fiduciary net position-ending (b)	183,016,740	182,559,755	146,428,843	157,864,193	167,724,348	175,325,333	179,999,820	212,783,371	231,483,835
Plan's net pension liability-ending (a)-(b)	\$ 718,189,040	696,618,692	1,108,729,132	952,358,213	754,294,872	762,070,662	800,742,286	666,181,210	669,259,925
Plan fiduciary net position as a percentage of the total pension liability	20.31%	20.76%	11.67%	14.22%	18.19%	18.70%	18.35%	24.21%	25.70%
Covered-employee payroll	\$ 76,401,342	76,970,450	76,627,036	77,763,777	69,216,709	68,062,584	67,097,166	66,028,491	67,810,110
Net pension liability as a percentage of covered-employee payroll	940.02%	905.05%	1,446.92%	1,224.68%	1,089.76%	1,119.66%	1,193.41%	1,008.93%	986.96%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms: None

Changes in assumptions:

Discount rate	7.00%	7.00%	3.10%	4.07%	4.09%	3.83%	3.11%	4.12%	4.58%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2022, demographic assumptions were updated to reflect the most recent experience study for the period July 1, 2018 to June 30, 2021.

For 2021, the mortality improvement scale was updated to Scale MP 2021.

For 2020, the mortality improvement scale was updated to scale MP-2020.

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 - June 30, 2018 Experience Study. For healthy retiree and pre-retirement mortality, the Pub-2010 Teachers Above-Median Income Employee mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used.

For disabled retiree mortality, the Pub-2010 Non-Safety Disabled Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used. For 2019 mortality improvement, Scale MP-2019 was used.

For 2016, salary increases were assumed to increase 2.00% through fiscal year 2025 and 3.00% for each fiscal year thereafter.

For 2015, the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2011 - June 30, 2014 experience study.

See accompanying independent auditors' report.

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SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
Defined Benefit Pension Plans – Prison Officers’ Pension Fund (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ –	–	–	–	–	–	–	–	–
Interest on total pension liability	70,689	81,970	152,968	188,032	215,068	198,788	251,254	331,362	401,659
Effect of economic/ demographic (gains) or losses	(79,991)	34,727	(339,022)	127,146	(407,471)	82,047	96,657	(296,620)	–
Effect of assumptions changes or inputs	(185,319)	23,594	204,867	(36,496)	(73,662)	(240,233)	1,171,953	163,490	129,449
Benefit payments	(509,871)	(642,747)	(715,168)	(816,972)	(947,877)	(1,069,209)	(1,240,307)	(1,377,505)	(1,583,408)
Net change in total pension liability	(704,492)	(502,456)	(696,355)	(538,290)	(1,213,942)	(1,028,607)	279,557	(1,179,273)	(1,052,300)
Total pension liability-beginning	3,526,220	4,028,676	4,725,031	5,263,321	6,477,263	7,505,870	7,226,313	8,405,586	9,457,886
Total pension liability-ending (a)	\$ 2,821,728	3,526,220	4,028,676	4,725,031	5,263,321	6,477,263	7,505,870	7,226,313	8,405,586
Plan fiduciary net position:									
Contributions-other	\$ 313,575	330,028	361,956	412,250	484,565	552,131	634,217	698,360	793,174
Net investment income	13,892	5,903	74,920	111,413	70,215	30,847	18,067	6,355	7,368
Benefit payments, including refunds of employee contributions	(509,871)	(642,747)	(715,168)	(816,972)	(947,877)	(1,069,209)	(1,240,307)	(1,377,505)	(1,583,408)
Administrative expense	(3,226)	(3,429)	(4,628)	(4,215)	(4,315)	(4,134)	(5,312)	(5,843)	(5,853)
Net change in Plan fiduciary net position	(185,630)	(310,245)	(282,920)	(297,524)	(397,412)	(490,365)	(593,335)	(678,633)	(788,719)
Plan fiduciary net position-beginning	5,136,044	5,446,289	4,925,932	5,223,456	5,620,868	6,111,233	6,704,568	7,383,201	8,171,920
Plan fiduciary net position-ending (b)	4,950,414	5,136,044	4,643,012	4,925,932	5,223,456	5,620,868	6,111,233	6,704,568	7,383,201
Plan’s net pension liability (asset)-ending (a)-(b)	\$ (2,128,686)	(1,609,824)	(614,336)	(200,901)	39,865	856,395	1,394,637	521,745	1,022,385
Plan fiduciary net position as a percentage of the total pension liability (asset)	175.44%	145.65%	115.25%	104.25%	99.24%	86.78%	81.42%	92.78%	87.84%
Covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net pension liability (asset) as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

None

Changes in assumptions:

Discount rate	3.54%	2.16%	2.21%	3.50%	3.87%	3.58%	2.85%	3.80%	4.29%
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For 2022 and 2021, the Scale MP-2021 was used for mortality improvement; for 2020, the Scale MP-2020.

For 2019, the mortality tables used were the Pub-2010 Safety Healthy Retiree, Pub-2010 General Healthy Retiree, Pub-2010 Safety Disabled Retiree for healthy retirees, beneficiaries, and disabled retirees, respectively. Each used a base year of 2010 with future improvement from the base year on a generational basis using Scale MP-2019.

For 2016, the mortality improvement assumption was revised to be projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and further projected beyond the valuation date using the plan actuary’s modified 2014 projection. Further, the RP-2000 disabled retiree mortality table is used for the period after disability retirement for disability retirements.

Adjustment to 2021 Plan fiduciary net position-beginning (July 1, 2020)

During fiscal year 2021, the Division adopted GASB Statement No. 84, *Fiduciary Activities*, which resulted in the recognition of historical activity of the legacy Pension Adjustment Fund respective to POPF being recognized as an adjustment to the plan fiduciary net position-beginning.

See accompanying independent auditors’ report.

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SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Defined Benefit Pension Plans – State Police Retirement System (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ 72,160,698	106,016,397	92,264,920	100,705,109	119,718,797	139,506,057	113,546,510	93,740,921	93,623,020
Interest on total pension liability	280,610,597	251,694,211	253,377,036	240,494,663	226,928,605	202,545,532	221,675,495	216,980,562	209,010,706
Effect of economic/demographic (gains) or losses	85,334,517	3,828,967	6,595,373	(11,528,958)	(19,592,172)	23,786,696	(17,580,385)	35,245,543	–
Effect of assumptions changes or inputs	(24,764,266)	(1,109,430,087)	303,378,361	(333,811,404)	(379,490,284)	(697,970,471)	747,941,075	435,691,094	92,686,900
Transfers from other systems	370,785	530,473	305,306	(39,834)	190,903	3,925	54,000	222,557	–
Benefit payments	(251,116,766)	(237,959,841)	(230,638,032)	(225,682,230)	(222,315,723)	(217,303,946)	(213,436,150)	(206,493,624)	(197,958,938)
Net change in total pension liability	162,595,565	(985,319,880)	425,282,964	(229,862,654)	(274,559,874)	(549,432,207)	852,200,545	575,387,053	197,361,688
Total pension liability-beginning	4,059,814,670	5,045,134,550	4,619,851,586	4,849,714,240	5,124,274,114	5,673,706,321	4,821,505,776	4,246,118,723	4,048,757,035
Total pension liability-ending (a)	\$ 4,222,410,235	4,059,814,670	5,045,134,550	4,619,851,586	4,849,714,240	5,124,274,114	5,673,706,321	4,821,505,776	4,246,118,723
Plan fiduciary net position:									
Contributions-employer	\$ 206,165,510	141,212,825	117,911,260	98,182,956	74,603,780	53,006,614	37,435,541	38,527,297	36,436,923
Contributions-employee	27,081,021	27,268,772	24,292,258	24,183,990	22,416,571	23,721,785	22,818,295	22,315,431	24,034,496
Net investment (loss) income	(170,386,626)	477,604,855	24,733,948	105,696,140	154,029,009	207,401,590	(19,284,054)	75,532,779	287,098,217
Net transfers from other systems	370,785	530,473	305,306	(39,834)	190,903	3,925	54,000	222,557	–
Benefit payments, including refunds of employee contributions	(251,116,766)	(237,959,841)	(230,638,032)	(225,682,230)	(222,315,723)	(217,303,946)	(213,436,150)	(206,493,624)	(197,958,938)
Administrative expense	(701,981)	(494,765)	(632,762)	(596,137)	(377,193)	(294,745)	(334,630)	(351,724)	(280,026)
Net change in Plan fiduciary net position	(188,588,057)	408,162,319	(64,028,022)	1,744,885	28,547,347	66,535,223	(172,746,998)	(70,247,284)	149,330,672
Plan fiduciary net position-beginning	2,135,923,864	1,727,761,545	1,791,789,567	1,790,044,682	1,761,497,335	1,694,962,112	1,867,709,110	1,937,956,394	1,788,625,722
Plan fiduciary net position-ending (b)	1,947,335,807	2,135,923,864	1,727,761,545	1,791,789,567	1,790,044,682	1,761,497,335	1,694,962,112	1,867,709,110	1,937,956,394
Plan's net pension liability-ending (a)-(b)	\$ 2,275,074,428	1,923,890,806	3,317,373,005	2,828,062,019	3,059,669,558	3,362,776,779	3,978,744,209	2,953,796,666	2,308,162,329
Plan fiduciary net position as a percentage of the total pension liability	46.12%	52.61%	34.25%	38.78%	36.91%	34.38%	29.87%	38.74%	45.64%
Covered-employee payroll	\$ 332,022,798	298,254,514	296,189,926	275,790,087	284,707,387	277,771,135	275,477,457	262,496,289	262,063,829
Net pension liability as a percentage of covered-employee payroll	685.22%	645.05%	1,120.02%	1,025.44%	1,074.67%	1,210.63%	1,444.31%	1,125.27%	880.76%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

None

Changes in assumptions:

Discount rate	7.00%	7.00%	5.00%	5.51%	4.97%	4.42%	3.55%	4.59%	5.12%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2022, demographic assumptions were updated to reflect the most recent experience study for the period July 1, 2018 to June 30, 2021.

For 2021, the mortality improvement scale was updated to Scale MP 2021.

For 2020, the mortality improvement scale was updated to Scale MP-2020.

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 - June 30, 2018 Experience Study. For healthy retiree and pre-retirement mortality, the Pub-2010 Public Safety Above-Median Income Employee mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used. For beneficiaries, the Pub-2010 General Above-Median Income Healthy Retiree mortality table, unadjusted, with future improvement from the base year of 2010 was used. For disabled retiree mortality, the Pub-2010 Public Safety Disabled Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used. For mortality improvement, Scale MP-2019 was used.

For 2016, salary increases were assumed to increased 2.95% through fiscal year 2025 and 3.95% for each fiscal year thereafter.

For 2015, the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2011 - June 30, 2014 experience study.

See accompanying independent auditors' report.

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SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Defined Benefit Pension Plans – Consolidated Police and Firemen’s Pension Fund (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ –	–	–	–	–	–	–	–	–
Interest on total pension liability	57,459	67,565	134,753	200,618	241,913	260,211	352,889	504,066	632,080
Effect of economic/demographic (gains) or losses	(116,774)	105,481	(277,515)	(196,476)	(582,507)	(984,588)	(71,313)	(993,528)	–
Effect of assumptions changes or inputs	(127,557)	18,418	147,999	(375,356)	(70,518)	(236,022)	1,273,909	193,719	163,528
Benefit payments	(473,437)	(702,399)	(889,923)	(1,033,175)	(1,289,899)	(1,535,623)	(1,881,252)	(2,445,627)	(2,942,035)
Net change in total pension liability	(660,309)	(510,935)	(884,686)	(1,404,389)	(1,701,011)	(2,496,022)	(325,767)	(2,741,370)	(2,146,427)
Total pension liability-beginning	2,895,592	3,406,527	4,291,213	5,695,602	7,396,613	9,892,635	10,218,402	12,959,772	15,106,199
Total pension liability-ending (a)	\$ 2,235,283	2,895,592	3,406,527	4,291,213	5,695,602	7,396,613	9,892,635	10,218,402	12,959,772
Plan fiduciary net position:									
Contributions-nonemployer	\$ 76,000	248,000	–	–	325,000	575,000	148,000	–	11,740
Net investment income	6,654	5,956	17,129	28,518	21,542	10,099	10,856	198	585
Contributions-other	368,072	441,879	541,279	631,757	806,330	964,280	1,196,017	1,577,751	1,889,091
Benefit payments, including refunds of employee contributions	(473,437)	(702,399)	(889,923)	(1,033,175)	(1,289,899)	(1,535,623)	(1,881,252)	(2,445,627)	(2,942,035)
Administrative expense	(3,226)	(2,620)	(3,308)	(3,013)	(4,006)	(4,188)	(6,643)	(8,003)	(9,566)
Net change in Plan fiduciary net position	(25,937)	(9,184)	(334,823)	(375,913)	(141,033)	9,568	(533,022)	(875,681)	(1,050,185)
Plan fiduciary net position-beginning	2,185,465	2,194,649	1,387,550	1,763,463	1,904,496	1,894,928	2,427,950	3,303,631	4,353,816
Plan fiduciary net position-ending (b)	2,159,528	2,185,465	1,052,727	1,387,550	1,763,463	1,904,496	1,894,928	2,427,950	3,303,631
Plan’s net pension liability-ending (a)-(b)	\$ 75,755	710,127	2,353,800	2,903,663	3,932,139	5,492,117	7,997,707	7,790,452	9,656,141
Plan fiduciary net position as a percentage of the total pension liability	96.61%	75.48%	30.90%	32.33%	30.96%	25.75%	19.15%	23.76%	25.49%
Covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net pension liability as a percentage of covered-employee payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms: None

Changes in assumptions:

Discount rate	3.54%	2.16%	2.21%	3.50%	3.87%	3.58%	2.85%	3.80%	4.29%
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For 2022 and 2021, the Scale MP-2021 was used for mortality improvement; for 2020 the Scale MP-2020.

For 2019, the mortality tables used were the Pub-2010 Public Safety Healthy Retiree and Pub-2010 General Healthy Retiree for healthy retirees and beneficiaries, respectively. Each used a base year of 2010 with future improvement from the base year on a generational basis using Scale MP-2019.

For 2016, the mortality improvement assumption was revised to be projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and further projected beyond the valuation date using the plan actuary’s modified 2014 projection. Further, the RP-2000 disabled retiree mortality table is used for the period after disability retirement for disability retirements.

Adjustment to 2021 Plan Fiduciary net position-beginning (July 1, 2020)

During fiscal year 2021, the Division adopted GASB Statement No. 84, *Fiduciary Activities*, which resulted in the recognition of historical activity of the legacy Pension Adjustment Fund respective to POPF being recognized as an adjustment to the plan fiduciary net position-beginning.

See accompanying independent auditors’ report.

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SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Defined Benefit Pension Plans – Teachers’ Pension and Annuity Fund (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ 1,195,044,307	1,759,507,848	1,643,902,335	1,882,081,572	2,229,422,113	3,028,689,581	2,344,321,810	2,022,411,197	1,870,901,832
Interest on total pension liability	5,146,965,905	4,695,758,765	4,680,942,056	4,201,672,382	3,858,188,355	3,304,988,177	3,694,844,118	3,797,032,970	3,794,362,523
Changes of benefit terms	–	–	(16,738,469)	–	–	–	–	–	–
Effect of economic/ demographic (gains) or losses	(20,645,797)	195,943,171	(8,596,840)	(155,621,840)	1,195,858,381	236,377,556	(134,644,168)	365,228,279	(24,898,221)
Effect of assumptions changes or inputs	110,219,657	(14,765,458,197)	1,613,054,603	(4,005,548,119)	(6,816,855,725)	(13,285,524,000)	10,827,093,000	5,913,556,000	2,614,173,709
Transfers from other systems	9,387,288	1,287,750	9,417,333	6,655,677	5,686,293	1,338,431	1,564,002	4,117,141	–
Benefit payments	(4,822,987,222)	(4,710,584,326)	(4,615,149,051)	(4,510,860,239)	(4,401,203,131)	(4,306,268,745)	(4,169,070,762)	(4,015,003,587)	(3,837,859,513)
Net change in total pension liability	1,617,984,138	(12,823,544,989)	3,306,831,967	(2,581,620,567)	(3,928,903,714)	(11,020,399,000)	12,564,108,000	8,087,342,000	4,416,680,330
Total pension liability-beginning	74,699,133,697	87,522,678,686	84,215,846,719	86,797,467,286	90,726,371,000	101,746,770,000	89,182,662,000	81,095,320,000	76,678,639,670
Total pension liability-ending (a)	\$ 76,317,117,835	74,699,133,697	87,522,678,686	84,215,846,719	86,797,467,286	90,726,371,000	101,746,770,000	89,182,662,000	81,095,320,000
Plan fiduciary net position:									
Contributions-employer	\$ 3,758,422	2,684,911	2,109,340	2,050,414	1,723,827	1,404,292	1,105,810	807,246	4,688,045
Contributions-nonemployer	4,188,158,390	2,933,363,049	2,268,898,389	2,013,446,234	1,514,407,623	1,125,614,188	798,963,467	539,796,289	423,012,101
Contributions-employee	907,326,471	883,659,076	867,037,595	846,166,328	810,899,751	790,788,033	761,711,695	740,296,265	716,183,306
Net investment (loss) income	(2,166,014,956)	5,902,191,421	318,393,101	1,361,781,295	2,016,316,929	2,736,988,791	(267,684,353)	1,066,062,926	4,100,273,453
Net Transfers from other systems	9,387,288	1,287,750	9,417,333	6,655,677	5,686,293	1,338,431	1,564,002	4,117,141	–
Employer specific contributions-delayed appropriation and delayed enrollments	395,540	403,226	329,570	300,112	345,897	357,659	243,660	358,899	–
Benefit payments, including refunds of employee contributions	(4,822,987,222)	(4,710,584,326)	(4,615,149,051)	(4,510,860,239)	(4,401,203,131)	(4,306,268,745)	(4,169,070,762)	(4,015,003,587)	(3,837,859,513)
Administrative expense	(12,635,916)	(9,042,590)	(18,590,555)	(13,922,385)	(13,222,178)	(11,923,787)	(13,768,112)	(13,890,080)	(12,170,971)
Net change in Plan fiduciary net position:	(1,892,611,983)	5,003,962,517	(1,167,554,278)	(294,382,564)	(65,044,989)	338,298,862	(2,886,934,593)	(1,677,454,901)	1,394,126,421
Plan fiduciary net position-beginning	26,533,142,515	21,529,179,998	22,696,734,276	22,991,116,840	23,056,161,829	22,717,862,967	25,604,797,560	27,282,252,461	25,888,126,040
Plan fiduciary net position-ending (b)	24,640,530,532	26,533,142,515	21,529,179,998	22,696,734,276	22,991,116,840	23,056,161,829	22,717,862,967	25,604,797,560	27,282,252,461
Plan's net pension liability-ending (a)-(b)	\$ 51,676,587,303	48,165,991,182	65,993,498,688	61,519,112,443	63,806,350,446	67,670,209,171	79,028,907,033	63,577,864,440	53,813,067,539
Plan fiduciary net position as a percentage of the total pension liability	32.29%	35.52%	24.60%	26.95%	26.49%	25.41%	22.33%	28.71%	33.64%
Covered-employee payroll	\$ 11,509,652,923	11,338,928,538	11,061,603,138	10,823,504,797	10,636,814,121	10,436,205,103	10,305,472,484	10,162,263,470	10,038,792,896
Net pension liability as a percentage of covered-employee payroll	448.98%	424.78%	596.60%	568.38%	599.86%	648.42%	766.86%	625.63%	536.05%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

The Division of Pensions & Benefits adopted a new policy regarding the crediting of interest on member contributions for the purpose of refund of accumulated deductions. Previously, after termination of employment, but prior to retirement or death, interest was credited on member accumulated deductions at the valuation interest rate for the entire period. Effective July 1, 2018, interest is only credited at the valuation interest rate for the first two years of inactivity prior to retirement or death.

Changes in assumptions:

Discount rate	7.00%	7.00%	5.40%	5.60%	4.86%	4.25%	3.22%	4.13%	4.68%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2022, demographic assumptions were updated to reflect the most recent experience study for the period July 1, 2018 to June 30, 2021.

For 2021, the mortality improvement scale was updated to Scale MP-2021.

For 2020, the mortality improvement scale was updated to Scale MP-2020.

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2015 - June 30, 2018 Experience Study. For pre-retirement mortality, the Pub-2010 Teachers Above-Median Income Employee mortality table with a 93.9% adjustment for males and 85.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For healthy retirees and beneficiaries, the Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table with a 114.7% adjustment for males and 99.6% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For disabled retiree mortality, the Pub-2010 Non-Safety Disabled Retiree mortality table with a 106.3% adjustment for males, and a 100.3% adjustment for females, and with improvement from the base year of 2010 on a generational basis was used. For 2019 mortality improvement, Scale MP-2019 was used.

For 2016, the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2012 - June 30, 2015 experience study.

See accompanying independent auditors' report.

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SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Defined Benefit Pension Plans – Police and Firemen’s Pension Fund (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ 888,117,411	878,718,561	890,425,657	958,392,935	1,030,735,624	1,136,338,028	1,148,613,712	994,248,683	1,079,166,175
Interest on total pension liability	3,246,376,600	3,226,402,697	3,131,523,540	3,025,500,679	2,898,092,706	2,738,598,309	2,751,445,220	2,680,664,300	2,535,619,539
Change of benefit terms	180,976,807	147,434,341	—	—	—	—	—	—	—
Effect of economic/demographic (gains) or losses	601,305,607	(1,120,768,361)	67,509,143	(138,356,304)	47,676,088	89,364,940	(34,916,637)	(215,122,438)	—
Effect of assumptions changes or inputs	(403,018,428)	52,875,942	(892,759,358)	(1,875,170,696)	(2,069,626,924)	(3,534,553,975)	343,078,737	3,755,474,472	649,814,155
Transfers from other systems	2,508,887	2,308,815	2,350,928	3,239,769	3,422,888	289,960	358,929	800,782	—
Benefit payments	(2,970,223,769)	(2,852,083,674)	(2,725,565,718)	(2,606,863,711)	(2,523,462,466)	(2,421,485,437)	(2,324,175,953)	(2,205,464,297)	(2,105,829,011)
Net change in total pension liability	1,546,043,115	334,888,321	473,484,192	(633,257,328)	(613,162,084)	(1,991,448,175)	1,884,404,008	5,010,601,502	2,158,770,858
Total pension liability-beginning	46,972,674,839	46,637,786,518	46,164,302,326	46,797,559,654	47,410,721,738	49,402,169,913	47,517,765,905	42,507,164,403	40,348,393,545
Total pension liability-ending (a)	\$ 48,518,717,954	46,972,674,839	46,637,786,518	46,164,302,326	46,797,559,654	47,410,721,738	49,402,169,913	47,517,765,905	42,507,164,403
Plan fiduciary net position:									
Contributions-employer	\$ 1,701,099,844	1,442,270,056	1,352,498,105	1,206,535,544	1,127,617,114	1,002,043,734	900,033,567	883,776,917	858,047,628
Contributions-nonemployer	253,611,000	178,577,000	154,309,000	130,202,000	108,857,000	86,467,000	61,466,000	76,038,000	—
Contributions-employee	430,285,900	419,458,195	416,433,179	410,943,242	395,604,883	395,878,384	388,681,408	386,991,641	385,660,096
Net investment (loss) income	(2,243,518,603)	6,952,727,005	425,543,356	1,549,138,833	2,139,481,226	2,791,104,860	(150,693,159)	922,598,676	3,381,553,869
Net Transfers from other systems	2,508,887	2,308,815	2,350,928	3,239,769	3,422,888	289,960	358,929	800,782	—
Employer specific contributions-additional contribution	416,245	355,901	997,622	847,716	173,554	268,910	1,923,531	535,424	—
Employer specific contributions-delayed appropriation	1,257,718	966,820	603,835	422,890	450,244	892,514	763,176	865,936	—
Employer specific contributions-delayed enrollments	208,506	186,293	165,704	96,603	90,933	179,386	142,034	224,629	—
Employer specific contributions-retroactive	5,015,523	4,652,327	5,230,213	6,501,177	3,120,240	11,476,881	3,661,101	24,536,440	—
Contributions-other	—	—	—	—	(12,230)	—	—	—	—
Benefit payments, including refunds of employee contributions	(2,970,223,769)	(2,852,083,674)	(2,725,565,718)	(2,606,863,711)	(2,523,462,466)	(2,421,485,437)	(2,324,175,953)	(2,205,464,297)	(2,105,829,011)
Administrative expense	(15,261,328)	(18,293,096)	(12,859,324)	(7,199,218)	(4,505,685)	(4,124,457)	(4,292,891)	(4,531,012)	(3,884,342)
Net change in Plan fiduciary net position:	(2,834,600,077)	6,131,125,642	(380,293,100)	693,864,845	1,250,837,701	1,862,991,735	(1,122,132,257)	86,373,136	2,515,548,240
Plan fiduciary net position-beginning	33,543,253,487	27,412,127,845	27,792,420,945	27,098,556,100	25,847,718,399	23,984,726,664	25,106,858,921	25,020,485,785	22,504,937,545
Plan fiduciary net position-ending (b)	30,708,653,410	33,543,253,487	27,412,127,845	27,792,420,945	27,098,556,100	25,847,718,399	23,984,726,664	25,106,858,921	25,020,485,785
Plan's net pension liability-ending (a)-(b)	\$ 17,810,064,544	13,429,421,352	19,225,658,673	18,371,881,381	19,699,003,554	21,563,003,339	25,417,443,249	22,410,906,984	17,486,678,618
Plan fiduciary net position as a percentage of the total pension liability	63.29%	71.41%	58.78%	60.20%	57.91%	54.52%	48.55%	52.84%	58.86%
Covered-employee payroll	\$ 4,201,978,195	4,142,905,791	3,937,977,209	3,870,718,707	3,803,348,329	3,726,807,562	3,695,509,355	3,682,677,356	3,678,910,266
Net pension liability as a percentage of covered-employee payroll	423.85%	324.15%	488.21%	474.64%	517.94%	578.59%	687.79%	608.55%	475.32%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

Plan amendments reflected: The early retirement window per State Assembly bill S107; the extended eligibility of the accidental death benefit in assembly bill 1660.

Changes in assumptions:

Discount rate	7.00%	7.00%	7.00%	6.85%	6.51%	6.14%	5.55%	5.79%	6.32%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2022, demographic assumptions were updated to reflect the most recent experience study for the period July 1, 2018 to June 30, 2021.

For 2021, the mortality improvement scale was updated to Scale MP-2021.

For 2020, the mortality improvement scale was updated to Scale MP-2020.

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2013 - June 30, 2018 Experience Study. For pre-retirement mortality, the Pub-2010 Safety Employee mortality table with a 105.6% adjustment for males and 102.5% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For healthy retirees, the Pub-2010 Safety Retiree Below-Median Income Weighted mortality table with a 96.7% adjustment for males and 96.0% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For beneficiaries mortality, the Pub-2010 General Retiree Below-Median Income Weighted mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis was used. For disabled mortality, the Pub-2010 Safety Disabled Retiree mortality table with a 152.0% adjustment for males and 109.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For 2019 mortality improvement, Scale MP-2019 was used.

For 2016, the mortality improvement scale incorporated the plan actuary's modified 2014 projection scale. Further, salary increases were assumed to increase between 2.10% and 8.98% (based on age) through fiscal year 2026 and 3.10% and 9.98% (based on age) for each fiscal year thereafter. For 2015, demographic assumptions were revised in accordance with the results of the July 1, 2010 - June 30, 2013 experience study.

See accompanying independent auditors' report.

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SCHEDULE 1

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios
Defined Benefit Pension Plans – Public Employees’ Retirement System (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability:									
Service cost	\$ 1,132,080,147	1,134,836,940	1,298,089,823	1,330,518,589	1,555,424,045	1,865,398,219	1,628,065,678	1,523,631,386	1,592,214,831
Interest on total pension liability	4,771,520,285	4,666,037,367	4,408,636,380	4,084,253,310	3,849,650,265	3,412,789,012	3,653,373,426	3,647,688,354	3,506,486,225
Changes of benefit terms	10,701,169	8,488,231	(27,350,963)	–	–	–	–	–	–
Effect of economic/demographic (gains) or losses	(166,220,680)	103,617,038	799,902,851	137,159,950	(363,908,216)	306,941,390	600,806,505	1,050,795,158	–
Effect of assumptions changes or inputs	(250,480,946)	131,461,485	(5,511,377,388)	(3,283,548,860)	(5,613,718,254)	(10,156,789,076)	8,792,817,065	4,091,557,460	1,222,437,554
Transfers from other systems	(15,575,176)	(4,754,619)	(14,123,679)	(11,955,594)	(13,217,000)	854,976	778,753	1,651,542	–
Benefit payments	(4,617,971,525)	(4,434,554,694)	(4,253,053,912)	(4,118,371,422)	(3,936,320,575)	(3,810,818,692)	(3,629,651,915)	(3,441,046,065)	(3,259,290,114)
Net change in total pension liability	864,053,274	1,605,131,748	(3,299,276,888)	(1,861,944,027)	(4,522,089,735)	(8,381,624,171)	11,046,189,512	6,874,277,835	3,061,848,496
Total pension liability-beginning	69,310,085,001	67,704,953,253	71,004,230,141	72,866,174,168	77,388,263,903	85,769,888,074	74,723,698,562	67,849,420,727	64,787,572,231
Total pension liability-ending (a)	\$ 70,174,138,275	69,310,085,001	67,704,953,253	71,004,230,141	72,866,174,168	77,388,263,903	85,769,888,074	74,723,698,562	67,849,420,727
Plan fiduciary net position:									
Contributions-employer	\$ 3,114,403,554	2,477,308,520	2,108,766,760	1,862,706,649	1,680,631,409	1,465,931,579	1,273,425,342	1,085,237,214	917,689,000
Contributions-nonemployer	48,654,369	13,079,912	8,117,299	6,829,134	–	–	–	–	–
Contributions-employee	933,155,302	909,939,594	908,936,226	909,191,554	854,178,790	847,952,137	821,305,787	805,232,235	797,818,225
Net investment (loss) income	(2,594,503,769)	7,708,453,890	456,271,235	1,741,296,887	2,435,763,559	3,202,393,837	(237,215,643)	1,117,827,113	4,102,964,869
Net transfers from other systems	(15,575,176)	(4,754,619)	(14,123,679)	(11,955,594)	(13,217,000)	854,976	778,753	1,651,542	–
Employer specific contributions-additional contribution	75,615	93,521	102,853	103,872	28,566	25,676	257,850	111,824	–
Employer specific contributions-delayed appropriation	3,147,089	2,411,251	(4,146,446)	1,775,826	2,687,967	3,224,612	1,721,199	1,664,415	–
Employer specific contributions-delayed enrollments	984,714	740,098	567,434	657,701	931,611	1,030,774	532,612	594,843	–
Employer specific contributions-retroactive	5,977,713	3,838,038	5,318,876	4,623,577	4,818,841	11,230,521	687,225	6,504,878	–
Contributions - other	–	–	–	2,387	–	(7,797)	(51,586)	(31,006)	–
Benefit payments, including refunds of employee contributions	(4,617,971,525)	(4,434,554,694)	(4,253,053,912)	(4,118,371,422)	(3,936,320,575)	(3,810,818,692)	(3,629,651,915)	(3,441,046,065)	(3,259,290,114)
Administrative expense	(18,030,213)	(14,120,177)	(19,365,010)	(21,257,441)	(21,368,150)	(19,648,715)	(23,285,920)	(23,761,860)	(21,756,019)
Net change in Plan fiduciary net position	(3,139,682,327)	6,662,435,334	(802,608,364)	375,603,130	1,008,135,018	1,702,168,908	(1,791,496,296)	(446,014,867)	2,537,425,961
Plan fiduciary net position-beginning	35,707,804,636	29,045,369,302	29,847,977,666	29,472,374,536	28,464,239,518	26,762,070,610	28,553,566,906	28,999,581,773	26,462,155,812
Plan fiduciary net position-ending (b)	32,568,122,309	35,707,804,636	29,045,369,302	29,847,977,666	29,472,374,536	28,464,239,518	26,762,070,610	28,553,566,906	28,999,581,773
Plan's net pension liability-ending (a)-(b)	\$ 37,606,015,966	33,602,280,365	38,659,583,951	41,156,252,475	43,393,799,632	48,924,024,385	59,007,817,464	46,170,131,656	38,849,838,954
Plan fiduciary net position as a percentage of the total pension liability	46.41%	51.52%	42.90%	42.04%	40.45%	36.78%	31.20%	38.21%	42.74%
Covered-employee payroll	\$ 11,948,582,339	1,965,922,552	11,775,149,674	11,440,021,762	11,360,644,671	11,296,345,312	11,320,198,747	11,441,433,226	11,448,531,265
Net pension liability as a percentage of covered-employee payroll	314.73%	280.82%	328.32%	359.76%	381.97%	433.10%	521.26%	403.53%	339.34%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

The Division of Pensions and Benefits adopted a new policy regarding the crediting of interest on member contributions for the purpose of refund of accumulated deductions. Previously, after termination of employment, but prior to retirement or death, interest was credited on member accumulated deductions at the valuation interest rate for the entire period. Effective July 1, 2018, interest is only credited at the valuation interest rate for the first two years of inactivity prior to retirement or death.

Changes in assumptions:

Discount rate	7.00%	7.00%	7.00%	6.28%	5.66%	5.00%	3.98%	4.90%	5.39%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2022, demographic assumptions were updated to reflect the most recent experience study for the period July 1, 2018 to June 30, 2021.

For 2021, the mortality improvement scale was updated to Scale MP-2021.

For 2020, the mortality improvement scale was updated to Scale MP-2020.

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 - June 30, 2018 Experience Study. For pre-retirement mortality, the Pub 2010 General Below-Median Income Employee mortality table with a 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For healthy retirees and beneficiaries, the Pub-2010 General Below-Median Income Healthy Retiree mortality table with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For disabled retiree mortality, the Pub-2010 Non-Safety Disabled Retiree mortality table with a 127.7% adjustment for males, and a 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For mortality improvement, Scale MP-2019 was used.

For 2016, demographic assumptions were revised in accordance with the results of the July 1, 2011 - June 30, 2014 experience study and the mortality improvement scale incorporated the plan actuary's modified MP-2014 projection scale. Further salary increases were assumed to increase between 1.65% and 4.15% (based on age) through fiscal year 2026 and 2.65% and 5.15% (based on age) for each fiscal year thereafter.

Required Supplementary Information
Schedule of Employer Contributions – Defined Benefit Pension Plans
(Unaudited)

	Actuarially determined contribution	Actual employer & nonemployer contribution	Contribution excess (deficiency)	Covered payroll	Contribution as a percentage of covered payroll
Year ended June 30:					
Judicial Retirement System					
2022	\$ 67,651,519	72,954,420	5,302,901	76,401,342	95.49%
2021	66,973,041	52,508,011	(14,465,030)	76,970,450	68.22
2020	53,213,618	37,496,113	(15,717,505)	76,627,036	48.93
2019	49,099,041	29,702,700	(19,396,341)	77,763,777	38.20
2018	47,224,943	24,023,637	(23,201,306)	69,216,709	34.71
2017	44,807,771	20,341,379	(24,466,392)	68,062,584	29.89
2016	47,305,819	14,794,774	(32,511,045)	67,097,166	22.05
2015	45,136,504	17,031,026	(28,105,478)	66,028,491	25.79
2014	43,922,167	15,874,681	(28,047,486)	67,810,110	23.41
2013	45,415,467	12,308,227	(33,107,240)	67,497,660	18.24

Year ended June 30:					
Prison Officers' Pension Fund					
2022	\$ —	—	—	N/A	N/A
2021	—	—	—	N/A	N/A
2020	—	—	—	N/A	N/A
2019	—	—	—	N/A	N/A
2018	—	—	—	N/A	N/A
2017	—	—	—	N/A	N/A
2016	—	—	—	N/A	N/A
2015	—	—	—	N/A	N/A
2014	—	—	—	N/A	N/A
2013	—	—	—	N/A	N/A

SCHEDULE 2

Required Supplementary Information
Schedule of Employer Contributions – Defined Benefit Pension Plans
(Unaudited)

	Actuarially determined contribution	Actual employer & nonemployer contribution	Contribution excess (deficiency)	Covered payroll	Contribution as a percentage of covered payroll
Year ended June 30: State Police Retirement System					
2022	\$ 191,415,727	206,165,510	14,749,783	332,022,798	62.09%
2021	180,556,737	141,212,825	(39,343,912)	298,254,514	47.35
2020	167,567,439	117,911,260	(49,656,179)	296,189,926	39.81
2019	161,134,729	98,182,956	(62,951,773)	275,790,087	35.60
2018	145,908,823	74,603,780	(71,305,043)	284,707,387	26.20
2017	135,017,662	53,006,614	(82,011,048)	277,771,135	19.08
2016	120,800,705	37,435,541	(83,365,164)	275,477,457	13.59
2015	110,904,703	38,527,297	(72,377,406)	262,496,289	14.68
2014	105,093,378	36,436,923	(68,656,455)	262,063,829	13.90
2013	99,876,582	27,777,047	(72,099,535)	283,216,927	9.81
Year ended June 30: Consolidated Police and Firemen's Pension Fund					
2022	\$ 76,209	76,000	(209)	N/A	N/A
2021	245,506	248,000	2,494	N/A	N/A
2020	–	–	–	N/A	N/A
2019	–	–	–	N/A	N/A
2018	325,191	325,000	(191)	N/A	N/A
2017	884,680	1,539,280	654,600	N/A	N/A
2016	491,683	1,324,017	832,334	N/A	N/A
2015	–	1,577,751	–	N/A	N/A
2014	864,041	1,900,831	1,036,790	N/A	N/A
2013	1,095,632	896,883	(198,749)	N/A	N/A

SCHEDULE 2

Required Supplementary Information
Schedule of Employer Contributions – Defined Benefit Pension Plans
(Unaudited)

	Actuarially determined contribution	Actual employer & nonemployer contribution	Contribution excess (deficiency)	Covered payroll	Contribution as a percentage of covered payroll
Year ended June 30:					
Teachers' Pension and Annuity Fund					
2022	\$ 3,877,974,331	4,191,916,812	313,942,481	11,509,652,923	36.42%
2021	3,727,967,714	2,936,047,960	(791,919,754)	11,338,928,538	25.89
2020	3,286,527,638	2,271,007,729	(1,015,519,909)	11,061,603,138	20.53
2019	3,249,224,200	2,015,496,648	(1,233,727,552)	10,823,504,797	18.62
2018	3,035,344,625	1,516,131,450	(1,519,213,175)	10,636,814,121	14.25
2017	2,737,175,151	1,127,018,480	(1,610,156,671)	10,436,205,103	10.80
2016	2,544,811,534	800,069,277	(1,744,742,257)	10,305,472,484	7.76
2015	2,306,611,715	540,603,535	(1,766,008,180)	10,162,263,470	5.32
2014	2,159,287,358	427,700,146	(1,731,587,212)	10,038,792,896	4.26
2013	2,331,811,395	647,059,335	(1,684,752,060)	9,779,212,916	6.62
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Year ended June 30:					
Police and Firemen's Retirement System					
2022	\$ 1,798,890,158	1,845,994,703	47,104,545	4,201,978,195	43.93%
2021	1,725,652,140	1,600,575,026	(125,077,114)	4,142,905,791	39.85
2020	1,592,156,607	1,427,886,341	(164,270,266)	3,937,977,209	36.26
2019	1,545,236,051	1,332,222,254	(213,013,797)	3,870,718,707	34.42
2018	1,424,767,509	1,236,395,284	(188,372,225)	3,803,348,329	32.51
2017	1,335,659,737	1,046,327,392	(289,332,345)	3,726,807,562	28.08
2016	1,311,849,713	986,654,840	(325,194,873)	3,695,509,355	26.70
2015	1,217,110,411	941,950,336	(275,160,075)	3,682,677,356	25.58
2014	1,150,719,106	880,431,697	(270,287,409)	3,678,910,266	23.93
2013	1,279,412,723	895,743,379	(383,669,344)	3,656,218,573	24.50

SCHEDULE 2

Required Supplementary Information
Schedule of Employer Contributions — Defined Benefit Pension Plans
(Unaudited)

	Actuarially determined contribution	Actual employer & nonemployer contribution	Contribution excess (deficiency)	Covered payroll	Contribution as a percentage of covered payroll
Public Employees' Retirement System					
Year ended June 30:					
2022	\$ 2,984,018,597	3,085,421,792	101,403,195	11,948,582,339	25.82%
2021	2,860,929,748	2,431,743,316	(429,186,432)	11,965,922,552	20.32
2020	2,457,669,386	2,015,797,615	(441,871,771)	11,775,149,674	17.12
2019	2,457,773,619	1,912,209,917	(545,563,702)	11,440,021,762	16.72
2018	2,306,287,092	1,632,971,072	(673,316,020)	11,360,644,671	14.37
2017	2,207,859,541	1,448,520,025	(759,339,516)	11,296,345,312	12.82
2016	2,097,570,117	1,265,246,226	(832,323,891)	11,320,198,747	11.18
2015	1,935,315,246	1,067,584,583	(867,730,663)	11,441,433,226	9.33
2014	1,797,073,081	941,023,184	(856,049,897)	11,448,531,265	8.22
2013	1,911,359,009	1,087,389,140	(823,969,869)	11,433,091,635	9.51

See accompanying independent auditors' report.

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SCHEDULE 2

Schedule of Employer Contributions – Defined Benefit Pension Plans Last 10 Fiscal Years (Unaudited)

Notes to Schedule:

Method and assumptions used in calculations of employers' actuarially determined contributions: The actuarially determined contributions are calculated as of July 1 preceding the fiscal year in which the contributions are reported. Unless otherwise noted above, the following actuarial methods and assumptions were used to determine contribution rates in the Schedule of Employer Contributions.

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Actuarial cost method	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit
Amortization method	Level Dollar, open	Level Dollar	Level Dollar, open	Level Dollar	Level Dollar, open	Level Dollar, open	Level Dollar, open
Remaining amortization period	30 years	1 year	30 years	1 year	30 years	30 years	30 years
Asset valuation method	Five-year smoothing difference between market value and expected actuarial value	Market value	Five-year smoothing difference between market value and expected actuarial value	Market value	Five-year smoothing difference between market value and expected actuarial value	Five-year smoothing difference between market value and expected actuarial value	Five-year smoothing difference between market value and expected actuarial value
Projected salary increase 2022							
Initial fiscal year applied through	2025	N/A^	All future years	N/A^	All future years	All future years	All future years
Rate	2.00%	N/A^	2.75 - 6.75% based on years of service	N/A^	2.75 - 4.25% based on years of service	3.25 - 15.25% based on years of service	2.75 - 6.55% based on years of service
Thereafter	2.75%	N/A^	Not Applicable	N/A^	Not Applicable	Not Applicable	Not Applicable
2021							
Initial fiscal year applied through	2025	N/A^	2025	N/A^	2026	N/A	2026
Rate	2.00%	N/A^	2.95%	N/A^	1.55 - 4.45% based on years of service	Varies based on experience	2.00 - 6.00% based on age
Thereafter	2.75%	N/A^	3.95%	N/A^	2.75 - 5.65% based on years of service	Varies based on experience	3.00 - 7.00% based on age
2016 through 2020							
Initial fiscal year applied through	2025	N/A^	2025	N/A^	2026	2025	2026
Rate	2.00%	N/A^	2.95%	N/A^	1.55 - 3.80% based on years of service	2.10 - 8.98% based on age	1.65 - 4.15% based on age
Thereafter	3.00%	N/A^	3.95%	N/A^	2.00 - 4.90% based on years of service	3.10 - 9.98% based on age	2.65 - 5.15% based on age
2015 and 2014							
Through fiscal year 2021	2.00%	N/A^	2.95%	N/A^	Varies based on experience	2.60 - 9.48% based on age	2.15 - 4.40% based on age
Thereafter	3.00%	N/A^	3.95%	N/A^	Varies based on experience	3.60 - 10.48% based on age	3.15 - 5.40% based on age
Projected COLAs	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
Investment rate of return							
2022	7.00%	2.00%	7.00%	2.00%	7.00%	7.00%	7.00%
2021	7.30%	2.00%	7.30%	2.00%	7.30%	7.30%	7.30%
2020	7.30%	2.00%	7.30%	2.00%	7.30%	7.30%	7.30%
2019	7.50%	5.00%	7.50%	2.00%	7.50%	7.50%	7.50%
2018	7.50%	5.00%	7.50%	2.00%	7.50%	7.50%	7.50%
2017	7.50%	5.00%	7.50%	2.00%	7.50%	7.50%	7.50%
2016	7.65%	5.00%	7.65%	2.00%	7.65%	7.65%	7.65%
2015	7.90%	5.00%	7.90%	2.00%	7.90%	7.90%	7.90%
2014	7.90%	5.00%	7.90%	2.00%	7.90%	7.90%	7.90%

*Pursuant to the provisions of Chapter 78, P.L. 2011, cost of living adjustment (COLA) increases were suspended for all current and future retirees of all retirement systems.

^ This is a closed plan, therefore there are no active employees.

Contributions: Contributions reported on Schedule 1 include actual contributions by State and, where applicable, the local employer's contribution revenue recorded in fiscal year 2019 that is due in fiscal year 2020 and contributions to the Non-Contributory Group Insurance Premium Fund. Contributions reported on Schedule 2 represent actual contributions by the State and local employers (where applicable) made during the year, including contributions to the Non-Contributory Group Life Insurance Premium Fund.

See accompanying independent auditors' report.

Required Supplementary Information
Schedule of Investment Returns – Defined Benefit Pension Plans
Annual Money-Weighted Rate of Return, Net of Investment Expense (Unaudited)

Year ended June 30:	JRS, SPRS, TPAF, PERS and PFRS*	POPF	CPFPF
2022	(7.66)%	0.24%	0.24%
2021	28.60%	0.12%	0.12%
2020	1.40%	1.57%	1.57%
2019	6.17%	2.29%	2.29%
2018	9.11%	1.36%	1.36%
2017	13.01%	0.53%	0.53%
2016	(1.15)%	0.28%	0.50%
2015	4.08%	0.09%	0.34%
2014	16.79%	0.09%	0.02%

*The annual money-weighted rate of return, net of investment expense, which includes JRS, SPRS, TPAF, PFRS and PERS, is calculated on the investments held within Common Pension Funds D and E, and the State of New Jersey, Cash Management Fund for the Pension Funds, as a whole rather than by individual plan since the portfolios are managed through common trust funds.

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditors' report.

SCHEDULE 4

Required Supplementary Information
Schedule of Changes in Net OPEB Liability and Related Ratios
Defined Benefit Other Postemployment Benefit Plan (Unaudited)
June 30, 2022

	2022	2021	2020	2019	2018	2017
Total OPEB liability:						
Service cost	\$ 796,654,029	846,075,674	605,949,339	666,574,660	896,235,148	1,064,525,862
Interest on total OPEB liability	401,372,615	413,837,061	497,444,533	636,082,461	764,082,232	648,423,508
Changes of benefit terms	402,474,416	2,029,119	1,055,527	(1,903,958)	-	-
Difference between expected and actual experience	572,046,963	(1,564,654,436)	852,424,987	(1,399,921,930)	(3,626,384,047)	-
Effect of changes of assumptions	(3,599,550,175)	333,095,471	3,138,556,114	(1,635,760,217)	(2,314,240,675)	(2,587,850,974)
Contributions - employee	53,166,360	43,309,873	37,546,413	43,249,952	53,987,166	53,585,505
Benefit payments	(585,291,951)	(509,642,373)	(466,218,997)	(470,179,613)	(421,621,253)	(417,488,848)
Net change in total OPEB liability	(1,959,127,743)	(435,949,611)	4,666,757,916	(2,161,858,645)	(4,647,941,429)	(1,238,804,947)
Total OPEB liability-beginning	18,050,052,887	18,486,002,498	13,819,244,582	15,981,103,227	20,629,044,656	21,867,849,603
Total OPEB liability-ending (a)	\$ 16,090,925,144	18,050,052,887	18,486,002,498	13,819,244,582	15,981,103,227	20,629,044,656
Plan fiduciary net position:						
Contributions-employer	\$ 389,490,003	325,097,477	292,404,377	346,415,056	421,194,662	381,813,324
Contributions-nonemployer contributing entity	45,792,081	37,777,433	35,011,940	43,854,500	53,548,285	53,064,311
Contributions-employee	53,166,360	43,309,873	37,546,413	43,249,952	53,987,166	53,585,505
Net investment income	235,962	201,343	2,858,334	4,826,936	2,320,422	791,049
Benefit payments	(585,291,951)	(509,642,373)	(466,218,997)	(470,179,613)	(421,621,253)	(417,488,848)
Administrative expense	(12,334,441)	(11,334,383)	(9,913,267)	(9,478,435)	(8,200,113)	(8,894,576)
Net change in Plan fiduciary net position	(108,941,986)	(114,590,630)	(108,311,200)	(41,311,604)	101,229,169	62,870,765
Plan fiduciary net position-beginning	50,271,652	164,862,282	273,173,482	314,485,086	213,255,917	150,385,152
Plan fiduciary net position-ending (b)	(58,670,334)	50,271,652	164,862,282	273,173,482	314,485,086	213,255,917
Plan's net OPEB liability-ending (a)-(b)	\$ 16,149,595,478	17,999,781,235	18,321,140,216	13,546,071,100	15,666,618,141	20,415,788,739
Plan fiduciary net position as a percentage of the total OPEB liability	-0.36%	0.28%	0.89%	1.98%	1.97%	1.03%
Covered-employee payroll	\$ 5,244,103,018	4,991,824,527	4,872,992,497	4,801,667,470	4,646,915,753	4,336,016,376
Net OPEB liability as a percentage of covered-employee payroll	307.96%	360.59%	375.97%	282.11%	337.14%	470.84%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

There is an increase in liability from fiscal year 2020 to 2021 due to employers adopting and or changing Chapter 48 provisions.
In 2019 there were slight changes to the Chapter 48 provisions. In 2020 employers adopted amended Chapter 48 provisions which provided different levels of subsidy from fiscal year 2019.

Changes in assumptions:

In 2022, demographic assumptions were updated to reflect the most recent PFRS and PERS experience studies for the period July 1, 2018 to June 30, 2021. Further, the discount rate changed to 3.54% from 2.16%.

In 2021, the discount rate was changed to 2.16% from 2.21% and the mortality improvement scale was changed to Scale MP-2021.

In 2020, the discount rate changed to 2.21% from 3.50%. Further, there were changes in the assumed health care cost trend rates, the impact of the repeal of the excise tax, and the use of the Scale MP-2020 for mortality improvement.

In 2019, the discount rate changed to 3.50% from 3.87%, and there were changes in the assumed health care cost trend, PPO/HMO future retiree elections, and excise tax assumptions. Further, decrements, salary scale, and mortality assumptions were updated based on the July 1, 2013 - June 30, 2018 PFRS and July 1, 2014 - June 30, 2018 PERS experience studies. For mortality related to PFRS members and retirees, the Pub-2010 "Safety" classification headcount-weighted mortality table with fully generational mortality improvement projections from the central year using Scale MP-2019 was used. For mortality related to PERS members and retirees, the Pub-2010 "General" classification headcount-weighted mortality table with fully generational mortality improvement projections from the central year using Scale MP-2019 was used.

In 2018, the discount rate changed to 3.87% from 3.58%, there were changes in the census, claims and premiums experience and a decrease in the assumed health care cost trend and excise tax assumptions.

See accompanying independent auditors' report.

Required Supplementary Information
Schedule of Investment Returns – Defined Benefit Other Postemployment Benefit Plan
Annual Money-Weighted Rate of Return, Net of Investment Expense
(Unaudited)

Year ended June 30:

2022	0.24%
2021	0.12%
2020	1.57%
2019	2.29%
2018	1.28%
2017	0.58%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditors' report.

Schedule of Administrative Expenses
Year ended June 30, 2022

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS	NJSEDCP	Total
Personnel Services:									
Salaries and wages	\$ 137,580	1,309	593,401	1,373	7,272,344	3,082,935	9,318,422	364,857	20,772,221
Employee benefits	56,810	588	134,841	629	3,641,238	1,357,759	4,529,038	158,573	9,879,476
Total personnel services	194,390	1,897	728,242	2,002	10,913,582	4,440,694	13,847,460	523,430	30,651,697
Professional services:									
Actuarial services	6,158	614	42,721	524	564,760	190,000	762,983	–	1,567,760
Data processing	2,830	242	43,817	181	998,358	519,627	1,888,230	29,487	3,482,772
Information systems	3,864	300	42,030	190	1,166,495	470,741	2,233,147	196	3,916,963
Other professional ⁽¹⁾	1,277	210	62,224	118	1,009,419	1,497,500	1,627,915	–	4,198,663
Medical reviews (exams/hearings)	–	–	35,231	–	250,249	131,054	686,294	–	1,102,828
Internal audit and legal	2,268	171	30,215	124	780,331	810,088	1,100,715	–	2,723,912
Total professional services	16,397	1,537	256,238	1,137	4,769,612	3,619,010	8,299,284	29,683	16,992,898
Communication:									
Travel	–	–	–	–	1,006	7,732	1,784	–	10,522
Telephone	314	20	4,077	18	86,539	13,296	142,651	2,800	249,715
Postage	625	58	10,106	52	281,103	1,320	476,467	1,000	770,731
Motor pool	34	1	670	1	7,881	–	12,220	–	20,807
Printing and office	341	18	4,931	17	70,330	46,469	110,815	–	232,921
Total communication	1,314	97	19,784	88	446,859	68,817	743,937	3,800	1,284,696
Miscellaneous:									
Office space	1,710	180	27,852	143	533,908	–	975,660	–	1,539,453
Maintenance	48	10	4,107	6	51,112	–	82,340	–	137,623
Equipment	29	25	5,541	17	32,215	432	88,416	–	126,675
Other services and charges	–	1	1,040	1	2,461	14,094,972	5,937	12,000	14,116,412
Total miscellaneous	1,787	216	38,540	167	619,696	14,095,404	1,152,353	12,000	15,920,163
Total administrative expenses	\$ 213,888	3,747	1,042,804	3,394	16,749,749	22,223,925	24,043,034	568,913	64,849,454

⁽¹⁾ Portion of consulting

See accompanying independent auditors' report.

SCHEDULE 7

**Schedule of Investment Expenses
Year ended June 30, 2022**

	<u>JRS</u>	<u>POPF</u>	<u>SPRS</u>	<u>CPFPF</u>	<u>TPAF</u>	<u>PFRS</u>	<u>PERS</u>	<u>NJSEDCP</u>	<u>Total</u>
Investment expense	\$ 33,221	521	333,042	168	4,209,549	6,197,390	5,218,217	459,257	16,451,365

See accompanying independent auditors' report.

SCHEDULE 8

**Schedule of Expenses for Consultants
Year ended June 30, 2022**

	<u>JRS</u>	<u>POPF</u>	<u>SPRS</u>	<u>CPFPF</u>	<u>TPAF</u>	<u>PFRS</u>	<u>PERS</u>	<u>Total</u>
Actuarial:								
Cheiron	\$ 6,158	614	42,721	524	564,760	—	762,983	1,377,760
Segal	—	—	—	—	—	190,000	—	190,000
Professional services:								
Exams/Hearings/Court Reporters	—	—	35,231	—	250,249	131,054	686,294	1,102,828
Total expenses for consultants	\$ <u>6,158</u>	<u>614</u>	<u>77,952</u>	<u>524</u>	<u>815,009</u>	<u>321,054</u>	<u>1,449,277</u>	<u>2,670,588</u>

See accompanying independent auditors' report.

**Combining Schedule of Fiduciary Net Position Information
Fiduciary Funds – Select Pension Trust Funds
June 30, 2022**

	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Total
Assets:								
Cash and cash equivalents	\$ 121,909	54,630	471,793	197,388	3,772,940	4,764,008	8,336,933	17,719,601
Receivables:								
Contributions:								
Members	372,060	–	1,221,535	–	96,518,716	57,936,788	63,633,001	219,682,100
Employers and nonemployer	–	–	167,630	155,413	108,197,129	1,353,737,668	1,339,578,448	2,801,836,288
Accrued interest and dividends	294	4	1,188	3	24,033	3,187,188	22,357	3,235,067
Other	499,161	2,676	974,061	5,955	36,133,246	7,915,519	21,464,942	66,995,560
Total receivables	871,515	2,680	2,364,414	161,371	240,873,124	1,422,777,163	1,424,698,748	3,091,749,015
Investments, at fair value:								
Cash Management Fund	10,609,143	4,950,491	44,476,368	1,855,804	488,500,304	735,124,536	441,096,163	1,726,612,809
Common Pension Fund A	1,289,591	–	16,382,582	–	200,507,524	–	259,446,611	477,626,308
Common Pension Fund D	123,521,358	–	1,227,846,308	–	15,836,973,905	17,579,497,276	19,922,037,669	54,689,876,516
Common Pension Fund E	52,256,163	–	667,717,632	–	8,178,089,427	9,554,168,372	10,578,969,780	29,031,201,374
Total investments	187,676,255	4,950,491	1,956,422,890	1,855,804	24,704,071,160	27,868,790,184	31,201,550,223	85,925,317,007
Securities lending collateral	3,430,488	–	34,100,273	–	439,831,221	488,225,326	553,283,361	1,518,870,669
Members' loans and mortgages	48,500	–	10,200,773	–	256,037,628	1,678,985,356	540,443,541	2,485,715,798
Total assets	192,148,667	5,007,801	2,003,560,143	2,214,563	25,644,586,073	31,463,542,037	33,728,312,806	93,039,372,090
Liabilities:								
Accounts payable and accrued expenses	262	–	248,388	–	136,509,363	9,431,150	175,927,027	322,116,190
Retirement benefits payable	5,489,768	53,640	20,689,887	51,641	404,281,058	248,435,581	393,798,752	1,072,800,327
Noncontributory group life insurance premiums payable	–	–	167,630	–	7,002,045	9,149,443	13,538,218	29,857,336
Administrative expense payable	213,888	3,747	1,042,804	3,394	16,749,749	–	24,043,034	42,056,616
Securities lending collateral and rebates payable	3,428,009	–	34,075,627	–	439,513,326	487,872,453	552,883,466	1,517,772,881
Total liabilities	9,131,927	57,387	56,224,336	55,035	1,004,055,541	754,888,627	1,160,190,497	2,984,603,350
Net position restricted for pension	\$ 183,016,740	4,950,414	1,947,335,807	2,159,528	24,640,530,532	30,708,653,410	32,568,122,309	90,054,768,740

See accompanying independent auditors' report.

SCHEDULE 10

**Combining Schedule of Changes in Fiduciary Net Position Information
Fiduciary Funds – Select Pension Trust Funds
Year ended June 30, 2022**

	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Total
Additions:								
Contributions:								
Members:								
State	\$ 9,608,031	–	27,081,021	–	907,326,471	53,744,938	354,378,152	1,352,138,613
Local	–	–	–	–	–	376,540,962	578,777,150	955,318,112
Employers:								
State	72,954,420	–	206,165,510	–	3,758,422	399,787,621	1,853,355,532	2,536,021,505
Local	–	–	–	–	–	1,301,312,223	1,261,048,022	2,562,360,245
Nonemployer	–	–	–	76,000	4,188,158,390	253,611,000	48,654,369	4,490,499,759
Employer specific and other	–	313,575	–	368,072	395,540	6,897,992	10,185,131	18,160,310
Total contributions	82,562,451	313,575	233,246,531	444,072	5,099,638,823	2,391,894,736	4,106,398,356	11,914,498,544
Investment income:								
Net increase/(decrease) in fair value of investments	(23,049,819)	–	(210,844,001)	–	(2,702,433,239)	(2,869,063,331)	(3,294,896,203)	(9,100,286,593)
Interest	3,886,039	14,413	40,790,417	6,822	540,627,832	631,742,118	705,610,651	1,922,678,292
	(19,163,780)	14,413	(170,053,584)	6,822	(2,161,805,407)	(2,237,321,213)	(2,589,285,552)	(7,177,608,301)
Less investment expense	33,221	521	333,042	168	4,209,549	6,197,390	5,218,217	15,992,108
Net investment income/(loss)	(19,197,001)	13,892	(170,386,626)	6,654	(2,166,014,956)	(2,243,518,603)	(2,594,503,769)	(7,193,600,409)
Transfers	2,026,661	–	592,961	–	19,857,109	3,210,733	10,475,241	36,162,705
Total additions	65,392,111	327,467	63,452,866	450,726	2,953,480,976	151,586,866	1,522,369,828	4,757,060,840
Deductions:								
Benefits:								
Benefit expense - retirement allowances	63,316,965	509,871	245,991,786	473,437	4,694,398,663	2,898,254,034	4,344,478,884	12,247,423,640
Noncontributory group insurance expense	579,420	–	4,844,510	–	56,578,899	59,802,758	105,651,747	227,457,334
Refunds of contributions	818,343	–	280,470	–	72,009,660	12,166,977	167,840,894	253,116,344
Transfers	36,541	–	222,176	–	10,469,821	701,846	26,050,417	37,480,801
Administrative and miscellaneous expenses	183,857	3,226	701,981	3,226	12,635,916	15,261,328	18,030,213	46,819,747
Total deductions	64,935,126	513,097	252,040,923	476,663	4,846,092,959	2,986,186,943	4,662,052,155	12,812,297,866
Change in net position	456,985	(185,630)	(188,588,057)	(25,937)	(1,892,611,983)	(2,834,600,077)	(3,139,682,327)	(8,055,237,026)
Net position restricted for pension:								
Beginning of year	182,559,755	5,136,044	2,135,923,864	2,185,465	26,533,142,515	33,543,253,487	35,707,804,636	98,110,005,766
End of year	\$ 183,016,740	4,950,414	1,947,335,807	2,159,528	24,640,530,532	30,708,653,410	32,568,122,309	90,054,768,740

See accompanying independent auditors' report.

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INVESTMENT SECTION

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State of New Jersey

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

DEPARTMENT OF THE TREASURY
DIVISION OF INVESTMENT
P.O. BOX 290
TRENTON, NJ 08625-0290
Telephone (609) 292-5106
Facsimile (609) 984-4425

ELIZABETH MAHER MUOIO
State Treasurer

SHOAIB KHAN
Director

The Division of Investment (the "Division") is responsible for the investment management of the assets of seven public pension systems: The Consolidated Police & Firemen's Pension Fund, the Judicial Retirement System, the Police & Firemen's Retirement System, the Prison Officers' Pension Fund, The Public Employees' Retirement System, the State Police Retirement System and the Teachers' Pension & Annuity Fund (collectively referred to as the "Pension Fund").

The Division was created in 1950 by the New Jersey Legislature (P.L. 1950, c. 270) to centralize all functions relating to the purchase, sale or exchange of securities for the State's diverse funds under experienced and professional management. The statute also established the State Investment Council (the "Council") to formulate investment procedures and policies to be followed by the Director of the Division ("the Director"). The statute vests investment authority in the Director who is appointed by the State Treasurer from candidates nominated by the Council. New and amended regulations adopted by the Council after public comments are filed with the Office of Administrative Law and reported in the New Jersey Register. The Council readopted its regulations in 2021, with amendments to streamline the rules in the aggregate and further strengthen certain investment guidelines. The amended and readopted regulations were published in the New Jersey Register and became effective on November 1, 2021.

On July 3, 2018, the Governor signed P.L. 2018, c. 55 (the "PFRS Act") which, among other changes, transferred certain investment authority and duties relating to the assets of the Police and Firemen's Retirement System ("PFRS") to a newly constituted PFRS Board of Trustees (the "PFRS Board"). The Division continues to work with the PFRS Board and PFRS staff to implement the provisions of the PFRS Act.

The Council is comprised of 16 members pursuant to N.J.S.A. 52:18A-83. Nine members are appointed by the Governor for five-year terms, and are drawn traditionally from the investment community. Of those nine appointments, eight are made with the advice and consent of the State Senate. One appointment is made from nominees submitted jointly by the President of the Senate and Speaker of the Assembly. Four members are appointed by the Governor from nominees submitted by various employee organizations. Two of the four members are appointed by the Governor for five-year terms from nominees submitted by the New Jersey State AFL-CIO. One of the four members is appointed for a three-year term from nominees submitted by the New Jersey Education Association. The fourth member is appointed by the Governor for a three-year term from nominees submitted by the State Troopers Fraternal Association. Two members, representing the Public Employees' Retirement System (PERS) and the Teachers' Pension and Annuity Fund (TPAF), are designated from members of the respective pension system's board of trustees and serve three-year terms. One member is designated by the Chief Justice of the New Jersey Supreme Court from members of the Retired Judges Association of New Jersey and serves a three-year term. State law requires that no Council member shall hold any office, position or employment with any political party, and none can benefit from the transactions of the Division.

All investments by the Director must conform to the heightened "prudent person" standard set by the New Jersey Legislature (N.J.S.A. 52:18A-89). This standard requires the Director "to manage and invest the portfolio solely in the interests of the beneficiaries of the portfolio and for the exclusive purpose of providing financial benefits to the beneficiaries of the portfolio."

To the best of our knowledge, performance is calculated using the time-weighted return based on the modified Dietz method.

Shoab Khan
Director
Division of Investment

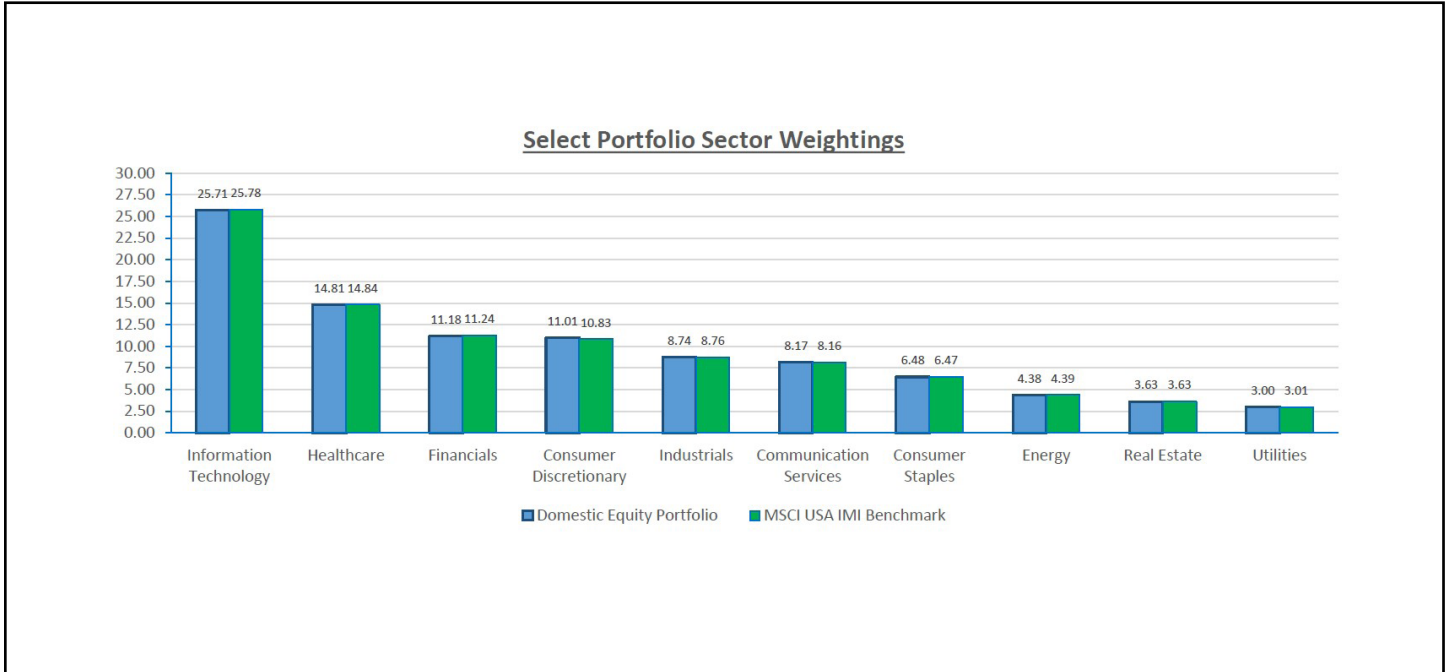
State Investment Council Policies Regarding the Investment of Pension Fund Assets (at June 30, 2022)

- Investment of pension assets is governed by the State Investment Council Regulations (N.J.A.C.17:16) (the “Regulations”) as well as an asset allocation plan approved by the State Investment Council (the “Council”).
- Global equity investments, excluding exchange-traded funds that invest in fixed income assets, strategies or indices, shall not exceed 70 percent of the market value of the pension assets.
- Unlimited investment is permitted in securities issued by the U.S. Government and designated agencies.
- Investment in global debt obligations, non-convertible preferred stocks, and collateralized notes and mortgages are subject to minimum rating requirements of Baa3 by Moody’s, BBB- by Standard & Poor’s and BBB- by Fitch Ratings. Investment in mortgage backed pass-through securities are subject to a minimum rating requirement of A3 by Moody’s, A- by Standard & Poor’s and A- by Fitch Ratings. Up to eight percent of the pension assets may be invested in these securities not meeting the minimum rating requirements.
- Investments in international government and agency obligations are limited to direct debt obligations of a sovereign government or its political subdivisions, debt obligations of agencies of a sovereign government which are unconditionally guaranteed as to principal and interest by the sovereign government’s full faith and credit, and debt obligations of international agencies or financial institutions that are backed, but not necessarily guaranteed, by the collective credit of multiple sovereign governments.
- Investments in fixed income securities such as municipal bonds, commercial paper, repurchase agreements, and certificates of deposit are all permitted by specific Regulations which specify high credit standards and conservative investment limits.
- Subject to specified limitations, futures, swaps, covered call options and put options may be utilized in the management of the portfolios.
- The currency exposure on international investments may be hedged through currency transactions.
- The Regulations contain limits on (1) the percentage of the pension assets that can be invested in any one security, (2) the percentage of the outstanding amount of any one security that can be owned and (3) the percentage of pension assets invested in any one issuer and affiliated entities. These limits help to insure that the portfolio is adequately diversified and that competitive market pricing is obtained.
- Investments in alternative investments are limited to no more than 45% of the portfolio in the aggregate, with individual category limitations for private equity (18%), private credit (13%), real estate (13%), real assets (7%) and hedge funds (10%).

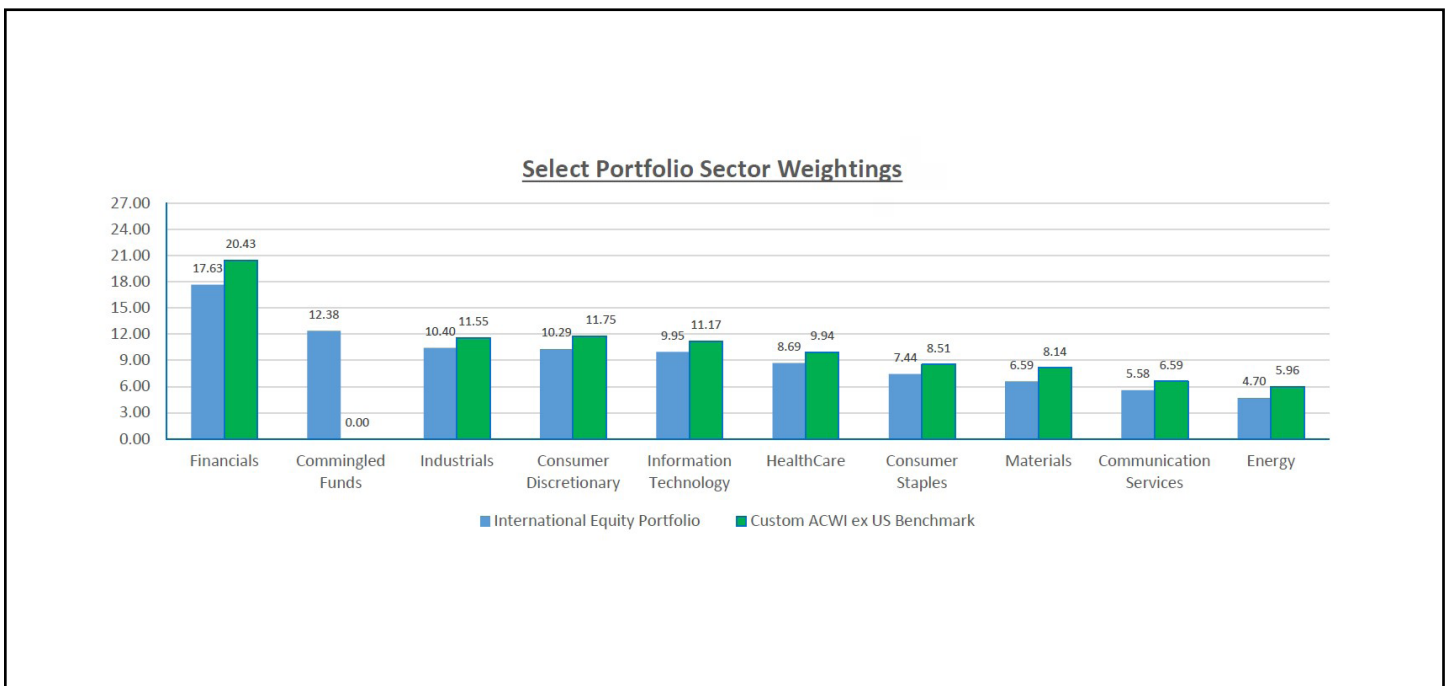
PROXY VOTING

- The Proxy Voting Policy summarizes guidelines for addressing key proxy issues. Business judgment is applied in determining the most advantageous position to the pension fund as a shareholder.
- The Division seeks to vote all proxies received, unless shares are out on loan. Under certain circumstances, the Division may restrict shares from being loaned or recall loaned shares in order to preserve the right to vote on proxy issues.

**U.S Equities Market
Select Portfolio Sector Weightings June 30, 2022**



**International Equities Market
Select Portfolio Sector Weightings June 30, 2022**

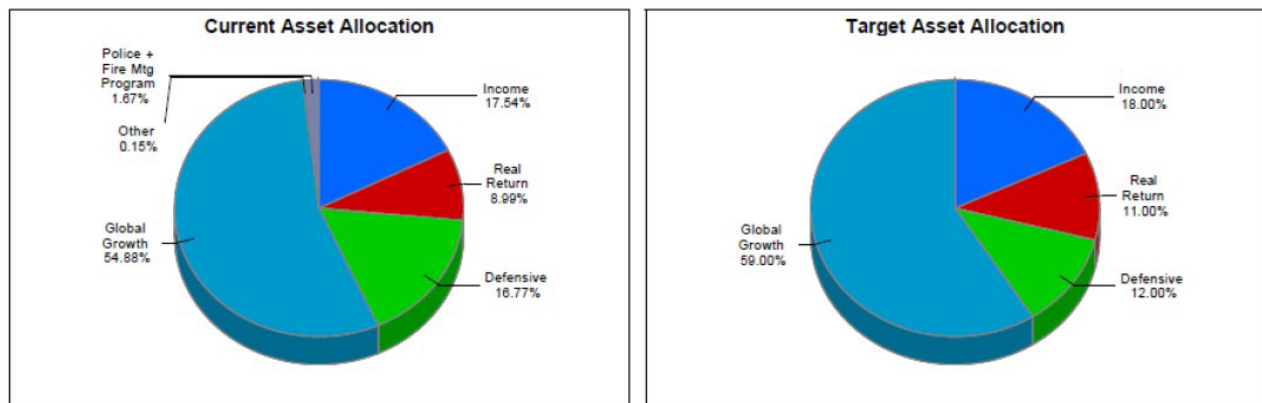


Pension Fund Asset Allocation – June 30, 2022

	Actual Allocation %	Target %	Difference %	Allocation in millions (\$)
U.S. Equity	25.18	27.00	(1.82)	22,030.48
Non-US Developed Markets Equity	12.13	13.50	(1.37)	10,608.65
Emerging Markets Equity	4.95	5.50	(0.55)	4,327.49
Equity Oriented Hedge Funds	0.01	0.00	0.01	9.12
Private Equity	12.63	13.00	(0.37)	11,050.43
Global Growth	54.89	59.00	(4.11)	48,026.17
Real Estate	6.37	8.00	(1.63)	5,575.19
Real Assets	2.61	3.00	(0.39)	2,287.87
Real Return	8.99	11.00	(2.01)	7,863.06
High Yield	2.45	2.00	0.45	2,140.06
Private Credit	7.41	8.00	(0.59)	6,480.61
Investment Grade Credit	7.69	8.00	(0.31)	6,727.91
Income	17.54	18.00	(0.46)	15,348.57
Cash Equivalents ¹	9.07	4.00	5.07	7,935.77
U.S. Treasuries	4.61	5.00	(0.39)	4,035.13
Risk Mitigation Strategies	3.08	3.00	0.08	2,698.00
Defensive	16.77	12.00	4.77	14,668.90
Other	0.15	0.00	0.15	128.71
Police & Fire Mortgage Program	1.67	0.00	1.67	1,458.05
Total Pension Fund	100.00	100.00	0.00	87,493.47

Sum of components may not equal total due to rounding.

¹The cash aggregate comprises the three Common Pension Fund cash accounts, in addition to the seven plan cash accounts.



Pension Fund Rate of Return – Periods Ending June 30, 2022

	Annualized		
	1 Year	3 Year	5 Year
U.S. Equity	(13.65)	9.73	9.95
<i>Custom U.S. Policy Benchmark</i>	(13.74)	10.08	10.79
Non-U.S. Developed Markets Equity	(17.37)	2.06	3.07
<i>Custom EAFE + Canada Benchmark¹</i>	(16.63)	1.65	2.62
Emerging Markets Equity	(25.32)	0.73	1.98
<i>Custom Emerging Markets Benchmark¹</i>	(25.41)	0.66	2.22
Equity Oriented Hedge Funds	1.50	(31.76)	(20.72)
<i>50% HFRI EH 50% HFRI ED ACTIVIST (1 month lag)</i>	(9.51)	8.08	5.19
Private Equity	6.15	16.57	15.50
<i>Custom Cambridge Blend</i>	21.76	22.44	20.01
Global Growth	(11.96)	8.52	8.66
<i>Global Growth Benchmark</i>	(8.71)	10.58	10.42
Real Estate	11.43	9.26	9.80
<i>Real Estate Index</i>	27.26	10.30	8.90
Real Assets	16.22	6.77	6.55
<i>Custom Cambridge Associates Real Asset Benchmark</i>	28.34	6.91	5.48
Real Return	12.79	8.55	8.81
<i>Real Return Benchmark</i>	27.61	9.78	8.22
High Yield	(12.55)	0.12	1.95
<i>Custom High Yield Benchmark</i>	(12.82)	0.18	2.09
Private Credit	1.25	6.42	6.89
<i>Bloomberg US Corp HY 1month lag + 100bps</i>	(4.32)	4.37	4.60
Investment Grade Credit	(12.71)	(0.99)	1.20
<i>Custom Investment Grade Credit Benchmark</i>	(12.55)	(0.99)	1.07
Income	(7.54)	1.92	3.41
<i>Income Benchmark</i>	(9.38)	1.19	2.76
Cash Equivalents	0.33	0.83	1.48
<i>ICE BofA US 3-Month Treasury Bill</i>	0.17	0.63	1.11
U.S. Treasuries	(8.68)	(0.81)	0.66
<i>Custom Government Benchmark</i>	(8.90)	(0.88)	0.74
Risk Mitigation Strategies	5.46	6.69	6.03
<i>T-Bill + 300 BP</i>	3.21	3.70	4.18
Defensive	(2.14)	1.16	2.00
<i>Liquidity Benchmark</i>	(2.71)	0.69	1.35
Total Pension Fund	(7.90)	6.24	6.80
<i>Pension Fund Policy Index</i>	(4.67)	7.87	7.86

¹ SOURCE: MSCI. Each benchmark is a custom index calculated by MSCI for, and as requested by the Division, based on screening criteria defined by the Division. These benchmarks exclude those securities deemed ineligible for investment under the State statutes governing investments in Iran, Sudan and companies that boycott Israel. The MSCI data is for internal use only and may not be redistributed or used in connection with creating or offering any securities, financial products or indices. Neither MSCI or any other third party involved in or related to compiling, computing or creating the MSCI data (the "MSCI Parties") makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and the MSCI Parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to such data. Without limiting any of the foregoing, in no event shall any of the MSCI Parties have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

List of Largest Assets Held by the Pension Fund

Largest Domestic Stock Holdings (by Fair Value)

June 30, 2022

Shares	Stock	Fair Value (USD)
9,510,789	APPLE INC	1,300,315,072
4,151,248	MICROSOFT CORP	1,066,165,024
5,348,500	AMAZON.COM INC	568,064,185
175,087	ALPHABET INC CL A	381,560,096
165,987	ALPHABET INC CL C	363,088,263
512,398	TESLA INC	345,059,061
550,876	UNITEDHEALTH GROUP INC	282,946,440
1,535,589	JOHNSON & JOHNSON	272,582,403
1,461,224	NVIDIA CORP	221,506,946
1,347,796	META PLATFORMS INC CLASS A	217,332,105

Largest International Stock Holdings (by Fair Value)

June 30, 2022

Shares	Stock	Fair Value (USD)
9,500,471	ISHARES CORE MSCI EAFE ETF	559,102,718
7,442,200	ISHARES MSCI INDIA ETF	292,999,414
5,265,236	ISHARES MSCI EAFE SMALL CAP ETF	287,429,233
4,998,989	ISHARES MSCI TAIWAN ETF	252,049,025
2,601,419	TAIWAN SEMICONDUCTOR SP ADR	212,666,003
1,648,811	NESTLE SA REG	191,929,282
3,804,784	TENCENT HOLDINGS LTD	171,839,434
3,253,090	ISHARES CORE MSCI EMERGING MARKET	159,596,595
3,255,463	SAMSUNG ELECTRONICS CO LTD	142,915,427
410,772	ROCHE HOLDING AG GENUSSCHEIN	136,680,859

List of Largest Assets Held by the Pension Fund, *continued*

**Largest Domestic Bond Holdings (by Fair Value)
June 30, 2022**

Par	Bonds	Coupon	Due	Fair Value (USD)
565,000,000	US TREASURY N/B	0.125%	01/15/2024	540,833,006
14,125,010	INVESCO SENIOR LOAN ETF	0.000%		286,313,953
425,300,000	US TREASURY N/B	1.250%	05/15/2050	270,530,672
280,000,000	US TREASURY N/B	0.125%	10/15/2023	269,970,313
300,000,000	US TREASURY N/B	0.500%	10/31/2027	262,054,689
275,000,000	US TREASURY N/B	0.375%	01/31/2026	250,013,673
5,110,100	SPDR BLACKSTONE SENIOR LOAN ETF	0.000%		212,784,564
199,900,000	US TREASURY N/B	1.500%	02/15/2030	179,535,188
1,822,000	SPDR BLOOMBERG HIGH YIELD BOND	0.000%		165,273,620
1,150,000	ISHARES IBOXB INVESTMENT GRADE	0.000%		126,534,500

**Largest International Bond Holdings (by Fair Value)
June 30, 2022**

Par	Bonds	Coupon	Due	Fair Value (USD)
69,000,000	HYDRO QUEBEC	8.50%	12/01/2029	90,340,320
60,000,000	PROVINCE OF QUEBEC	7.50%	09/15/2029	74,799,000
70,000,000	MANITOBA (PROVINCE OF)	1.50%	10/25/2028	62,337,800
60,000,000	AID ISRAEL	5.50%	09/18/2023	61,660,200
65,000,000	ONTARIO (PROVINCE OF)	1.80%	10/14/2031	56,149,600
50,000,000	PROVINCE OF SASKATCHEWAN	3.25%	06/08/2027	49,749,000
45,000,000	PROVINCE OF SASKATCHEWAN	8.50%	07/15/2022	45,075,825
50,000,000	CANADA HOUSING TRUST	2.90%	06/15/2024	38,493,352
40,000,000	COMMONWEALTH BANK AUST	1.13%	06/15/2026	35,791,600
38,000,000	WESTPAC BANKING CORP	1.02%	11/18/2024	35,740,140

Commissions on Global Securities¹
Fiscal Year 2022

Broker	Shares	Total Commissions	Commissions per Share
Barclays Capital Inc.	14,937,229	\$ 107,097	\$0.007
FBN Securities, Inc.	3,813,541	26,695	0.007
Instinet, LLC	4,053,400	30,480	0.008
Jane Street	12,700,237	115,202	0.009
J.P. Morgan Securities LLC	7,518,112	73,181	0.010
Loop Capital Markets LLC	1,696,317	16,786	0.010
Macquarie Capital (USA) Inc.	194,446,202	40,796	0.000
Meridian Equity Partners, Inc.	89,246,688	28,218	0.000
Morgan Stanley	24,519,505	15,483	0.001
Penserra Securities, LLC	1,612,836	16,128	0.010
Siebert Williams Shank & Co.	1,794,420	17,944	0.010
Themis Trading LLC	4,256,103	39,737	0.009
Wallachbeth	13,050,637	121,491	0.009
	373,645,227	\$ 649,237	\$0.002
Trades executed through advisers with various brokers	495,601,890	\$ 1,279,497	\$0.003

¹Includes commissions for all funds under Division of Investment Management.

Schedule of Fees (in thousands)
Year ending June 30, 2022

	Pension Fund Net Assets under Management	Fees (a)	Basis Points
Investment advisers' fees:			
Fixed income advisers	\$ 953,997	\$ 4,305	
International small cap advisers	738,784	6,770	
Emerging market advisers	4,167,897	16,281	
	<u>\$ 5,860,679</u>	<u>27,356</u>	<u>46.676</u>
Alternative Investment funds	<u>\$ 26,124,563</u>	<u>306,196</u>	<u>117.206</u>
Other investment service fees:			
Custodian		1,891	
Security lending fees		2,970	
Investment consultants		2,721	
		<u>7,582</u>	
Total	<u>\$ 87,493,467</u>	<u>\$ 341,134</u>	<u>38.990</u>

Sum of components may not equal total due to rounding.

(a) Fees for alternative investment funds include the management fees.
It does not include performance allocation.

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ACTUARIAL SECTION

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Classic Values, Innovative Advice

June 2, 2023

Board of Trustees
Public Employees' Retirement System of New Jersey

Re: Actuary's Certification Letter

Dear Board Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the Public Employees' Retirement System of New Jersey (PERS or System) as of June 30, 2022. This letter includes references to three documents produced by Cheiron for the System: the Actuarial Valuation Report as of July 1, 2021 (transmitted April 13, 2022) and the GASB 67 and 68 Reports as of June 30, 2022 (transmitted February 23, 2023 and May 16, 2023, respectively).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of PERS on that date and to calculate the Statutory Contribution amounts for the State and Local employers for the Fiscal Year Ending 2023. The prior review was conducted as of July 1, 2020, and included the Statutory Contribution amounts for the Fiscal Year Ending 2022.

Actuarial funding is based on the Projected Unit Credit Cost Method. The Statutory Contribution amounts contain two components: the employer normal cost (cost of benefits for the upcoming year) and an amortization for the unfunded actuarial liability (UAL). The funding methodology prescribed by the N.J. State Statutes does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the amortization amount is calculated to amortize the UAL over an open 30 year period as a level dollar amount.
- Beginning with the July 1, 2019 actuarial valuation, the amortization amount will be calculated to amortize the UAL over a closed 30 year period (i.e., for each subsequent actuarial valuation, the amortization period shall decrease by one year) as a level dollar amount.
- Beginning with the July 1, 2029 actuarial valuation, when the amortization period reaches 20 years, an increase or decrease in the UAL as a result of actuarial losses and gains will increase or decrease, respectively, the amortization period for the UAL, except that the amortization period will not exceed 20 years.

Certain portions of the normal cost and UAL attributable to Local employers are payable by the State and/or over different periods in accordance with N.J. State Statutes.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the Statutory Contribution, any existing UAL may not be fully amortized in the future.

Member contributions are set in the N.J. State Statutes.

The non-contributory group life insurance benefit is funded separately through a term cost.

For actuarial valuation purposes, assets are valued at Actuarial Value as prescribed in the N.J. State Statutes. Under this method, the assets used to determine the Statutory Contribution amounts take into account market value by spreading all investment gains and losses (returns above or below expected returns) over a rolling five year period.

The actuarial value of assets is intended to dampen the volatility of the market value of assets, resulting in a smoother pattern of contributions. Actuarial Standards of Practice (ASOP) No. 44 states that the asset valuation method should produce an actuarial value of assets that falls within a reasonable range of market value, recognizes the difference between the market value and actuarial value of assets within a reasonably short period of time, and is likely to produce actuarial value of assets that are sometimes greater than and sometimes less than the corresponding market values. The asset method required under the N.J. State Statutes does not meet the requirements of ASOP No. 44 because this method has produced actuarial value of assets which have consistently been greater than the market value of assets and recognizes investment losses slowly over time. Additionally, the method may produce an actuarial value of assets that falls outside of a reasonable range of the market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Buck Global, LLC.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Active Member Valuation Data
- Schedule of Funding Progress
- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods
- Membership Information (Active, Deferred Vested, and Retired)

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2014 – June 30, 2018 Experience Study, which was approved by the Board of Trustees on February 19, 2020 with the exception of the retirement rates for members in the Workers' Compensation Judges (WCJ) Part of PERS. Chapter 140, P.L. 2021 reopened the WCJ Part of PERS and transferred WCJs from the Defined Contribution Retirement Program (DCRP) and the regular part of PERS into the WCJ Part of PERS. In conjunction with this plan provision change, the assumed retirement rates for members in the WCJ Part of PERS were revised to match the assumed retirement rates used in the Judicial Retirement System (JRS) of New Jersey's July 1, 2021 Actuarial Valuation Report. The JRS retirement assumptions are appropriate for this purpose because of the similarity between WCJ and JRS retirement benefits. Subsequent to the issuance of the July 1, 2021 Actuarial Valuation Report, we completed an Experience Study covering the period July 1, 2018 – June 30, 2021, which was approved by the Board of Trustees on November 16, 2022 for use in the July 1, 2022 Actuarial Valuation Report.

The assumed investment rate of return of 7.00% was recommended by the State Treasurer.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices except as noted. In particular, the assumptions and methods (other than the asset method) used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular ASOPs Nos. 4, 27 and 35. As noted above the asset method does not meet the requirements of ASOP No. 44.

GASB 67 and 68 Reports as of June 30, 2022

The purpose of the GASB 67 and 68 Reports as of June 30, 2022 is to provide accounting and financial reporting information under GASB 67 for PERS and under GASB 68 for the State and Local employers. These reports are not appropriate for other purposes, including the measurement of funding requirements for PERS.

For financial reporting purposes, the Total Pension Liability is based on the July 1, 2021 actuarial valuation updated to the measurement date of June 30, 2022. As a result of the Experience Study covering the period July 1, 2018 – June 30, 2021, the demographic and economic assumptions were updated. The GASB 67 and 68 Reports also reflect a change to the plan provisions. Chapter 226, P.L. 2021 reopened the Prosecutors Part of PERS and made membership in the Prosecutors Part of PERS mandatory for all prosecutors. We are not aware of any other significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and adjustments to reflect the changes in assumptions and plan provisions.

Please refer to our GASB 67 and 68 Reports as of June 30, 2022 for additional information related to the financial reporting of the System. We prepared the following schedules for inclusion in the Financial Section of the Annual Comprehensive Financial Report based on the June 30, 2022 GASB 67 and 68 reports:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2018 – June 30, 2021 Experience Study performed by Cheiron and approved by the Board of Trustees on November 16, 2022. The assumptions used in the most recent reports are intended to produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years through 2024.

Based on the State Treasurer's recommendation, the investment return assumption used to determine the Statutory Contribution amounts is 7.00% per annum.

In accordance with Paragraph 40 of GASB Statement No. 67, the projection of the Plan's fiduciary net position is based on a long-term expected rate of return of 7.00% per annum as recommended of the State Treasurer.

We certify that the reports were performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

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

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

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Cheiron's reports were prepared for PERS for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of these reports are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

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

Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The following is a list of data charts contained in this section:

- A-1 to A:3: Contributing Active Member Data by Tier
- A-4: Non-Contributing Active Member Data by Tier
- A-5: Inactive Member Data by Status
- A-6: Reconciliation of Plan Membership

Table A-1 Contributing Active Member Data by Tier State							
	July 1, 2021	July 1, 2020	% Change		July 1, 2021	July 1, 2020	% Change
Tier 1				Tier 2			
Count	33,427	36,108	-7.4%	Count	2,708	2,890	-6.3%
Average Age	53.9	53.6	0.7%	Average Age	49.4	48.9	1.1%
Average Service	22.2	21.6	2.9%	Average Service	13.2	12.2	8.2%
Average Appropriation Pay	\$ 78,500	\$ 76,996	2.0%	Average Appropriation Pay	\$ 67,611	\$ 65,280	3.6%
Total Appropriation Payroll	\$ 2,624,017,813	\$ 2,780,178,811	-5.6%	Total Appropriation Payroll	\$ 183,089,341	\$ 188,658,840	-3.0%
Tier 3				Tier 4			
Count	1,861	1,987	-6.3%	Count	1,342	1,407	-4.6%
Average Age	48.7	48.0	1.5%	Average Age	47.2	46.6	1.4%
Average Service	11.8	10.8	9.2%	Average Service	10.6	9.5	10.8%
Average Appropriation Pay	\$ 67,234	\$ 64,566	4.1%	Average Appropriation Pay	\$ 70,774	\$ 68,260	3.7%
Total Appropriation Payroll	\$ 125,122,012	\$ 128,292,039	-2.5%	Total Appropriation Payroll	\$ 94,979,103	\$ 96,041,239	-1.1%
Tier 5				Total			
Count	26,217	25,382	3.3%	Count	65,555	67,774	-3.3%
Average Age	41.1	40.3	1.9%	Average Age	48.3	48.1	0.5%
Average Service	4.4	3.8	16.1%	Average Service	14.2	14.0	1.6%
Average Appropriation Pay	\$ 59,178	\$ 56,905	4.0%	Average Appropriation Pay	\$ 69,845	\$ 68,426	2.1%
Total Appropriation Payroll	\$ 1,551,465,802	\$ 1,444,358,349	7.4%	Total Appropriation Payroll	\$ 4,578,674,071	\$ 4,637,529,278	-1.3%

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.

Membership Information, continued

**Table A-2
 Contributing Active Member Data by Tier
 Local Employers**

	July 1, 2021	July 1, 2020	% Change		July 1, 2021	July 1, 2020	% Change
Tier 1				Tier 2			
Count	64,715	71,265	-9.2%	Count	7,077	7,628	-7.2%
Average Age	57.2	56.9	0.6%	Average Age	53.3	52.8	1.0%
Average Service	22.0	21.3	3.4%	Average Service	13.3	12.3	8.0%
Average Appropriation Pay	\$ 59,424	\$ 57,226	3.8%	Average Appropriation Pay	\$ 48,227	\$ 45,505	6.0%
Total Appropriation Payroll	\$ 3,845,628,038	\$ 4,078,209,547	-5.7%	Total Appropriation Payroll	\$ 341,301,240	\$ 347,108,739	-1.7%
Tier 3				Tier 4			
Count	4,473	4,812	-7.0%	Count	2,102	2,218	-5.2%
Average Age	52.0	51.4	1.2%	Average Age	50.0	49.1	1.9%
Average Service	11.8	10.8	9.1%	Average Service	10.6	9.7	10.2%
Average Appropriation Pay	\$ 51,723	\$ 49,074	5.4%	Average Appropriation Pay	\$ 58,792	\$ 55,949	5.1%
Total Appropriation Payroll	\$ 231,358,541	\$ 236,145,648	-2.0%	Total Appropriation Payroll	\$ 123,579,879	\$ 124,094,265	-0.4%
Tier 5				Total			
Count	60,305	56,834	6.1%	Count	138,672	142,757	-2.9%
Average Age	43.4	42.9	1.3%	Average Age	50.7	50.8	-0.1%
Average Service	4.3	3.8	13.8%	Average Service	13.4	13.3	0.5%
Average Appropriation Pay	\$ 46,896	\$ 44,741	4.8%	Average Appropriation Pay	\$ 53,146	\$51,335	3.5%
Total Appropriation Payroll	\$ 2,828,040,570	\$ 2,542,835,075	11.2%	Total Appropriation Payroll	\$ 7,369,908,268	\$7,328,393,274	0.6%

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.

Membership Information, *continued*

**Table A-3
 Contributing Active Member Data by Tier
 Total**

	July 1, 2021	July 1, 2020	% Change		July 1, 2021	July 1, 2020	% Change
Tier 1				Tier 2			
Count	98,142	107,373	-8.6%	Count	9,785	10,518	-7.0%
Average Age	56.1	55.8	0.6%	Average Age	52.2	51.7	1.0%
Average Service	22.1	21.4	3.2%	Average Service	13.3	12.3	8.1%
Average Appropriation Pay	\$ 65,921	\$ 63,874	3.2%	Average Appropriation Pay	\$ 53,591	\$ 50,938	5.2%
Total Appropriation Payroll	\$ 6,469,645,851	\$ 6,858,388,358	-5.7%	Total Appropriation Payroll	\$ 524,390,581	\$ 535,767,579	-2.1%
Tier 3				Tier 4			
Count	6,334	6,799	-6.8%	Count	3,444	3,625	-5.0%
Average Age	51.0	50.4	1.3%	Average Age	48.9	48.1	1.7%
Average Service	11.8	10.8	9.1%	Average Service	10.6	9.6	10.4%
Average Appropriation Pay	\$ 56,280	\$ 53,602	5.0%	Average Appropriation Pay	\$ 63,461	\$ 60,727	4.5%
Total Appropriation Payroll	\$ 356,480,553	\$ 364,437,687	-2.2%	Total Appropriation Payroll	\$ 218,558,982	\$ 220,135,504	-0.7%
Tier 5				Total			
Count	86,522	82,216	5.2%	Count	204,227	210,531	-3.0%
Average Age	42.7	42.1	1.5%	Average Age	50.0	49.9	0.1%
Average Service	4.4	3.8	14.5%	Average Service	13.7	13.5	0.8%
Average Appropriation Pay	\$ 50,617	\$ 48,497	4.4%	Average Appropriation Pay	\$ 58,506	\$ 56,837	2.9%
Total Appropriation Payroll	\$ 4,379,506,372	\$ 3,987,193,424	9.8%	Total Appropriation Payroll	\$ 11,948,582,339	\$ 11,965,922,552	-0.1%

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.

Membership Information, *continued*

Table A-4 Non-Contributing Active Member Data by Tier¹						
	State		Local Employers		Total	
	July 1, 2021	July 1, 2020	July 1, 2021	July 1, 2020	July 1, 2021	July 1, 2020
Tier 1						
Count	5,081	5,369	14,839	15,391	19,920	20,760
Average Age	59.7	58.8	63.0	62.3	62.1	61.4
Accumulated Deductions with Interest	\$ 362,019,014	\$ 358,212,648	\$ 660,497,016	\$ 646,686,499	\$ 1,022,516,030	\$ 1,004,899,147
Tier 2						
Count	376	339	1,403	1,265	1,779	1,604
Average Age	54.6	52.6	56.9	56.2	56.4	55.4
Accumulated Deductions with Interest	\$ 15,299,813	\$ 11,585,223	\$ 31,421,546	\$ 23,643,341	\$ 46,721,359	\$ 35,228,564
Tier 3						
Count	241	257	810	779	1,051	1,036
Average Age	51.9	49.2	55.9	54.7	54.9	53.3
Accumulated Deductions with Interest	\$ 9,307,941	\$ 8,275,043	\$ 18,182,028	\$ 13,906,873	\$ 27,489,969	\$ 22,181,916
Tier 4						
Count	101	121	261	247	362	368
Average Age	48.5	47.2	50.0	49.5	49.6	48.8
Accumulated Deductions with Interest	\$ 3,562,410	\$ 3,960,771	\$ 7,071,148	\$ 5,117,441	\$ 10,633,558	\$ 9,078,212
Tier 5						
Count	3,637	3,245	9,985	9,232	13,622	12,477
Average Age	38.9	37.5	39.7	39.0	39.5	38.6
Accumulated Deductions with Interest	\$ 36,696,979	\$ 29,675,394	\$ 77,254,024	\$ 63,770,152	\$ 113,951,003	\$ 93,445,546
Total						
Count	9,436	9,331	27,298	26,914	36,734	36,245
Average Age	51.2	50.7	53.4	53.6	52.9	52.9
Accumulated Deductions with Interest	\$ 426,886,157	\$ 411,709,079	\$ 794,425,762	\$ 753,124,306	\$ 1,221,311,919	\$ 1,164,833,385

Includes 183 and 876 deferred beneficiaries for State and Local employers, respectively, for 2021.

Accumulated deductions with interest as reported by DPB.

Membership Information, continued

Table A-5 Inactive Member Data by Status¹						
	July 1, 2021			July 1, 2020		
	State	Local Employers	Total	State	Local Employers	Total
Retirees						
Count	51,659	105,744	157,403	50,974	103,974	154,948
Annual Retirement Allowances	\$ 1,580,380,612	\$ 2,101,663,102	\$ 3,682,043,714	\$ 1,532,335,609	\$ 2,019,070,867	\$ 3,551,406,476
Average Retirement Allowance	\$ 30,593	\$ 19,875	\$ 23,392	\$ 30,061	\$ 19,419	\$ 22,920
Beneficiaries						
Count	4,897	11,541	16,438	4,714	11,193	15,907
Annual Retirement Allowances	\$ 88,181,040	\$ 154,455,891	\$ 242,636,931	\$ 84,045,216	\$ 147,409,696	\$ 231,454,912
Average Retirement Allowance	\$ 18,007	\$ 13,383	\$ 14,761	\$ 17,829	\$ 13,170	\$ 14,551
Ordinary Disability						
Count	4,468	7,707	12,175	4,581	7,971	12,552
Annual Retirement Allowances	\$ 92,238,384	\$ 133,716,763	\$ 225,955,147	\$ 93,954,271	\$ 137,285,451	\$ 231,239,722
Average Retirement Allowance	\$ 20,644	\$ 17,350	\$ 18,559	\$ 20,510	\$ 17,223	\$ 18,423
Accidental Disability						
Count	511	845	1,356	514	854	1,368
Annual Retirement Allowances	\$ 16,044,417	\$ 24,534,981	\$ 40,579,398	\$ 16,083,781	\$ 24,633,270	\$ 40,717,051
Average Retirement Allowance	\$ 31,398	\$ 29,035	\$ 29,926	\$ 31,291	\$ 28,845	\$ 29,764
In-Pay Total						
Count	61,535	125,837	187,372	60,783	123,992	184,775
Annual Retirement Allowances	\$ 1,776,844,453	\$ 2,414,370,737	\$ 4,191,215,190	\$ 1,726,418,877	\$ 2,328,399,284	\$ 4,054,818,161
Average Retirement Allowance	\$ 28,875	\$ 19,186	\$ 22,368	\$ 28,403	\$ 18,779	\$ 21,945
Deferred Vested Members						
Count	186	537	723	213	664	877
Annual Retirement Allowances	\$ 3,165,564	\$ 5,923,740	\$ 9,089,304	\$ 3,560,016	\$ 7,292,832	\$ 10,852,848
Average Retirement Allowance	\$ 17,019	\$ 11,031	\$ 12,572	\$ 16,714	\$ 10,983	\$ 12,375

QDRO benefits included with member records for valuation purposes.

Membership Information, continued

Table A-6 Reconciliation of Plan Membership from July 1, 2020 to July 1, 2021								
	Contributing Actives	Non- Contributing Actives	Deferred Beneficiaries	Deferred Vested	Retired	Disabled	Beneficiaries	Total
1. July 1, 2020	210,531	36,245	0	877	154,948	13,920	15,907	432,428
2. Additions								
a. New entrants	11,202	1,119						12,321
b. Data updates	104	33			26	4	299	466
c. Total	<u>11,306</u>	<u>1,152</u>	<u>0</u>	<u>0</u>	<u>26</u>	<u>4</u>	<u>299</u>	<u>12,787</u>
3. Reductions								
a. Withdrawal/Certain Period End	(2,232)	(6,353)		(4)			(1)	(8,590)
b. Died without beneficiary	(413)	(278)		(2)	(5,017)	(578)	(962)	(7,250)
c. Data updates	(137)	(120)						(257)
d. Total	<u>(2,782)</u>	<u>(6,751)</u>	<u>0</u>	<u>(6)</u>	<u>(5,017)</u>	<u>(578)</u>	<u>(963)</u>	<u>(16,097)</u>
4. Changes in Status								
a. Contributing Actives	(8,969)	8,969						0
b. Non-Contributing Actives	1,858	(1,854)		(4)				0
c. Deferred Vested	(8)	(47)		55				0
d. Retired	(7,544)	(791)		(198)	8,471			(62)
e. Disabled	(132)	(181)		(1)	(2)	316		0
f. Died with beneficiary	(33)	(1,067)	1,059		(1,023)	(131)	1,195	0
g. Total	<u>(14,828)</u>	<u>5,029</u>	<u>1,059</u>	<u>(148)</u>	<u>7,446</u>	<u>185</u>	<u>1,195</u>	<u>(62)</u>
5. July 1, 2021	204,227	35,675	1,059	723	157,403	13,531	16,438	429,056

QDRO benefits included with member records for valuation purposes.

Reflects all records for multiple members, which are members employed by more than one PERS-participating employer at the same time.
 The decreases due to Changes in Status occur when active records for multiple members are combined into a single retiree record.

ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Investment Rate of Return** 7.00% per annum, compounded annually.
- 2. Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.
- 3. Interest Crediting Rate on Accumulated Deductions** 7.00% per annum, compounded annually. Interest credits are assumed to end upon termination.
- 4. Cost-of-Living Adjustments (COLAs)** No future COLAs are assumed. Previously granted COLAs are included in the data.
- 5. Salary Increases** Salary increases vary by years of service and time period. Annual salary increases are shown below.

Salary Increases		
Years of Service	Period Ending June 30, 2026	Ultimate Period
0	6.00%	7.00%
1	6.00	7.00
2	5.75	6.75
3	5.50	6.50
4	5.00	6.00
5	4.75	5.75
6	4.50	5.50
7	4.25	5.25
8	4.00	5.00
9	3.80	4.80
10	3.60	4.60
11	3.40	4.40

Salary Increases		
Years of Service	Period Ending June 30, 2026	Ultimate Period
12	3.20%	4.20%
13	3.00	4.00
14	2.90	3.90
15	2.80	3.80
16	2.70	3.70
17-21	2.60	3.60
22	2.50	3.50
23-25	2.40	3.40
26	2.30	3.30
27	2.20	3.20
28	2.10	3.10
29+	2.00	3.00

Salary increases are assumed to occur on July 1.

- 6. 401 (a)(17) Pay Limit** \$290,000 in 2021 increasing 2.75% per annum, compounded annually.
- 7. Social Security Wage Base** \$142,800 in 2021 increasing 3.25% per annum, compounded annually.

Actuarial Assumptions and Methods, continued

8. Termination Termination rates are shown separately for members electing a refund of contributions and members electing deferred annuity.

Termination rates for members electing a refund of contributions are as follows:

Termination Rates for Members Electing A Refund				
Service	State		Local Employers	
	Less Than 31 Years Old	31 Years or Older	Less Than 31 Years Old	31 Years or Older
0	23.00%	11.00%	21.00%	12.00%
1	23.00	11.00	21.00	12.00
2	12.00	8.00	16.00	9.00
3	11.00	7.00	15.00	8.00
4	10.50	6.00	13.00	7.00
5	10.00	6.00	12.00	7.00
6	7.50	6.00	10.00	6.50
7	7.50	5.00	9.00	5.50
8	7.50	4.50	9.00	5.00
9	7.50	3.50	6.50	4.00
10	1.70	1.70	1.70	1.70
11	1.50	1.50	1.50	1.50
12	1.10	1.10	1.40	1.40

Termination Rates for Members Electing A Refund				
Service	State		Local Employers	
	Less Than 31 Years Old	31 Years or Older	Less Than 31 Years Old	31 Years or Older
13	1.10%	1.10%	1.20%	1.20%
14	0.70	0.70	1.10	1.10
15	0.60	0.60	0.90	0.90
16	0.60	0.60	0.80	0.80
17	0.60	0.60	0.70	0.70
18	0.50	0.50	0.60	0.60
19	0.50	0.50	0.60	0.60
20	0.50	0.50	0.50	0.50
21	0.50	0.50	0.50	0.50
22	0.40	0.40	0.50	0.50
23	0.40	0.40	0.40	0.40
24-29	0.30	0.30	0.30	0.30

No termination is assumed after attainment of retirement eligibility.

Termination rates for members electing a deferred annuity are as follows:

Termination Rates for Members Electing a Deferred Annuity		
Service	State	Local Employers
<10	N/A	N/A
10	1.60%	1.80%
11	1.60	1.80
12	1.20	1.70
13	1.20	1.60
14	1.00	1.50
15	0.90	1.40
16	0.90	1.30

No termination is assumed after attainment of retirement eligibility.

Termination Rates for Members Electing a Deferred Annuity		
Service	State	Local Employers
17	0.80%	1.20%
18	0.80	1.10
19	0.80	1.00
20	0.80	1.00
21	0.70	0.90
22	0.50	0.80
23	0.50	0.80
24	0.40	0.70

Actuarial Assumptions and Methods, *continued*

9. Disability

Ordinary disability rates are as follows:

Ordinary Disability Rates					
Age	State	Local Employers	Age	State	Local Employers
25	0.100%	0.200%	50	0.380%	0.390%
26	0.110	0.200	51	0.395	0.405
27	0.120	0.200	52	0.410	0.420
28	0.130	0.200	53	0.425	0.435
29	0.140	0.200	54	0.440	0.450
30	0.150	0.205	55	0.455	0.460
31	0.160	0.210	56	0.470	0.470
32	0.170	0.215	57	0.485	0.480
33	0.180	0.220	58	0.500	0.490
34	0.190	0.225	59	0.515	0.500
35	0.205	0.230	60	0.530	0.510
36	0.220	0.235	61	0.545	0.520
37	0.235	0.240	62	0.560	0.530
38	0.250	0.245	63	0.575	0.540
39	0.265	0.250	64	0.590	0.550
40	0.275	0.260	65	0.605	0.560
41	0.285	0.270	66	0.620	0.570
42	0.295	0.280	67	0.635	0.580
43	0.305	0.290	68	0.650	0.590
44	0.315	0.300	69	0.665	0.600
45	0.325	0.315	70	0.675	0.615
46	0.335	0.330	71	0.685	0.630
47	0.345	0.345	72	0.695	0.645
48	0.355	0.360	73	0.705	0.660
49	0.365	0.375	74	0.715	0.675

Accidental disability rates are assumed to be 0.02% for all State members and 0.03% for all Local employers' members.

Ordinary disability rates apply upon attainment of 10 years of service and continue through the ultimate retirement age.

Members are assumed to receive the greater of the applicable disability benefit or the early or service retirement benefit, depending on eligibility.

Tier 4 and Tier 5 Members are not eligible for the Ordinary or Accidental Disability benefits but the disability rates still apply. Such members terminating under the disability decrement are assumed to separate from service and elect a Deferred Retirement benefit.

Actuarial Assumptions and Methods, continued

10. Mortality

Pre-Retirement Mortality: The Pub-210 General Below-Median Income Employee Mortality table [*PubG-2010(B) Employee*] as published by the Society of Actuaries with an 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year 2010 on a generational basis using SOA's Scale MP-2018.

All pre-retirement deaths are assumed to be ordinary deaths.

Healthy Retirees and Beneficiaries (Healthy Annuitants): The Pub-2010 General Below-Median Income Healthy Retiree mortality table [*PubG-2010(B) Healthy Retiree*] as published by the Society of Actuaries with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year 2010 on a generational basis using SOA's Scale MP-2018.

11. Retirement

Retirement rates for State Tier 1-4 members are as follows:

State Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
<49	N/A	3.50%	2.00%
49	N/A	3.50	2.00
50	N/A	3.50	3.50
51	N/A	3.50	3.50
52	N/A	6.00	4.25
53	N/A	6.00	5.50
54	N/A	7.00	6.75
55	N/A	17.50	18.00
56	N/A	17.50	15.00
57	N/A	17.50	14.00
58	N/A	20.00	14.00
59	N/A	20.00	14.00
60	5.00	20.00	17.00
61	5.00	30.00	17.00

State Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
62	8.00%	36.50%	27.00%
63	8.00	36.50	24.00
64	8.00	36.50	21.00
65	12.00	44.00	25.00
66	17.00	55.00	30.00
67	16.00	50.00	26.00
68	15.00	47.00	23.00
69	15.00	47.00	23.00
70	15.00	47.00	26.00
71	15.00	47.00	23.00
72	15.00	47.00	21.00
73	15.00	47.00	21.00
74	15.00	47.00	21.00
75	100.00	100.00	100.00

Rates apply upon retirement eligibility by tier.

Actuarial Assumptions and Methods, continued

Retirement rates for Local Employers Tiers 1-4 members are as follows:

Local Employers Tiers 1-4 Retirement Rates			
Age	Less Than 25 Years of Service	25 Years of Service	26 or More Years of Service
<49	N/A	3.00%	2.25%
49	N/A	3.00	3.00
50	N/A	3.50	3.50
51	N/A	4.25	3.75
52	N/A	4.75	3.75
53	N/A	7.00	5.00
54	N/A	7.00	6.00
55	N/A	15.00	15.00
56	N/A	17.00	13.00
57	N/A	18.00	12.00
58	N/A	18.00	12.00
59	N/A	18.00	12.00
60	4.50	18.00	14.00
61	4.50	18.00	14.00
62	7.50	34.00	25.00
63	7.50	34.00	22.00
64	7.50	34.00	20.00
65	11.00	35.00	20.00
66	15.00	43.00	26.00
67	14.00	40.00	26.00
68	13.00	40.00	22.00
69	13.00	37.00	22.00
70	13.00	37.00	24.00
71	13.00	37.00	24.00
72	13.00	37.00	20.00
73	13.00	37.00	20.00
74	13.00	37.00	20.00
75	100.00	100.00	100.00

Rates apply upon retirement eligibility by tier.

Actuarial Assumptions and Methods, continued

Retirement rates for State Tier 5 members are as follows:

State Tier 5 Retirement Rates					
Age	Less Than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
<49	N/A	N/A	N/A	3.50%	2.00%
49	N/A	N/A	N/A	3.50	2.00
50	N/A	N/A	N/A	3.50	3.50
51	N/A	N/A	N/A	3.50	3.50
52	N/A	N/A	N/A	6.00	4.25
53	N/A	N/A	N/A	6.00	5.50
54	N/A	N/A	N/A	7.00	6.75
55	N/A	N/A	N/A	17.50	18.00
56	N/A	N/A	N/A	17.50	15.00
57	N/A	N/A	N/A	17.50	14.00
58	N/A	N/A	N/A	20.00	14.00
59	N/A	N/A	N/A	20.00	14.00
60	N/A	N/A	N/A	20.00	17.00
61	N/A	N/A	N/A	30.00	17.00
62	N/A	N/A	N/A	36.50	27.00
63	N/A	N/A	N/A	36.50	24.00
64	N/A	N/A	N/A	36.50	21.00
65	12.00	44.00	44.00	44.00	25.00
66	17.00	55.00	30.00	30.00	30.00
67	16.00	50.00	26.00	26.00	26.00
68	15.00	47.00	23.00	23.00	23.00
69	15.00	47.00	23.00	23.00	23.00
70	15.00	47.00	26.00	26.00	26.00
71	15.00	47.00	23.00	23.00	23.00
72	15.00	47.00	21.00	21.00	21.00
73	15.00	47.00	21.00	21.00	21.00
74	15.00	47.00	21.00	21.00	21.00
75	100.00	100.00	100.00	100.00	100.00

Actuarial Assumptions and Methods, *continued*

Retirement rates for Local employers Tier 5 members are as follows:

Local Employers Tier 5 Retirement Rates					
Age	Less Than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
<49	N/A	N/A	N/A	3.00%	2.25%
49	N/A	N/A	N/A	3.00	3.00
50	N/A	N/A	N/A	3.50	3.50
51	N/A	N/A	N/A	4.25	3.75
52	N/A	N/A	N/A	4.75	3.75
53	N/A	N/A	N/A	7.00	5.00
54	N/A	N/A	N/A	7.00	6.00
55	N/A	N/A	N/A	15.00	15.00
56	N/A	N/A	N/A	17.00	13.00
57	N/A	N/A	N/A	18.00	12.00
58	N/A	N/A	N/A	18.00	12.00
59	N/A	N/A	N/A	18.00	12.00
60	N/A	N/A	N/A	18.00	14.00
61	N/A	N/A	N/A	18.00	14.00
62	N/A	N/A	N/A	34.00	25.00
63	N/A	N/A	N/A	34.00	22.00
64	N/A	N/A	N/A	34.00	20.00
65	11.00	35.00	35.00	35.00	20.00
66	15.00	43.00	26.00	26.00	26.00
67	14.00	40.00	26.00	26.00	26.00
68	13.00	40.00	22.00	22.00	22.00
69	13.00	37.00	22.00	22.00	22.00
70	13.00	37.00	24.00	24.00	24.00
71	13.00	37.00	24.00	24.00	24.00
72	13.00	37.00	20.00	20.00	20.00
73	13.00	37.00	20.00	20.00	20.00
74	13.00	37.00	20.00	20.00	20.00
75	100.00	100.00	100.00	100.00	100.00

Retirement rates for members of Prosecutors Part (Chapter 366, P.L. 2001) are as follows:

- Members with less than 25 years of service: 6.0% for all ages,
- Members with 25 years of service: 50.0% for all ages,
- Members with 26 or more years of service: 25.0% for all ages.

Rates apply upon retirement eligibility. 100% retirement is assumed at age 70.

Actuarial Assumptions and Methods, continued

Retirement rates for members of WCJ Part (Chapter 140, P.L. 2021) are as follows:

Age	Less Than 15 Years of WCJ Part Service	15-19 Years of WCJ Part Service	20 or more Years of WCJ Part Service
<60	0.0%	0.0%	0.0%
60	2.0	5.0	20.0
61	2.0	5.0	20.0
62	2.0	5.0	20.0
63	2.0	5.0	20.0
64	2.0	5.0	20.0
65	2.0	40.0	30.0
66	2.0	50.0	20.0
67	2.0	60.0	20.0
68	2.0	60.0	20.0
69	2.0	60.0	20.0
70	100.0	100.0	100.0

12. Family Composition Assumptions

For members not currently in receipt, 100% of members are assumed married to spouses of the opposite sex. Males are assumed to be three years older than females.

For purposes of the optional form of payment death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member's spouse of the opposite sex with males assumed to be three years older than females.

No additional dependent children or parents are assumed.

13. Form of Payment

Current active members are assumed to elect the Maximum Option.

14. Non-Contributory Group Insurance Benefit Form of Payment

All benefits are assumed to be paid as lump sums.

15. Data

All non-contributing members and deferred beneficiaries are included in the valuation with a liability based on the reported Accumulated Deductions with interest (Annuity Savings Fund or ASF), adjusted to include interest through the valuation date.

Per discussions with DPB, the statuses for active records in Locations 4 - 7 (General Assembly and Senate) are based on changes in service instead of the contribution code.

For current beneficiaries with incomplete information, reasonable assumptions were made based on information available in prior years.

Inactive participants receiving benefits according to the 2020 data but omitted from the 2021 data are assumed to have died without a beneficiary.

Tier 4 and 5 members on long-term disability appeared on the active data for the first time in 2019. The number of members on long-term disability is immaterial for valuation purposes. Therefore, we valued these

Actuarial Assumptions and Methods, continued

- members as regular contributing and non-contributing members while we gain clarity on what happens with these members.
- 16. Rationale for Assumptions** The demographic and economic assumptions used in this report, except for the investment return assumption, reflect the results of the July 1, 2014 - June 30, 2018 Experience Study which was approved by the Board of Trustees on February 19, 2020. The investment return assumption was recommended by the State Treasurer.
- 17. Changes in Assumptions since Last Valuation** The discount rate was decreased from 7.30% to 7.00%.
The interest crediting rate on accumulated deductions was decreased from 7.30% to 7.00% per annum, compounded annually.
In conjunction with Chapter 140, P.L. 2021, the assumed retirement rates for members in the WCJ Part of PERS were revised to match the assumed retirement rates used in the Judicial Retirement System of New Jersey (JRS) July 1, 2021 Actuarial Valuation Report. The JRS retirement rates are appropriate for this purpose because of the similarity between WCJ and JRS retirement benefits.

B. Projection Assumptions

- 1. Investment Rate of Return** July 1, 2022 and later valuations: 7.00% per annum, compounded annually.
- 2. Appropriation Percentages** The State is assumed to appropriate 100% of the Statutory contribution in FYE 2023, and each year thereafter.
- 3. Administrative Expenses** The actual administrative expenses paid in FYE 2021 are assumed to increase by 2.75% per annum, compounded annually.
- 4. New Entrants**
- Contributing active population assumed to remain at 2021 levels.
 - Assumed to join mid-year.
 - Age/sex distributions based on the last three years of new hires.
 - Salary based on salary for most recent hires reported on 2021 data.
 - New entrant salary assumed to increase with the salary increase rates applicable for members with 29 or more years of service.
- 5. Demographic Assumptions** Same as those used for valuation purposes.
- 6. Projection Basis** This report includes projections of future assets, liabilities, funded status and contributions for the purpose of assisting the Board of Trustees with the management of the System.
The projections are based on the same census data and financial information as of July 1, 2021 which has been used for the actuarial valuation. The projections assume continuation of the plan provision and actuarial assumptions in effect as of July 1, 2021 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2021 unless otherwise indicated. While the assumptions individually are reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate.
The projections are based on our proprietary model *PScan* developed by our firm that utilizes the results shown

Actuarial Assumptions and Methods, continued

in this valuation report. The projections assume that all future assumptions are met except where indicated with respect to future investment returns and demographic assumptions. The future outcomes become increasingly uncertain over time, and therefore the general trends and not the absolute values should be considered in the review of these projections.

C. Actuarial Methods

The actuarial methods used for determining State and Local employers' contributions are described below.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits linearly allocated to periods prior to the valuation year based on service (WCJ Part Service for members in the WCJ Part). Refunds are valued as the reported Accumulated Deductions with interests of the valuation date. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30 year period.
- Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over a closed 30 -year period (i.e., for each subsequent actuarial valuation the amortization period shall decrease by one year).
- Beginning with the July 1, 2029 actuarial valuation, when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20 year amortization period.

Certain portions of the normal cost and unfunded actuarial liabilities attributable to Local employers are payable by the State and/or over different periods in accordance with the NJ State Statutes.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the actuarially determined contribution, any existing unfunded accrued liability may not be fully amortized in the future.

The non-contributory group life insurance benefit is funded separately through a term cost.

2. Asset Valuation Method

For the purposes of determining contribution rates, an actuarial value of assets is used that dampens the volatility in the market value of assets, resulting in a smoother pattern of contributions.

The actuarial value of assets is adjusted to reflect actual contributions, benefit payments and administrative expenses, and an assumed rate of return on the previous year's assets and current year's cash flow at the prior year's actuarial valuation interest rate, with a further adjustment to reflect 20% of the difference between the resulting value and the actual market value of Plan assets.

3. Contributions

Chapter 83, P.L. 2016 requires the State to make pension contributions on a quarterly basis in each fiscal year according to the following schedule: at least 25 percent by September 30, at least 50 percent by December 31, at least 75 percent by March 31, and at least 100

Actuarial Assumptions and Methods, continued

percent by June 30. As such, contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date, with the exception of the FYE 2022 contribution. For FYE 2022 only, we assumed that the entire contribution was made in a single payment on July 1, 2021 based on information provided by the DPB.

Local employers' contributions are expected to be paid on April 1st, 21 months after the associated valuation date.

The Board of Trustees adopted a three-year phase-in of Local employers' contribution increase due to assumption changes from July 1, 2014 - June 30, 2018 Experience Study, first effective in the July 1, 2019 valuation and the associated FYE 2021 contribution. The impact will be fully phased-in by the FYE 2023 contribution.

Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act allows PERS to receive 21.02% of the proceeds of the Lottery Enterprise, based upon its members' past or present employment in schools and institutions in the State for a term of 30 years. Revenues from Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, are assumed to be contributed to the trust on a monthly basis. The State's pension contribution is reduced by the product of the allocable percentage for the PERS, the adjustment percentage, and the special asset adjustment.

Contributions payable in the fiscal year starting on the valuation date are included in the actuarial value of assets as receivable contributions, discounted by the applicable valuation interest rate.

Legislation has provided for additional benefits and/or funding requirements which are included in this valuation and are described as follows.

Early Retirement Incentive Programs

Local employers which elected to participate in various early retirement incentive programs authorized by NJ Statute make contributions to cover the cost of these programs over amortization periods elected by the employer to the extent permitted by NJ Statute.

Chapter 133, P.L. 2001

Chapter 133, P.L. 2001 increased the accrual rate from 1/60 to 1/55. In addition, it lowered the age required for a veteran benefit equal to 1/55 of highest 12-month Compensation for each Year of Service from 60 to 55.

Chapter 133, P.L. 2001 also established the Benefit Enhancement Fund (BEF) to fund the additional annual employer normal contribution due to the Statute's increased benefits. (Chapter 353, P.L. 2001 extended this coverage to this Statute's additional annual employer normal contribution.) If the assets in the BEF are insufficient to cover the normal contribution for the increased benefits for a valuation period, the State will pay such amount for both the State and Local employers. As of July 1, 2021, there are no assets in the BEF.

Chapter 259, P.L. 2001

Chapter 259, P.L. 2001 established the Workers' Compensation Judges Part of the System with special retirement benefits for Workers' Compensation Judges. See Appendix C for details.

In accordance with the provisions of Chapter 259, P.L. 2001, the additional contributions for these special retirement benefits will be funded by transfers from the Second Injury Fund.

Chapter 366, P.L. 2001

Chapter 366, P.L. 2001 established the Prosecutors Part of the System with special retirement benefits for Prosecutors. See Appendix C for details.

Chapter 366, P.L. 2001 also requires the State be liable for any increase in pension costs to a County that results from the enrollment of Prosecutors in the Prosecutors Part. Any increase in the unfunded actuarial liability arising from the benefits established for the Prosecutors Part are to be amortized over a closed 30 year period.

Actuarial Assumptions and Methods, continued**Chapter 19, P.L. 2009**

Chapter 19, P.L. 2009 provided that the State Treasurer will reduce for Local employers the normal and accrued liability contributions to 50 percent of the amount certified for fiscal year 2009. The remaining 50% of the contribution (unfunded liability) will be paid by the Local employers in level annual payments over a period of 15 years with the first payment due in the fiscal year ending June 30, 2012. The unfunded liability will be adjusted by the rate of return on the actuarial value of assets. The legislation also provided that a Local employer may pay 100% of the contribution for the fiscal year 2009. Such an employer will be credited with the full payment and any such amounts will not be included in their unfunded liability. In addition, certain Local employers who were eligible to defer 50% of their fiscal year 2009 pension contributions but instead paid 100% of the fiscal year 2009 pension contributions were permitted to defer 50% of their 2010 fiscal year pension contributions. The unfunded liability will be paid by these Local employers over a period of 15 years with the first payment due in the fiscal year ending June 30, 2012. The unfunded liability will be adjusted by the rate of return on the actuarial value of assets.

Chapter 140, P.L. 2021

Chapter 140, P.L. 2021 reopened the Worker's Compensation Judges (WCJ) Part of PERS and transferred WCJs from the Defined Contribution Retirement Program (DCRP) and the regular part of PERS into the WCJ Part of PERS.

The corresponding increase in the unfunded actuarial liability is amortized over a closed 20-year period. The additional unfunded actuarial liability contribution and the increased normal cost contribution will be paid by transfers from the Second Injury Fund (SIF).

4. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

5. Changes Since Last Valuation

Chapter 140, P.L. 2021 reopened the Worker's Compensation Judges (WCJ) Part of PERS and transferred WCJs from the Defined Contribution Retirement Program (DCRP) and the regular part of PERS. The corresponding increase in the unfunded actuarial liability is amortized over a closed 20-year period. The additional unfunded actuarial liability contribution and the increased normal cost contribution will be paid by transfers from the Second Injury Fund (SIF).

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the PERS used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 15A, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on plan provisions in effect as of July 1, 2021 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility for Membership

Employees of the State or any county, municipality, school district, or public agency employed on a regular basis in a position covered by Social Security and not required to be a member of any other State or local government retirement system. Certain exceptions apply.

- a) Class B (or Tier 1) Member: Any member hired prior to July 1, 2007.
- b) Class D (or Tier 2) Member: Any member hired on or after July 1, 2007 and before November 2, 2008.
- c) Class E (or Tier 3) Member: Any member hired after November 1, 2008 and before May 22, 2010.
- d) Class F (or Tier 4) Member: Any member hired after May 21, 2010 and before June 28, 2011.
- e) Class G (or Tier 5) Member: Any member hired on or after June 28, 2011.

The hiring, rehiring, retention, and benefits of certain public employees during the COVID-19 Public Health Emergency was modified under Executive Order No. 103 of 2020, as extended.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Years of Service

A year of service for each year an employee is a Member of the Retirement System plus service, if any, covered by a prior service liability. Tier 4 and Tier 5 Members must be scheduled to work at least 35 hours per week for the State or 32 hours per week for a Local employer. Tier 3, 4 and 5 Members must have an annual salary of \$7,500 (indexed for inflation) and other members must have an annual salary of \$1,500.

4. Compensation

Base salary upon which contributions by a Member to the Annuity Savings Fund were based. Chapter 113, P.L. 1997 provides that Compensation cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code. Chapter 103, P.L. 2007 provides that for a Tier 2, 3, 4 or 5 Member, Compensation cannot exceed the annual maximum wage contribution base for Social Security, pursuant to the Federal Insurance Contribution Act.

5. Final Compensation

The average annual compensation upon which contributions by a Member are made for the three consecutive years of service immediately preceding retirement, or the highest three fiscal years of service, if greater. Chapter 1, P. L. 2010 provides that for a Tier 4 or Tier 5 Member, Final Compensation is the average annual compensation upon which contributions by a Member are made for the five consecutive years of service immediately preceding retirement, or the highest five fiscal years of service, if greater.

6. Final Year Compensation

The compensation upon which contributions by a Member to the Annuity Savings Fund are based in the last year of service.

7. Accumulated Deductions

The sum of all amounts deducted from the compensation of a Member or contributed by the Member or on the Member's behalf without interest.

Summary of Plan Provisions, continued

8. Interest Credits on Accumulated Deductions

Members receive interest credits while contributing and for the first two years of inactivity. The rate depends on the type of benefit. Prior to July 1, 2018, members received interest credits for the entire period of inactivity until retirement or death.

9. Member Contributions

Each Member contributes a percentage of Compensation. Effective October 1, 2011, Chapter 78, P.L. 2011 set the member contribution rate at 6.5% and increased it by 1/7th of 1% each July thereafter until it attained an ultimate rate of 7.5% on July 1, 2018.

For members who are eligible to retire under the Prosecutors Part as provided by Chapter 366, P.L. 2001, Chapter 78, P.L. 2011 set the member contribution rate at 10.0%, effective October 1, 2011.

10. Benefits

a) Service Retirement: For a Tier 1 or Tier 2 Member, age 60. For a Tier 3 or Tier 4 Member, age 62. For a Tier 5 Member, age 65.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of:

- (1) For a Tier 1, 2 or 3 Member, 1/55 of Final Compensation for each Year of Service.
- (2) For a Tier 4 or 5 Member, 1/60 of Final Compensation for each Year of Service.

b) Early Retirement: Prior to eligibility for Service Retirement. For a Tier 1, 2, 3 or 4 Member, 25 Years of Service. For a Tier 5 Member, 30 Years of Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of:

- (1) For a Tier 1 Member, the Service Retirement benefit reduced by 1/4 of one percent for each month the retirement date precedes age 55.
- (2) For a Tier 2 Member, the Service Retirement benefit reduced by 1/12 of one percent for each month the retirement date precedes age 60 through age 55 and by 1/4 of one percent for each month the retirement date precedes age 55.
- (3) For a Tier 3 or 4 Member, the Service Retirement benefit reduced by 1/12 of one percent for each month the retirement date precedes age 62 through age 55 and by 1/4 of one percent for each month the retirement date precedes age 55.
- (4) For a Tier 5 Member, the Service Retirement benefit reduced by 1/4 of one percent for each month the retirement date precedes age 65.

c) Veteran Retirement: Age 55 with 25 Years of Service or Age 60 with 20 Years of Service for a qualified military veteran who retires directly from active service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the greater of:

- (1) 54.5% of highest 12-month Compensation, or
- (2) For a member who is at least age 55 with 35 Years of Service, 1/55 of highest 12-month Compensation for each Year of Service.

Veterans may receive a Service Retirement benefit if greater.

Summary of Plan Provisions, continued

d) Deferred Retirement: Termination of service prior to eligibility for Service Retirement with 10 Years of Service.

Benefit is either:

- (1) A refund of Accumulated Deductions plus, if the member has completed three years of service, interest accumulated at 2.0% per annum; or
- (2) A deferred life annuity, commencing at age 60 for a Tier 1 or Tier 2 Member, age 62 for a Tier 3 or Tier 4 Member, or age 65 for a Tier 5 Member, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the Service Retirement benefit based on Final Compensation and Years of Service at date of termination.

For Members who die during the deferral period, the benefit is a return of Accumulated Deductions with credited interest.

e) Non-Vested Termination: Termination of service prior to eligibility for Service Retirement and less than 10 Years of Service.

Benefit is a refund of Accumulated Deductions plus, if the member has completed three years of service, interest accumulated at 2.0% per annum.

f) Death Benefits

(1) Ordinary Death Before Retirement: Death of an active contributing Member. Benefit is equal to:

- a. Lump sum payment equal to 150% of Final Year Compensation, also known as the non-contributory group life insurance benefit, plus
- b. Accumulated Deductions with credited interest.

(2) Accidental Death Before Retirement: Death of an active Member resulting from injuries received from an accident during performance of duty and not a result of willful negligence. Benefit is equal to:

- a. Lump sum payment equal to 150% of Final Year Compensation, also known as the non-contributory group life insurance benefit, plus
- b. Spouse life annuity of 50% of Final Year Compensation payable until spouse's death or remarriage. If there is no surviving spouse or upon death or remarriage, a total of 20% (35%, 50%) of Final Year Compensation payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 25% (40%) of Final Year Compensation to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of Accumulated Deductions with credited interest.

(3) Death After Retirement: Death of a retired Member. Benefit is equal to:

- a. Lump sum payment equal to 3/16 of Final Year Compensation for a Member retired under Service, Early, Veteran or Deferred Retirement with 10 Years of Service. For a Member receiving a Disability benefit, lump sum payment of 150% of Final Year Compensation if death occurs prior to age 60 and 3/16 of Final Compensation if death occurs after age 60. This benefit is also known as the non-contributory group life insurance benefit, plus
- b. Any survivor benefit due under the Member's optional form of payment election. Previously granted COLAs also apply to life annuities.

Members are also eligible for a voluntary, employee-paid life insurance policy, known as the contributory group life insurance policy. This benefit is not paid through the System and is not considered for valuation purposes.

Summary of Plan Provisions, continued

g) Disability Retirement

- (1) Ordinary Disability Retirement: 10 years of service and totally and permanently incapacitated from the performance of normal or assigned duties. Only available to Tier 1, 2 and 3 members.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of:

- a. 1.64% of Final Compensation for each Year of Service; or
- b. 43.6% of Final Compensation.

- (2) Accidental Disability Retirement: Total and permanent incapacitation as a direct result of a traumatic event occurring during and as a result of the performance of regular or assigned duties. Under certain conditions for law enforcement officers or emergency medical technicians, regular or assigned duties may include the World Trade Center (WTC) rescue, recovery, or cleanup operations between September 11, 2001 and October 11, 2001. For such members who participated in the WTC rescue, recovery, or cleanup operations, the total and permanent disability may occur after retirement on a service retirement or an ordinary disability retirement. Only available to Tier 1, 2 and 3 Members.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 72.7% of Compensation at the date of injury.

The pension portion of the benefit will be offset for any periodic Workers' Compensation benefits.

Tier 4 and Tier 5 Members are eligible for long-term disability coverage. This benefit is not paid through the System and is not considered for valuation purposes. Both Member and employer contributions to the System continue while on long-term disability, with the policy covering the Member portion. The long-term disability benefit equals 60% of Final Year Compensation and may be offset for other periodic benefits, such as Workers' Compensation, short-term disability or Social Security. The long-term disability benefit may continue through the earlier of age 70 or commencement of a retirement benefit under the System.

11. Benefits for Special Employee Groups

Certain members qualify for enrollment into special employee groups. Such members receive the greater of the special benefits described below or the regular PERS benefit described above. For benefit types not explicitly mentioned, the regular PERS benefit applies.

a) Law Enforcement Officers (LEOs):

Members employed in eligible job titles as well as individuals who do not meet the age or medical requirements for entry into the Police and Firemen's Retirement System (PFRS).

- (1) Service and Special Retirement:

Mandatory retirement at age 65. Veterans with less than 20 Years of Service at age 65 must retire upon attainment of 20 Years of Service or age 70, whichever is earlier. Voluntary retirement prior to those ages.

- a. Service Retirement: Age 55 after 20 Years of LEO Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of Final Compensation for each Year of LEO Service up to 25 years plus 1% of Final Compensation for each Year of LEO Service over 25 years.

The Member is also eligible for a regular PERS benefit based on any non-LEO service.

- b. Special Retirement: 25 Years of LEO Service.

Benefit is the Service Retirement benefit plus 5% of Final Compensation with a maximum of 70% of Final Compensation.

Summary of Plan Provisions, continued

(2) Ordinary Disability Retirement: 5 Years of LEO Service.

Benefit is the regular PERS Ordinary Disability benefit.

(3) Death Benefits:

Benefit is the regular PERS Death benefit except, upon Accidental Disability Retirement, the minimum lump sum payment is \$5,000.

b) Legislative Retirement System (LRS):

Members of the State Legislature. Chapter 92, P.L. 2007 closed LRS to new members enrolled on or after July 1, 2007.

(1) Special Legislative Retirement: Age 60.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 3% of Final Compensation for each Year of Legislative Service with a maximum of two-thirds of Final Compensation.

The Member is also eligible for a regular PERS benefit based on any non-legislative service.

(2) Deferred Retirement: Termination of service prior to eligibility for Service or Special Legislative Retirement with 8 Years of Legislative Service.

Benefit is either:

- a. A refund of Accumulated Deductions plus, if the Member has completed three years of service, interest accumulated at 2.0% per annum; or
- b. A deferred life annuity, commencing at age 60, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the Service or Special Legislative Retirement benefit based on Final Compensation and Years of Service at date of termination.

c) Prosecutors Part (Chapter 366, P.L. 2001):

Covers prosecutors as well as members employed in certain other related job titles. Chapter 1. P.L. 2010 closed the Prosecutors Part to new members enrolled on or after May 22, 2010.

(1) Service and Special Retirement

Mandatory retirement at age 70. Voluntary retirement prior to that age.

In addition to the benefits described below, the member is eligible for a regular PERS benefit based on any non-Prosecutors Part service.

- a. Service Retirement: For a Prosecutors Part Member enrolled as of January 7, 2002, age 55 or 20 Years of Prosecutors Part Service. For a Prosecutors Part Member enrolled after January 7, 2002, age 55.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of the greater of:

- i. 2% of Final Year Compensation for each Year of Prosecutors Part Service up to 30 years plus 1% of Final Year Compensation for each Year of Prosecutors Part Service over 30 years.
- ii. 50% of Final Year Compensation for Prosecutors Part Members with 20 or more Years of Prosecutors Part Service.
- iii. 1/60 of Final Year Compensation for each Year of Prosecutors Part Service.

Summary of Plan Provisions, continued**b. Special Retirement: 25 Years of Prosecutors Part Service.**

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 65% of Final Year Compensation plus 1% of Final Year Compensation for each Year of Prosecutors Part Service in excess of 25 years with a maximum of 70% of Final Compensation.

(2) Deferred Retirement: Termination of service prior to eligibility for Service or Special Retirement with 10 Years of Prosecutors Part Service.

Benefit is either:

- a. A refund of Accumulated Deductions plus, if the Member has completed three years of service, interest accumulated at 2.0% per annum; or
- b. A deferred life annuity, commencing at age 55, comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of Final Year Compensation for each Year of Prosecutors Part Service.

(3) Death Benefits:

Benefit is the regular PERS Death benefit except, upon Service, Special or Deferred Prosecutors Part Retirement with 10 Years of Prosecutors Part Service, the lump sum payment equals 50% of Final Year Compensation.

d) Workers Compensation Judges Part (WCJ) (Chapter 259, P.L. 2001 and Chapter 140, P.L. 2021):

Member employed in an eligible job title by the Division of Workers' Compensation. Chapter 92, P.L. 2007 closed the Workers Compensation Judges Part to new members enrolled on or after July 1, 2007.

Chapter 140, P.L. 2021 reopened the Worker's Compensation Judges (WCJ) Part of PERS and transferred WCJs from the Defined Contribution Retirement program (DCRP) and the regular part of PERS into the WCJ Part of PERS.

(1) Service Retirement:

Mandatory retirement age 70. Voluntary retirement prior to that age.

- a. Age 70 and 10 Years of WCJ Service; or
Age 65 and 15 Years of WCJ Service; or
Age 60 and 20 Years of WCJ Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 75% of contractual Compensation at the date of retirement.

- b. Age 65, 5 consecutive Years of WCJ Service and 15 Years of Aggregate PERS Service; or
Age 60, 5 consecutive Years of WCJ Service and 20 Years of Aggregate PERS Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 50% of contractual Compensation at the date of retirement.

- c. Age 60, 5 consecutive Years of WCJ Service and 15 Years of Aggregate PERS Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years.

Summary of Plan Provisions, continued

d. Age 60.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of WCJ Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years.

(2) Early Retirement: Prior to eligibility for Service Retirement and 5 consecutive Years of WCJ Service and 25 Years of Aggregate PERS Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years, actuarially reduced for commencement prior to age 60.

(3) Deferred Retirement: Termination of service prior to eligibility for Service Retirement with 5 consecutive Years of WCJ Service and 10 Years of Aggregate PERS Service.

Benefit is either:

- a. A refund of Accumulated Deductions plus, if the Member has completed three years of service, interest accumulated at 2.0% per annum; or
- b. A deferred life annuity, commencing at age 60, comprised of a member annuity plus an employer pension which together with provide a total retirement allowance of 2% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service up to 25 years plus 1% of contractual Compensation at the date of retirement for each Year of Aggregate PERS Service over 25 years.

(4) Death Benefits

a. Before Retirement: Death of an active WCJ Member. Benefit is equal to:

- i. Lump sum equal to 150% of contractual Compensation at the date of death, plus
- ii. Spousal life annuity of 25% of contractual Compensation at the date of death payable until spouse's remarriage plus 10% (15%) to one (two or more) dependent child(ren). If there is no surviving spouse, or upon death or remarriage, a total of 15% (20%, 30%) of contractual Compensation at the date of death payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 20% (30%) of contractual Compensation at the date of death to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of Accumulated Deductions with interest.

b. After Retirement: Death of a retired WCJ Member. Benefit is equal to:

- i. Lump sum equal to 25% of contractual Compensation at the date of death for a Member retired under Service or Early WCJ Retirement with 10 Years of Aggregate PERS Service. For a Member receiving a Disability benefit, lump sum payment of 150% of contractual Compensation at the date of death if death occurs prior to age 60 and 25% of contractual Compensation at the date of death if death occurs after age 60. This benefit is known as the non-contributory group life insurance benefit, plus
- ii. Any survivor benefit due under the Member's optional form of payment election. Previously granted COLAs also apply to life annuities.

Summary of Plan Provisions, continued**12. Optional Forms of Payment**

The member may elect the following forms of payment:

- a) Maximum Option: Single life annuity with a return of the balance of the Accumulated Deductions with credited interest.
- b) Option 1: Single life annuity with a return of the balance of the initial reserve.
- c) Option 2: 100% joint and survivor annuity.
- d) Option 3: 50% joint and survivor annuity.
- e) Option 4: Other percentage joint and survivor annuity.
- f) Option A: 100% pop-up joint and survivor annuity.
- g) Option B: 75% pop-up joint and survivor annuity.
- h) Option C: 50% pop-up joint and survivor annuity.
- i) Option D: 25% pop-up joint and survivor annuity.

13. Cost-of-Living Adjustments

Also known as Pension Adjustments. Provided annually to retirees and survivors after 24 months of retirement prior to July 1, 2011. Chapter 78, P.L. 2011 eliminated future adjustments effective July 1, 2011. Adjustments may be reinstated in the future subject to certain conditions outlined in Chapter 78, P.L. 2011.

14. Changes in Plan Provisions Since Last Valuation

Chapter 140, P.L. 2021 reopened the Worker's Compensation Judges (WCJ) Part of PERS and transferred WCJs from the Defined Contribution Retirement Program (DCRP) and the regular part of PERS into the WCJ Part of PERS.

Chapter 115, P.L. 2020 modified the hiring, rehiring, retention, and benefits of certain public employees during the COVID-19 Public Health Emergency under Executive Order No. 103 of 2020, as extended.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

The information on the following tables for State and Local employers is based on the final actuarial valuation reports for the given years. The amounts do not reflect differences between the discounted State appropriations receivable and the actual State contribution amounts that became known after the issuance of the reports.

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we prepared the following schedules for the System. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Table D-1								
Schedule of Retirees and Beneficiaries								
Added to and Removed from Rolls								
State								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance¹	% Increase in Average Annual Allowance¹
	Number	Annual Allowance	Number¹	Annual Allowance	Number¹	Annual Allowance		
2021	2,975	\$ 98,190,097	2,223	\$48,208,424	61,535	\$ 1,776,844,453	\$ 28,875	1.66%
2020	3,127	99,862,605	2,193	45,081,368	60,783	1,726,418,877	28,403	1.72%
2019	3,232	103,191,557	1,939	40,171,452	59,849	1,671,166,694	27,923	1.70%
2018	3,217	102,255,260	2,281	45,351,461	58,556	1,607,733,796	27,456	1.25%
2017	3,267	104,489,121	1,479	29,655,761	57,174	1,550,464,743	27,118	1.83%
2016	3,515	109,122,538	2,203	40,303,068	55,386	1,474,917,885	26,630	2.45%
2015	4,114	124,446,887	1,754	32,905,541	54,074	1,405,596,194	25,994	2.33%
2014	3,183	93,940,693	1,696	30,809,304	51,714	1,313,713,988	25,403	2.06%
2013	2,864	82,357,835	1,685	29,723,562	50,227	1,250,142,686	24,890	1.96%
2012	3,192	92,356,665	1,734	29,433,960	49,048	1,197,305,307	24,411	2.52%

¹Beginning with the 2018 valuation, multiple members with benefits in receipt from both State and Local employers are included in State headcounts.

This change resulted in 446 more records on the rolls as of July 1, 2018. The annual allowance for these records was included for all years.

Historical Data and Required ACFR Exhibits, *continued*

Table D-2 Schedule of Retirees and Beneficiaries Added to and Removed from Rolls								
Local Employers								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance	% Increase in Average Annual Allowance
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance		
2021	7,336	\$ 167,060,350	5,491	\$ 81,935,010	125,837	\$ 2,414,370,737	\$ 19,186	2.17%
2020	7,078	157,358,396	5,729	81,347,000	123,992	2,328,399,284	18,779	2.30%
2019	7,199	158,384,725	4,748	65,855,298	122,643	2,251,384,758	18,357	2.24%
2018	7,272	151,992,839	5,537	76,519,975	120,192	2,157,906,233	17,954	2.17%
2017	7,444	155,525,527	3,725	50,460,932	118,457	2,081,607,680	17,573	2.04%
2016	7,856	159,065,854	5,681	72,658,490	114,738	1,975,865,848	17,221	2.65%
2015	7,870	149,903,333	4,309	54,707,095	112,563	1,888,507,678	16,777	2.02%
2014	7,003	137,416,194	4,288	52,540,322	109,002	1,792,563,653	16,445	2.40%
2013	6,911	123,953,479	4,169	49,483,971	106,287	1,706,902,310	16,059	1.90%
2012	7,334	137,596,316	4,284	49,626,477	103,545	1,631,782,901	15,759	2.70%

Table D-3 Schedule of Retirees and Beneficiaries Added to and Removed from Rolls								
Total								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance¹	% Increase in Average Annual Allowance¹
	Number	Annual Allowance	Number¹	Annual Allowance	Number¹	Annual Allowance		
2021	10,311	\$ 265,250,447	7,714	\$ 130,143,433	187,372	\$ 4,191,215,190	\$ 22,368	1.93%
2020	10,205	257,221,002	7,922	126,428,368	184,775	4,054,818,161	21,945	2.09%
2019	10,431	261,576,282	6,687	106,026,750	182,492	3,922,551,452	21,494	2.03%
2018	10,489	254,248,099	7,818	121,871,436	178,748	3,765,640,029	21,067	1.87%
2017	10,711	260,014,648	5,204	80,116,693	175,631	3,632,072,423	20,680	1.95%
2016	11,371	268,188,392	7,884	112,961,558	170,124	3,450,783,733	20,284	2.61%
2015	11,984	274,350,220	6,063	87,612,636	166,637	3,294,103,872	19,768	2.28%
2014	10,186	231,356,887	5,984	83,349,626	160,716	3,106,277,641	19,328	2.30%
2013	9,775	206,311,314	5,854	79,207,533	156,514	2,957,044,996	18,893	1.90%
2012	10,526	229,952,981	6,018	79,060,437	152,593	2,829,088,208	18,540	2.63%

¹Beginning with the 2018 valuation, multiple members with benefits in receipt from both State and Local employers are included in State headcounts.

This change resulted in 446 more records on the rolls as of July 1, 2018. The annual allowance for these records was included for all years.

Historical Data and Required ACFR Exhibits, continued

Table D-4 Schedule of Active Member Valuation Data					
State					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation²	Annual Average Compensation	% Increase in Average Annual Compensation	Number of Participating Employers³
2021	65,555	\$ 4,578,674,071	\$ 69,845	2.07%	282
2020	67,774	4,637,529,278	68,426	2.37%	283
2019	67,906	4,539,069,588	66,843	5.80%	286
2018	68,593	4,333,772,974	63,181	-0.45%	283
2017	68,156	4,325,784,579	63,469	-0.49%	N/A
2016	68,502	4,369,066,658	63,780	0.02%	N/A
2015	69,687	4,443,605,376	63,765	2.39%	N/A
2014	72,952	4,543,384,095	62,279	1.64%	N/A
2013	74,365	4,556,719,103	61,275	1.02%	N/A
2012	75,355	4,570,958,470	60,659	1.48%	N/A

¹ Beginning with the 2018 valuation, reflects all records for multiple members.

² Limited annual compensation.

³ Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

Table D-5 Schedule of Active Member Valuation Data					
Local Employers					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation²	Annual Average Compensation	% Increase in Average Annual Compensation	Number of Participating Employers³
2021	138,672	\$ 7,369,908,268	\$ 53,146	3.53%	1,659
2020	142,757	7,328,393,274	51,335	3.07%	1,663
2019	145,287	7,236,080,086	49,805	2.76%	1,664
2018	146,615	7,106,248,788	48,469	1.66%	1,670
2017	147,283	7,022,322,604	47,679	2.61%	N/A
2016	149,077	6,927,278,654	46,468	2.76%	N/A
2015	152,070	6,876,593,371	45,220	2.33%	N/A
2014	156,101	6,898,049,131	44,190	2.75%	N/A
2013	160,253	6,891,812,162	43,006	2.78%	N/A
2012	164,005	6,862,133,165	41,841	2.74%	N/A

¹ Beginning with the 2018 valuation, reflects all records for multiple members.

² Limited annual compensation.

³ Number of locations reporting contributing active members.

Historical Data and Required ACFR Exhibits, *continued*

Table D-6 Schedule of Active Member Valuation Data					
Total					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation²	Annual Average Compensation	% Increase in Average Annual Compensation	Number of Participating Employers³
2021	204,227	\$ 11,948,582,339	\$ 58,506	2.94%	1,941
2020	210,531	11,965,922,552	56,837	2.91%	1,946
2019	213,193	11,775,149,674	55,232	3.90%	1,950
2018	215,208	11,440,021,762	53,158	0.92%	1,953
2017	215,439	11,348,107,183	52,674	1.46%	N/A
2016	217,579	11,296,345,312	51,918	1.70%	N/A
2015	221,757	11,320,198,747	51,048	2.20%	N/A
2014	229,053	11,441,433,226	49,951	2.37%	N/A
2013	234,618	11,448,531,265	48,796	2.16%	N/A
2012	239,360	11,433,091,635	47,765	2.45%	N/A

¹ Beginning with the 2018 valuation, reflects nil records for multiple members.

² Limited annual compensation.

³ Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

Table D-7 Schedule of Funding Progress						
State						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 8,889,754,699	\$ 27,489,997,258	\$ 18,600,242,559	32.34%	\$ 4,578,674,071	406.24%
2020	8,045,759,732	26,285,137,008	18,239,377,276	30.61%	4,637,529,278	393.30%
2019	8,017,468,579	25,666,760,996	17,649,292,417	31.24%	4,539,069,588	388.83%
2018	8,057,092,909	23,745,716,631	15,688,623,722	33.93%	4,333,772,974	362.01%
2017	8,208,333,488	23,324,861,385	15,116,527,897	35.19%	4,325,784,579	349.45%
2016	8,466,901,791	22,411,751,124	13,944,849,333	37.78%	4,369,066,658	319.17%
2015	8,868,254,006	21,635,507,298	12,767,253,292	40.99%	4,443,605,376	287.32%
2014	9,128,235,998	20,842,690,918	11,714,454,920	43.80%	4,543,384,095	257.84%
2013	9,614,698,050	19,993,957,432	10,379,259,382	48.09%	4,556,719,103	227.78%
2012	9,774,698,097	19,383,584,639	9,608,886,542	50.43%	4,570,958,470	210.22%

¹ Includes receivable amounts. Excludes Special Asset Value.

² Limited annual compensation for contributing actives.

Historical Data and Required ACFR Exhibits, *continued*

Table D-8 Schedule of Funding Progress						
Local Employers						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 25,965,285,547	\$ 38,393,126,094	\$ 12,427,840,547	67.63%	\$ 7,369,908,268	168.63%
2020	24,424,654,983	36,410,100,750	11,985,445,767	67.08%	7,328,393,274	163.55%
2019	23,928,515,595	35,526,210,970	11,597,695,375	67.35%	7,236,080,086	160.28%
2018	23,264,877,618	33,103,627,533	9,838,749,915	70.28%	7,106,248,788	138.45%
2017	22,522,697,150	32,238,416,280	9,715,719,130	69.86%	7,022,322,604	138.35%
2016	21,900,421,798	30,673,935,604	8,773,513,806	71.40%	6,927,278,654	126.65%
2015	21,495,828,937	29,431,895,200	7,936,066,263	73.04%	6,876,593,371	115.41%
2014	20,766,663,796	28,255,077,220	7,488,413,424	73.50%	6,898,049,131	108.56%
2013	19,978,598,632	27,005,782,517	7,027,183,885	73.98%	6,891,812,162	101.96%
2012	19,376,646,934	26,009,038,341	6,632,391,407	74.50%	6,862,133,165	96.65%

¹Includes receivable amounts. Excludes Special Asset Value.

²Limited annual compensation for contributing actives.

Historical Data and Required ACFR Exhibits, *continued*

Table D-9 Schedule of Funding Progress						
Total						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Liability as % of Covered Payroll (c) / (d)
2021	\$34,855,040,246	\$ 65,883,123,352	\$ 31,028,083,106	52.90%	\$ 11,948,582,339	259.68%
2020	32,470,414,715	62,695,237,758	30,224,823,043	51.79%	11,965,922,552	252.59%
2019	31,945,984,174	61,192,971,966	29,246,987,792	52.21%	11,775,149,674	248.38%
2018	31,321,970,527	56,849,344,164	25,527,373,637	55.10%	11,440,021,762	223.14%
2017	30,731,030,638	55,563,277,665	24,832,247,027	55.31%	11,348,107,183	218.82%
2016	30,367,323,589	53,085,686,728	22,718,363,139	57.20%	11,296,345,312	201.11%
2015	30,364,082,943	51,067,402,498	20,703,319,555	59.46%	11,320,198,747	182.89%
2014	29,894,899,794	49,097,768,138	19,202,868,344	60.89%	11,441,433,226	167.84%
2013	29,593,296,682	46,999,739,949	17,406,443,267	62.96%	11,448,531,265	152.04%
2012	29,151,345,031	45,392,622,980	16,241,277,949	64.22%	11,433,091,635	142.05%

¹ Includes receivable amounts. Excludes Special Asset Value.

² Limited annual compensation for contributing actives.

Historical Data and Required ACFR Exhibits, continued

Table D-10							
Schedule of Funded Liabilities by Type (Solvency Test)							
State							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets³	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions¹	Retirees, Beneficiaries & Deferred Vested²	Contributing & Non-Contributing Active Member Benefit Financed by Employer^{1,2}		(1)	(2)	(3)
	(1)	(2)	(3)				
2021	\$ 6,592,343,771	\$ 17,328,578,369	\$ 3,569,075,118	\$ 8,889,754,699	100.00%	13.26%	0.00%
2020	6,381,123,395	16,544,875,478	3,359,138,135	8,045,759,732	100.00%	10.06%	0.00%
2019	6,152,782,465	16,087,603,025	3,426,375,506	8,017,468,579	100.00%	11.59%	0.00%
2018	5,953,378,763	15,070,236,164	2,722,101,704	8,057,092,909	100.00%	13.96%	0.00%
2017	5,727,517,176	14,487,785,677	3,109,558,532	8,208,333,488	100.00%	17.12%	0.00%
2016	5,504,706,131	13,686,116,692	3,220,928,301	8,466,901,791	100.00%	21.64%	0.00%
2015	5,302,732,138	12,797,013,628	3,535,761,532	8,868,254,006	100.00%	27.86%	0.00%
2014	5,169,631,309	11,857,858,226	3,815,201,383	9,128,235,998	100.00%	33.38%	0.00%
2013	4,885,643,785	11,293,634,256	3,814,679,391	9,614,698,050	100.00%	41.87%	0.00%
2012	4,562,712,648	10,849,987,028	3,970,884,963	9,774,698,097	100.00%	48.04%	0.00%

¹Includes deferred beneficiaries.

²Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2).

³Includes receivable amounts. Excludes Special Asset Value.

Historical Data and Required ACFR Exhibits, *continued*

Table D-11							
Schedule of Funded Liabilities by Type (Solvency Test)							
Local Employers							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets³	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions¹	Retirees, Beneficiaries & Deferred Vested²	Contributing & Non-Contributing Active Member Benefit Financed by Employer^{1,2}		(1)	(2)	(3)
	(1)	(2)	(3)				
2021	\$ 9,867,154,217	\$ 22,934,745,828	\$ 5,591,226,049	\$ 25,965,285,547	100.00%	70.19%	0.00%
2020	9,574,866,049	21,680,763,400	5,154,471,301	24,424,654,983	100.00%	68.49%	0.00%
2019	9,234,762,976	20,983,426,083	5,308,021,911	23,928,515,595	100.00%	70.03%	0.00%
2018	8,934,728,567	19,552,684,545	4,616,214,421	23,264,877,618	100.00%	73.29%	0.00%
2017	8,542,088,646	18,737,855,865	4,958,471,769	22,522,697,150	100.00%	74.61%	0.00%
2016	8,168,141,804	17,622,616,344	4,883,177,456	21,900,421,798	100.00%	77.92%	0.00%
2015	7,829,248,004	16,502,540,582	5,100,106,614	21,495,828,937	100.00%	82.82%	0.00%
2014	7,477,372,802	15,523,266,419	5,254,437,999	20,766,663,796	100.00%	85.61%	0.00%
2013	7,060,416,742	14,775,793,049	5,169,572,726	19,978,598,632	100.00%	87.43%	0.00%
2012	6,614,992,298	14,150,003,241	5,244,042,802	19,376,646,934	100.00%	90.19%	0.00%

¹Includes deferred beneficiaries.

²Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2).

³Includes receivable amounts. Excludes Special Asset Value.

Historical Data and Required ACFR Exhibits, *continued*

Table D-12							
Schedule of Funded Liabilities by Type (Solvency Test)							
Total							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets³	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions¹	Retirees, Beneficiaries & Deferred Vested²	Contributing & Non-Contributing Active Member Benefit Financed by Employer^{1,2}		(1)	(2)	(3)
	(1)	(2)	(3)				
2021	\$ 16,459,497,988	\$ 40,263,324,197	\$ 9,160,301,167	\$ 34,855,040,246	100.00%	45.69%	0.00%
2020	15,955,989,444	38,225,638,878	8,513,609,436	32,470,414,715	100.00%	43.20%	0.00%
2019	15,387,545,441	37,071,029,108	8,734,397,417	31,945,984,174	100.00%	44.67%	0.00%
2018	14,888,107,330	34,622,920,709	7,338,316,125	31,321,970,527	100.00%	47.47%	0.00%
2017	14,269,605,822	33,225,641,542	8,068,030,301	30,731,030,638	100.00%	49.54%	0.00%
2016	13,672,847,935	31,308,733,036	8,104,105,757	30,367,323,589	100.00%	53.32%	0.00%
2015	13,131,980,142	29,299,554,210	8,635,868,146	30,364,082,943	100.00%	58.81%	0.00%
2014	12,647,004,111	27,381,124,645	9,069,639,382	29,894,899,794	100.00%	62.99%	0.00%
2013	11,946,060,527	26,069,427,305	8,984,252,117	29,593,296,682	100.00%	67.69%	0.00%
2012	11,177,704,946	24,999,990,269	9,214,927,765	29,151,345,031	100.00%	71.89%	0.00%

¹Includes deferred beneficiaries.

²Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2).

³Includes receivable amounts. Excludes Special Asset Value.

Historical Data and Required ACFR Exhibits, continued

Table D-13						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
State						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan/Policy Changes	Contributions¹	Changes in Unfunded Actuarial Accrued Liability
2021	\$ (56,665,321)	\$ (70,592,801)	\$ 798,443,571	\$ 4,799,089	\$ (315,119,255)	\$ 360,865,283
2020	198,970,917	138,357,335	0	0	252,756,607	590,084,859
2019	140,706,362	461,324,998	1,081,742,399	(6,603,404)	283,498,340	1,960,668,695
2018	130,951,573	93,268,738	(112,274,899)	0	460,150,413	572,095,825
2017	171,949,238	103,170,590	328,696,298	0	567,862,438	1,171,678,564
2016	274,008,949	21,165,025	199,010,114	0	683,411,953	1,177,596,041
2015	162,379,506	164,489,294	53,217,646	0	672,711,926	1,052,798,372
2014	87,486,113	95,327,747	10,733,967	0	1,141,647,711	1,335,195,538
2013	243,785,379	47,279,664	0	0	479,307,797	770,372,840
2012	346,183,536	84,362,752	389,696,094	0	560,463,757	1,380,706,139

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

Historical Data and Required ACFR Exhibits, continued

Table D-14						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
Local Employers						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan/Policy Changes	Contributions¹	Changes in Unfunded Actuarial Accrued Liability
2021	\$ (590,983,481)	\$ (26,972,346)	\$ 1,086,372,117	0	\$ (26,021,510)	\$ 442,394,780
2020	383,179,629	(53,231,151)	0	0	57,801,914	387,750,392
2019	169,848,852	207,179,448	1,392,592,722	(6,437,745)	(4,237,817)	1,758,945,460
2018	154,877,626	161,064,936	(176,743,018)	0	(16,168,759)	123,030,785
2017	263,103,187	249,175,903	439,168,994	0	(9,242,760)	942,205,324
2016	536,039,915	28,949,988	251,983,145	0	20,474,495	837,447,543
2015	234,583,215	90,076,858	152,550,941	0	(29,558,175)	447,652,839
2014	129,116,581	303,918,905	12,554,678	0	15,639,375	461,229,539
2013	464,450,689	(49,533,766)	0	0	(20,124,445)	394,792,478
2012	647,732,112	35,826,555	337,149,938	0	(70,028,990)	950,679,615

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

Table D-15						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
Total						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan/Policy Changes	Contributions¹	Changes in Unfunded Actuarial Accrued Liability
2021	\$ (647,648,802)	\$ (97,565,147)	\$ 1,884,815,688	\$ 4,799,089	\$ (341,140,765)	\$ 803,260,063
2020	582,150,546	85,126,184	0	0	310,558,521	977,835,251
2019	310,555,214	668,504,446	2,474,335,121	(13,041,149)	279,260,523	3,719,614,155
2018	285,829,199	254,333,674	(289,017,917)	0	443,981,654	695,126,610
2017	435,052,425	352,346,493	767,865,292	0	558,619,678	2,113,883,888
2016	810,048,864	50,115,013	450,993,259	0	703,886,448	2,015,043,584
2015	396,962,721	254,566,152	205,768,587	0	643,153,751	1,500,451,211
2014	216,602,694	399,246,652	23,288,645	0	1,157,287,086	1,796,425,077
2013	708,236,068	(2,254,102)	0	0	459,183,352	1,165,165,318
2012	993,915,648	120,189,307	726,846,032	0	490,434,767	2,331,385,754

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.



Classic Values, Innovative Advice

June 2, 2023

Board of Trustees

Teachers' Pension and Annuity Fund of New Jersey

Re: Actuary's Certification Letter

Dear Board Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the Teachers' Pension and Annuity Fund of New Jersey (TPAF or Fund) as of June 30, 2022. This letter includes references to three documents produced by Cheiron for the Fund: the Actuarial Valuation Report as of July 1, 2021 (transmitted April 13, 2022) and the GASB 67 and 68 Reports as of June 30, 2022 (transmitted February 23, 2023 and May 16, 2023, respectively).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of TPAF on that date and to calculate the Statutory Contribution amount for the State for the Fiscal Year Ending 2023. The prior review was conducted as of July 1, 2020, and included the Statutory Contribution amount for the Fiscal Year Ending 2022.

Actuarial funding is based on the Projected Unit Credit Cost Method. The Statutory Contribution amounts contain two components: the employer normal cost (cost of benefits for the upcoming year) and an amortization for the unfunded actuarial liability (UAL). The funding methodology prescribed by the N.J. State Statutes does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the amortization amount is calculated to amortize the UAL over an open 30 year period as a level dollar amount.
- Beginning with the July 1, 2019 actuarial valuation, the amortization amount will be calculated to amortize the UAL over a closed 30 year period (i.e., for each subsequent actuarial valuation, the amortization period shall decrease by one year) as a level dollar amount.
- Beginning with the July 1, 2029 actuarial valuation, when the amortization period reaches 20 years, an increase or decrease in the UAL as a result of actuarial losses and gains will increase or decrease, respectively, the amortization period for the UAL, except that the amortization period will not exceed 20 years.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the Statutory Contribution, any existing UAL may not be fully amortized in the future.

Member contributions are set in the N.J. State Statutes.

The non-contributory group life insurance benefit is funded separately through a term cost.

For actuarial valuation purposes, assets are valued at Actuarial Value as prescribed in the N.J. State Statutes. Under this method, the assets used to determine the Statutory Contribution amounts take into account market value by spreading all investment gains and losses (returns above or below expected returns) over a rolling five-year period.

The actuarial value of assets is intended to dampen the volatility in the market value of assets, resulting in a smoother pattern of contributions. Actuarial Standards of Practice (ASOP) No. 44 states that the asset valuation method should produce an actuarial value of assets that falls within a reasonable range of market value, recognizes the difference between the market value and actuarial value of assets within a reasonably short period of time, and is likely to produce actuarial value of assets that are sometimes greater than and sometimes less than the corresponding market values. The asset method required under the N.J. State Statutes does not meet the requirements of ASOP No. 44 because this method has produced actuarial value of assets which have consistently been greater than the market value of assets and recognizes investment losses slowly over time. Additionally, the method may produce an actuarial value of assets that falls outside of a reasonable range of the market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Milliman.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Active Member Valuation Data
- Schedule of Funding Progress
- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods
- Membership Information (Active, Deferred Vested, and Retired)

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2015 – June 30, 2018 Experience Study, which were approved by the Board of Trustees on February 6, 2020. Subsequent to the issuance of the July 1, 2021 Actuarial Valuation Report, we completed an Experience Study covering the period July 1, 2018 – June 30, 2021, which was approved by the Board of Trustees on December 1, 2022 for use in the July 1, 2022 Actuarial Valuation Report.

The assumed investment rate of return of 7.00% was recommended by the State Treasurer.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices except as noted. In particular, the assumptions and methods (other than the asset method) used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular ASOPs Nos. 4, 27 and 35. As noted above the asset method does not meet the requirements of ASOP No. 44.

GASB 67 and 68 Reports as of June 30, 2022

The purpose of the GASB 67 and 68 Reports as of June 30, 2022 is to provide accounting and financial reporting information under GASB 67 for TPAF and under GASB 68 for the State and Local employers. These reports are not appropriate for other purposes, including the measurement of funding requirements for TPAF.

For financial reporting purposes, the Total Pension Liability is based on the July 1, 2021 actuarial valuation updated to the measurement date of June 30, 2022. As a result of the Experience Study covering the period July 1, 2018 – June 30, 2021, the demographic and economic assumptions were updated. We are not aware of any other significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and an adjustment to reflect the changes in assumptions.

Please refer to our GASB 67 and 68 Reports as of June 30, 2022 for additional information related to the financial reporting of the Fund. We prepared the following schedules for inclusion in the Financial Section of the Annual Comprehensive Financial Report based on the June 30, 2022 GASB 67 and 68 reports:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2018 – June 30, 2021 Experience Study performed by Cheiron and approved by the Board of Trustees on December 1, 2022. The assumptions used in the most recent reports are intended to produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years through 2024.

Based on the State Treasurer's recommendation, the investment return assumption used to determine the Statutory Contribution amounts is 7.00% per annum.

In accordance with Paragraph 40 of GASB Statement No. 67, the projection of the Plan's fiduciary net position is based on a long-term expected rate of return of 7.00% per annum as recommended by the State Treasurer.

We certify that the reports were performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

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

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

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Cheiron's reports were prepared for TPAF for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of these reports are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

These reports and their contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as

well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in these reports. These reports do not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the Division of Pensions and Benefits as of July 1, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standards of Practice No. 23. The following is a list of data charts contained in this section:

- A-1: Contributing Active Member Data by Tier
- A-2: Non-Contributing Active Member Data by Tier
- A-3: Inactive Member Data by Status
- A-4: Reconciliation of Membership

Table A-1 Contributing Active Member Data by Tier							
	July 1, 2021	July 1, 2020	% Change		July 1, 2021	July 1, 2020	% Change
Tier 1				Tier 2			
Count	69,217	73,482	-5.8%	Count	9,796	10,034	-2.4%
Average Age	50.7	50.4	0.7%	Average Age	43.7	42.8	2.1%
Average Service	21.3	20.7	3.0%	Average Service	13.5	12.5	7.9%
Average Appropriation Pay	\$ 95,996	\$ 93,338	2.8%	Average Appropriation Pay	\$ 78,287	\$ 74,624	4.9%
Total Appropriation Payroll	\$ 6,644,589,038	\$ 6,858,680,764	-3.1%	Total Appropriation Payroll	\$ 766,899,838	\$ 748,778,558	2.4%
Tier 3				Tier 4			
Count	4,898	5,031	-2.6%	Count	2,852	2,933	-2.8%
Average Age	42.6	41.7	2.2%	Average Age	40.9	40.0	2.2%
Average Service	11.9	11.0	9.0%	Average Service	10.7	9.8	10.1%
Average Appropriation Pay	\$ 74,986	\$ 71,736	4.5%	Average Appropriation Pay	\$ 73,128	\$ 70,035	4.4%
Total Appropriation Payroll	\$ 367,282,082	\$ 360,902,412	1.8%	Total Appropriation Payroll	\$ 208,560,958	\$ 205,412,186	1.5%
Tier 5				Total			
Count	54,758	50,803	7.8%	Count	141,521	142,283	-0.5%
Average Age	36.4	35.8	1.7%	Average Age	44.2	44.1	0.3%
Average Service	5.3	4.7	11.2%	Average Service	14.0	13.9	1.3%
Average Appropriation Pay	\$ 64,325	\$ 62,303	3.2%	Average Appropriation Pay	\$ 81,328	\$ 79,693	2.1%
Total Appropriation Payroll	\$ 3,522,321,007	\$ 3,165,154,618	11.3%	Total Appropriation Payroll	\$ 11,509,652,923	\$ 11,338,928,538	1.5%

Reflects all records for multiple members, which are active members employed by more than one TPAF-participating employer at the same time.

Membership Information, continued

Table A-2 Non-Contributing Member Data by Tier							
	July 1, 2021	July 1, 2020	% Change		July 1, 2021	July 1, 2020	% Change
Tier 1				Tier 2			
Count	7,433	7,464	-0.4%	Count	906	880	3.0%
Average Age	51.6	51.1	1.2%	Average Age	43.5	42.9	1.4%
Average Service	13.6	13.1	3.1%	Average Service	10.6	9.1	16.1%
Average Last Reported Pay	\$ 67,772	\$ 66,075	2.6%	Average Last Reported Pay	\$ 67,062	\$ 63,071	6.3%
Total Last Reported Pay	\$ 470,877,167	\$ 457,836,421	2.8%	Total Last Reported Pay	\$ 59,014,804	\$ 53,673,684	10.0%
Tier 3				Tier 4			
Count	439	439	0.0%	Count	268	246	8.9%
Average Age	42.6	42.5	0.1%	Average Age	40.5	38.8	4.4%
Average Service	9.6	7.8	23.2%	Average Service	8.2	7.3	11.6%
Average Last Reported Pay	\$ 65,508	\$ 61,054	7.3%	Average Last Reported Pay	\$ 65,991	\$ 63,103	4.6%
Total Last Reported Pay	\$ 28,299,460	\$ 26,314,454	7.5%	Total Last Reported Pay	\$ 17,355,593	\$ 15,460,291	12.3%
Tier 5				Total			
Count	5,480	5,090	7.7%	Count	14,526	14,119	2.9%
Average Age	37.5	37.0	1.4%	Average Age	45.3	45.0	0.7%
Average Service	3.6	3.2	15.5%	Average Service	9.4	9.0	4.3%
Average Last Reported Pay	\$ 60,991	\$ 59,168	3.1%	Average Last Reported Pay	\$ 65,075	\$ 63,243	2.9%
Total Last Reported Pay	\$ 312,335,817	\$ 268,681,721	16.2%	Total Last Reported Pay	\$ 887,882,841	\$ 821,966,571	8.0%

Average pay calculations exclude 882 and 1,122 members with no reported pay information as of July 1, 2021 and July 1, 2020, respectively.

Includes 17 and 0 members reported as deferred beneficiaries as of July 1, 2021 and July 1, 2020, respectively.

Membership Information, continued

Table A-3 Inactive Member Data by Status			
	July 1, 2021	July 1, 2020	% Change
Retirees			
Count	98,582	97,068	1.6%
Annual Retirement Allowances	\$ 4,261,814,061	\$ 4,171,830,957	2.2%
Average Retirement Allowance	\$ 43,231	\$ 42,978	0.6%
Beneficiaries			
Count	7,418	7,129	4.1%
Annual Retirement Allowances	\$ 204,475,851	\$ 194,556,681	5.1%
Average Retirement Allowance	\$ 27,565	\$ 27,291	1.0%
Ordinary Disability			
Count	3,397	3,419	-0.6%
Annual Retirement Allowances	\$ 99,513,291	\$ 99,384,170	0.1%
Average Retirement Allowance	\$ 29,294	\$ 29,068	0.8%
Accidental Disability			
Count	280	274	2.2%
Annual Retirement Allowances	\$ 13,090,361	\$ 12,676,069	3.3%
Average Retirement Allowance	\$ 46,751	\$ 46,263	1.1%
In-Pay Total			
Count	109,677	107,890	1.7%
Annual Retirement Allowances	\$ 4,578,893,564	\$ 4,478,447,877	2.2%
Average Retirement Allowance	\$ 41,749	\$ 41,509	0.6%
Deferred Vested Members			
Count	354	407	-13.0%
Annual Retirement Allowances	\$ 6,566,904	\$ 7,543,452	-12.9%
Average Retirement Allowance	\$ 18,551	\$ 18,534	0.1%

QDRO benefits included with member records for valuation purposes.

Membership Information, *continued*

Table A-4 Reconciliation of Plan Membership from July 1, 2020 to July 1, 2021								
	Contributing Actives	Non-Contributing Actives	Deferred Beneficiaries	Deferred Vested	Retired	Disabled	Beneficiaries	Total
1. July 1, 2020	142,283	14,119	0	407	97,068	3,693	7,129	264,699
2. Additions								
a. New entrants	6,161	351						6,512
b. New beneficiaries							135	135
c. Data corrections					9			9
d. Total	6,161	351	0	0	9	0	135	6,656
3. Reductions								
a. Withdrawal/Certain period end	(360)	(2,253)		(5)				(2,618)
b. Died without beneficiary	(62)	(45)		(2)	(2,001)	(115)	(397)	(2,622)
c. Data corrections	0	(37)						(37)
d. Total	(422)	(2,335)	0	(7)	(2,001)	(115)	(397)	(5,277)
4. Changes in Status								
a. Contributing Actives	1,613	(1,610)		(3)				0
b. Non-Contributing Actives	(4,267)	4,267						0
c. Deferred Beneficiary		(17)	17					0
d. Deferred Vested	(6)	(28)		34				0
e. Retired	(3,759)	(178)		(77)	4,014			0
f. Disabled	(74)	(55)				129		0
g. Died with beneficiary	(8)	(5)			(508)	(30)	551	0
h. Total	(6,501)	2,374	17	(46)	3,506	99	551	0
5. July 1, 2021	141,521	14,509	17	354	98,582	3,677	7,418	266,078

Reflects all records for multiple members, which are active members employed by more than one TPAF-participating employer at the same time.

QDRO benefits included with member records for valuation purposes.

ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Investment Rate of Return** 7.00% per annum, compounded annually.
- 2. Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.
- 3. Interest Crediting Rate on Accumulated Deductions** 7.00% per annum, compounded annually. Interest credits are assumed to end upon termination.
- 4. Cost-of-Living Adjustments (COLAs)** No future COLAs are assumed. Previously granted COLAs are included in the data.
- 5. Salary Increases** Salary increases vary by years of service and time period. Annual salary increases are shown below.

Years of Service	Period Ending June 30, 2026	Ultimate Period
0-2	3.05%	4.25%
3	3.20	4.40
4	3.35	4.55
5	3.50	4.70
6	3.65	4.85
7	3.80	5.00
8	3.95	5.15
9	4.10	5.30
10	4.20	5.40
11	4.30	5.50
12-16	4.45	5.65
17	3.70	4.90

Years of Service	Period Ending June 30, 2026	Ultimate Period
18	3.30%	4.50%
19	3.05	4.25
20	2.85	4.05
21	2.65	3.85
22	2.45	3.65
23	2.25	3.45
24	2.05	3.25
25	1.85	3.05
26	1.75	2.95
27-28	1.65	2.85
29+	1.55	2.75

Salary increases are assumed to occur on October 1.

- 6. 401 (a)(17) Pay Limit** \$290,000 in 2021 increasing 2.75% per annum, compounded annually.
- 7. Social Security Wage Base** \$142,800 in 2021 increasing 3.25% per annum, compounded annually.

Actuarial Assumptions and Methods, continued

8. Termination

Termination rates are as follows:

Years of Service	Rates
0	7.00%
1	7.00
2	6.25
3	5.50
4	4.25
5	3.75
6	3.25
7	3.00
8	2.50
9	2.50
10	2.25
11	2.20
12	1.95
13	1.70
14	1.40
15	1.20
16	1.00
17	0.90
18	0.90
19	0.70
20	0.55
21	0.55
22	0.55
23	0.40
24-29	0.30

No termination is assumed after attainment of retirement eligibility.

67% of members with 10 or more years of service at termination are assumed to elect a deferred retirement benefit.

All other members are assumed to receive a refund of Accumulated Deductions with credited interest.

Actuarial Assumptions and Methods, *continued*

9. Disability

Representative disability rates are as follows:

Age	Ordinary	Accidental
25	0.005%	0.006%
30	0.005	0.006
35	0.040	0.006
40	0.090	0.006
45	0.140	0.006
50	0.200	0.006
55	0.350	0.006

Accidental disability rates apply at all ages.

Ordinary disability rates apply upon attainment of 10 years of service until the attainment of unreduced retirement eligibility with at least 25 years of service.

Members are assumed to receive the greater of the applicable disability benefit or the early or service retirement benefit, depending on eligibility.

Tier 4 and Tier 5 members are not eligible for the Ordinary or Accidental Disability benefits but the disability rates still apply. Such members terminating under the disability decrement are assumed to separate from service and elect a deferred retirement benefit.

10. Mortality

Pre-Retirement Mortality: The Pub-2010 Teachers Above-Median Income Employee mortality table [*PubT-2010(A) Employee*] as published by the Society of Actuaries with a 93.9% adjustment for males and 85.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018. All pre-retirement deaths are assumed to be ordinary deaths.

Healthy Retirees and Beneficiaries (Healthy Annuitants): The Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table [*PubT-2010(A) Healthy Retiree*] as published by the Society of Actuaries with a 114.7% adjustment for males and 99.6% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries with a 106.3% adjustment for males and 100.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Actuarial Assumptions and Methods, *continued*

11. Retirement

Retirement rates for Tier 1-4 members are as follows:

Age	Less than 25 Years of Service	25 Years of Service	26 or More Years of Service
<50	N/A	1.5%	1.5%
50	N/A	1.5	1.5
51	N/A	2.0	2.0
52	N/A	3.0	2.5
53	N/A	4.0	3.0
54	N/A	6.0	3.5
55	N/A	10.0	13.0
56	N/A	18.0	17.0
57	N/A	18.0	17.0
58	N/A	20.0	17.0
59	N/A	25.0	17.0
60	4.0	25.0	20.0
61	6.0	25.0	22.0
62	6.0	33.0	27.0
63	8.0	42.0	30.0
64	8.0	42.0	30.0
65	12.0	42.0	30.0
66	18.0	55.0	35.0
67	18.0	55.0	40.0
68	18.0	55.0	30.0
69	18.0	55.0	30.0
70	18.0	55.0	30.0
71	18.0	55.0	30.0
72	18.0	55.0	30.0
73	18.0	55.0	30.0
74	18.0	55.0	30.0
75	100.0	100.0	100.0

Rates apply upon retirement eligibility by tier.

Actuarial Assumptions and Methods, continued

Retirement rates for Tier 5 members are as follows:

Age	Less than 25 Years of Service	25 Years of Service	26 to 29 Years of Service	30 Years of Service	31 or More Years of Service
<50	N/A	N/A	N/A	1.5%	1.5%
50	N/A	N/A	N/A	1.5	1.5
51	N/A	N/A	N/A	2.0	2.0
52	N/A	N/A	N/A	3.0	2.5
53	N/A	N/A	N/A	4.0	3.0
54	N/A	N/A	N/A	6.0	3.5
55	N/A	N/A	N/A	10.0	13.0
56	N/A	N/A	N/A	18.0	17.0
57	N/A	N/A	N/A	18.0	17.0
58	N/A	N/A	N/A	20.0	17.0
59	N/A	N/A	N/A	25.0	17.0
60	N/A	N/A	N/A	25.0	20.0
61	N/A	N/A	N/A	25.0	22.0
62	N/A	N/A	N/A	33.0	27.0
63	N/A	N/A	N/A	42.0	30.0
64	N/A	N/A	N/A	42.0	30.0
65	12.0	42.0	42.0	42.0	30.0
66	18.0	55.0	35.0	35.0	35.0
67	18.0	55.0	40.0	40.0	40.0
68	18.0	55.0	30.0	30.0	30.0
69	18.0	55.0	30.0	30.0	30.0
70	18.0	55.0	30.0	30.0	30.0
71	18.0	55.0	30.0	30.0	30.0
72	18.0	55.0	30.0	30.0	30.0
73	18.0	55.0	30.0	30.0	30.0
74	18.0	55.0	30.0	30.0	30.0
75	100.0	100.0	100.0	100.0	100.0

Actuarial Assumptions and Methods, *continued*

- 12. Family Composition Assumptions** For members not currently in receipt, 100% of members are assumed married to spouses of the opposite sex. Males are assumed to be three years older than females.
- For purposes of the optional form of payment death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member's spouse of the opposite sex with males assumed to be three years older than females.
- No additional dependent children or parents are assumed.
- 13. Form of Payment** Current actives are assumed to elect the Maximum Option.
- 14. Data** Information provided by the prior actuary was relied upon for the purposes of setting the status of and valuing non-contributing records. For non-contributing terminated members, a deferred retirement benefit is estimated, when applicable, based on the last known salary. For non-contributing members with incomplete information, the benefit is based on the Annuity Savings Fund.
- Deferred beneficiaries were reported separately from other non-contributing members for the first time in 2021. The benefit is based on the Annuity Savings Fund.
- For current beneficiaries with incomplete information, reasonable assumptions were made based on information available in prior years.
- Inactive participants receiving benefits according to the 2020 data but omitted from the 2021 data are assumed to have died without a beneficiary.
- Tier 4 and 5 members on long-term disability appeared on the active data for the first time in 2019. The number of members on long-term disability is immaterial for valuation purposes. Therefore, we valued these members as regular contributing and non-contributing members while we gain clarity on what happens with these members.
- 15. Rationale for Assumptions** The demographic and economic assumptions used in this report, except for the investment return assumption, reflect the results of the July 1, 2015 – June 30, 2018 Experience Study, which was approved by the Board of Trustees on February 6, 2020. The investment return assumption was recommended by the State Treasurer.
- 16. Changes in Assumptions Since Last Valuation** The assumed investment rate of return was decreased from 7.30% to 7.00% per annum, compounded annually.
- The interest crediting rate on accumulated deductions was decreased from 7.30% to 7.00% per annum, compounded annually.

Actuarial Assumptions and Methods, *continued*

B. Projection Assumptions

- 1. Investment Rate of Return** July 1, 2022 and later valuations: 7.00% per annum, compounded annually.
- 2. Appropriation Percentages** The State is assumed to appropriate 100% of the Statutory contribution in FYE 2023 and each year thereafter.
- 3. Administrative Expenses** The actual administrative expenses paid in FYE 2021 are assumed to increase by 2.75% per annum, compounded annually.
- 4. New Entrants**
 - Contributing active population assumed to remain at 2021 levels.
 - Assumed to join mid-year.
 - Age/sex distributions based on the last three years of new hires.
 - Salary based on salary for most recent hires reported on 2021 data.
 - New entrant salary assumed to increase with the 29+ years of service salary increase rates.
- 5. Demographic Assumptions** Same as those used for valuation purposes.
- 6. Projection Basis**

This report includes projections of future assets, liabilities, funded status and contributions for the purpose of assisting the Board of Trustees with the management of the System.

The projections are based on the same census data and financial information as of July 1, 2021 which has been used for the actuarial valuation. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2021 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2021 unless otherwise indicated. While the assumptions individually are reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate.

The projections are based on our proprietary model *PScan* developed by our firm that utilizes the results shown in this valuation report. The projections assume that all future assumptions are met except where indicated with respect to future investment returns and demographic assumptions. The future outcomes become increasingly uncertain over time, and therefore the general trends and not the absolute values should be considered in the review of these projections.

C. Actuarial Methods

The actuarial methods used for determining State contributions are described below.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method. Non-contributory active members only use the Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits linearly allocated to periods prior to the valuation year based on service. Refunds are valued as the Accumulated Deductions with interest as of the valuation date as provided by the Division of Pensions and Benefits. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

Actuarial Assumptions and Methods, continued

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30 year period.
- Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over a closed 30 year period (i.e., for each subsequent actuarial valuation the amortization period shall decrease by one year).
- Beginning with the July 1, 2029 actuarial valuation, when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20 year amortization period.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the actuarially determined contribution, any existing unfunded accrued liability may not be fully amortized in the future.

The non-contributory group life insurance benefit is funded separately through a term cost.

2. Asset Valuation Method

For the purposes of determining contribution rates, an actuarial value of assets is used that dampens the volatility in the market value of assets, resulting in a smoother pattern of contributions.

The actuarial value of assets is adjusted to reflect actual contributions, benefit payments and administrative expenses, and an assumed rate of return on the previous year's assets and current year's cash flow at the prior year's actuarial valuation interest rate, with a further adjustment to reflect 20% of the difference between the resulting value and the actual market value of Fund assets.

3. Contributions

Chapter 83, P.L. 2016 requires the State to make the required pension contributions on a quarterly basis in each fiscal year according to the following schedule: at least 25% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30. As such, contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date, with the exception of the FYE 2022 contribution. For FYE 2022 only, we assumed that the entire contribution was made in a single payment on July 1, 2021 based on information provided by the DPB.

Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, allows the TPAF to receive 77.78% of the proceeds of the Lottery Enterprise, based upon their members' past or present employment in schools and institutions in the State for a term of 30 years. Revenues from Chapter 98, P.L. 2017, the Lottery Enterprise Contribution Act, are assumed to be contributed to the trust on a monthly basis. The State's pension contribution is reduced by the product of the allocable percentage for the TPAF, the adjustment percentage, and the special asset value.

Contributions payable in the fiscal year starting on the valuation date are included in the actuarial value of assets as receivable contributions, discounted by the applicable valuation interest rate.

Legislation has provided for additional benefits and/or funding requirements which are included in this valuation and are described as follows.

Early Retirement Incentive Programs

State and Local employers which elected to participate in various early retirement incentive programs authorized by NJ Statute make contributions to cover the cost of these programs over amortization periods elected by the employer to the extent permitted by NJ Statute.

Actuarial Assumptions and Methods, continued**Chapter 133, P.L. 2001**

Chapter 133, P.L. 2001 increased the accrual rate from 1/60 to 1/55. In addition, it lowered the age required for a veteran benefit equal to 1/55 of highest 12-month Compensation for each Year of Service from 60 to 55.

Chapter 133, P.L. 2001 established the Benefit Enhancement Fund (BEF) to fund the additional annual employer normal contribution due to the Statute's increased benefits. (Chapter 353, P.L. 2001 extended this coverage to this Statute's additional annual employer normal contribution.) If the assets in the BEF are insufficient to cover the normal contribution for the increased benefits for a valuation period, the State will pay such amount. As of July 1, 2021, there are no assets in the BEF.

4. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

5. Changes in Methods Since Last Valuation

None.

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the TPAF used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 18A, Chapter 66, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on plan provisions in effect as of July 1, 2021 and does not reflect the impact of any changes in benefits that may have been approved after the valuation date.

1. Eligibility for Membership

Employees appointed to positions requiring certification by the New Jersey Department of Education as members of a regular teaching or professional staff of a public school system in New Jersey are required to enroll as a condition of employment. Employees of the Department of Education holding unclassified, professional and certificated titles are eligible for membership. Temporary or substitute employees are not eligible. The eligible employee must be scheduled to work at least 32 hours per week effective May 22, 2010, per Chapter 1, P.L. 2010.

- a) Class B (or Tier 1) Member: Any member hired prior to July 1, 2007.
- b) Class D (or Tier 2) Member: Any member hired on or after July 1, 2007 and before November 2, 2008.
- c) Class E (or Tier 3) Member: Any member hired after November 1, 2008 and before May 22, 2010.
- d) Class F (or Tier 4) Member: Any member hired after May 21, 2010 and before June 28, 2011.
- e) Class G (or Tier 5) Member: Any member hired on or after June 28, 2011.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Years of Service

A year of service for each year an employee is a Member of the Retirement System plus service, if any, covered by a prior service liability. Tier 4 members must be scheduled to work at least 32 hours per week, Tier 3 members must have an annual salary of \$7,500 (indexed for inflation) and other members must have an annual salary of \$500.

4. Compensation

Base salary upon which contributions by a Member to the Annuity Savings Fund were based. Chapter 113, P.L. 1997 provides that Compensation cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code. Chapter 103, P.L. 2007 provides that for a Tier 2, 3, 4 or 5 Member, Compensation cannot exceed the annual maximum wage contribution base for Social Security, pursuant to the Federal Insurance Contribution Act.

5. Final Compensation

The average annual compensation upon which contributions by a Member are made for the three consecutive years of service immediately preceding retirement, or the highest three fiscal years of service, if greater. Chapter 1, P. L. 2010 provides that for a Tier 4 or Tier 5 Member, Final Compensation is the average annual compensation upon which contributions by a Member are made for the five consecutive years of service immediately preceding retirement, or the highest five fiscal years of service, if greater.

6. Final Year Compensation

The compensation upon which contributions by a Member to the Annuity Savings Fund are based in the last year of service.

Summary of Plan Provisions, continued

7. Accumulated Deductions

The sum of all amounts deducted from the compensation of a Member or contributed by the Member or on the Member's behalf without interest.

8. Interest Credits on Accumulated Deductions

Members receive interest credits while contributing and for the first two years of inactivity. The rate depends on the type of benefit. Prior to July 1, 2018, members received interest credits for the entire period of inactivity until retirement or death.

9. Member Contributions

Each Member contributes a percentage of Compensation. Effective October 1, 2011, Chapter 78, P.L. 2011 set the member contribution rate at 6.5% and increased it by 1/7 of 1% each July thereafter until it attained an ultimate rate of 7.5% on July 1, 2018.

10. Benefits

a) Service Retirement: For a Tier 1 or Tier 2 Member, age 60. For a Tier 3 or Tier 4 Member, age 62. For a Tier 5 Member, age 65.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total allowance of:

- (1) For a Tier 1, 2 or 3 Member, 1/55 of Final Compensation for each Year of Service.
- (2) For a Tier 4 or 5 Member, 1/60 of Final Compensation for each Year of Service.

b) Early Retirement: Prior to eligibility for Service Retirement. For a Tier 1, 2, 3 or 4 Member, 25 Years of Service. For a Tier 5 Member, 30 Years of Service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total allowance of:

- (1) For a Tier 1 Member, the Service Retirement benefit reduced by 1/4 of one percent for each month the retirement date precedes age 55.
- (2) For a Tier 2 Member, the Service Retirement benefit reduced by 1/12 of one percent for each month the retirement date precedes age 60 through age 55 and by 1/4 of one percent for each month the retirement date precedes age 55.
- (3) For a Tier 3 or 4 Member, the Service Retirement benefit reduced by 1/12 of one percent for each month the retirement date precedes age 62 through age 55 and by 1/4 of one percent for each month the retirement date precedes age 55.
- (4) For a Tier 5 Member, the Service Retirement benefit reduced by 1/4 of one percent for each month the retirement date precedes age 65.

c) Veteran Retirement: Age 55 with 25 Years of Service or Age 60 with 20 Years of Service for a qualified military veteran who retires directly from active service.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total allowance of the greater of:

- (1) 54.5% of highest 12-month Compensation, or
- (2) For a member who is at least age 55 with 35 Years of Service, 1/55 of highest 12-month Compensation for each Year of Service.

Veterans may receive a Service Retirement benefit if greater.

d) Deferred Retirement: Termination of service prior to eligibility for Service Retirement with 10 Years of Service.

Benefit is either:

Summary of Plan Provisions, continued

- (1) A refund of Accumulated Deductions plus, if the member has completed three years of service, interest accumulated at 2.0% per annum; or
- (2) A deferred life annuity, commencing at age 60 for a Tier 1 or Tier 2 Member, age 62 for a Tier 3 or Tier 4 Member or age 65 for a Tier 5 Member, comprised of a member annuity plus an employer pension which together will provide a total allowance of the Service Retirement benefit based on Final Compensation and Years of Service at date of termination.

For Members who die during the deferral period, the benefit is a return of Accumulated Deductions with credited interest.

e) Non-Vested Termination: Termination of service prior to eligibility for Service Retirement and less than 10 Years of Service.

Benefit is a refund of Accumulated Deductions plus, if the member has completed three years of service, interest accumulated at 2.0% per annum.

f) Death Benefits

(1) Ordinary Death Before Retirement: Death of an active contributing Member. Benefit is equal to:

- a. Lump sum payment equal to 150% of Final Year Compensation, also known as the non-contributory group life insurance benefit, plus
- b. Accumulated Deductions with credited interest.

(2) Accidental Death Before Retirement: Death of an active Member resulting from injuries received from an accident during performance of duty and not a result of willful negligence. Benefit is equal to:

- a. Lump sum payment equal to 150% of Final Year Compensation, also known as the non-contributory group life insurance benefit, plus
- b. Spouse life annuity of 50% of Final Year Compensation payable until spouse's death or remarriage. If there is no surviving spouse or upon death or remarriage, a total of 20% (35%, 50%) of Final Year Compensation payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 25% (40%) of Final Year Compensation to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of Accumulated Deductions with credited interest.

(3) Death After Retirement: Death of a retired Member. Benefit is equal to:

- a. Lump sum payment equal to 3/16 of Final Year Compensation for a Member retired under service, early, veteran or deferred retirement with 10 Years of Service. For a Member receiving a disability benefit, lump sum payment of 150% of Final Year Compensation if death occurs prior to age 60 and 3/16 of Final Compensation if death occurs after age 60. This benefit is also known as the non-contributory group life insurance benefit, plus
- b. Any survivor benefit due under the Member's optional form of payment election. Previously granted COLAs also apply to life annuities.

Members are also eligible for a voluntary, employee-paid life insurance policy, known as the contributory group life insurance policy. This benefit is not paid through the Fund and is not considered for valuation purposes.

g) Disability Retirement

(1) Ordinary Disability Retirement: 10 years of service and totally and permanently incapacitated from the performance of normal or assigned duties. Only available to Tier 1, 2 and 3 Members.

Summary of Plan Provisions, continued

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total allowance of:

- a. 1.64% of Final Compensation for each Year of Service; or
- b. 43.6% of Final Compensation.

- (2) **Accidental Disability Retirement:** Total and permanent incapacitation as a direct result of a traumatic event occurring during and as a result of the performance of regular or assigned duties. Only available to Tier 1, 2 and 3 Members.

Benefit is an annual retirement allowance comprised of a member annuity plus an employer pension which together will provide a total allowance of 72.7% of the Compensation at the date of injury.

The pension portion of the benefit will be offset for any periodic Workers' Compensation benefits.

Tier 4 and Tier 5 Members are eligible for long-term disability coverage. This benefit is not paid through the Fund and is not considered for valuation purposes. Both Member and employer contributions to the Fund continue while on long-term disability, with the policy covering the Member portion. The long-term disability benefit equals 60% of Final Year Compensation and may be offset for other periodic benefits, such as Workers' Compensation, short-term disability or Social Security. The long-term disability benefit may continue through the earlier of age 70 or commencement of a retirement benefit under the Fund.

11. Optional Forms of Payment

The member may elect the following forms of payment:

- a) **Maximum Option:** Single life annuity with a return of the balance of the Accumulated Deductions with credited interest.
- b) **Option 1:** Single life annuity with a return of the balance of the initial reserve.
- c) **Option 2:** 100% joint and survivor annuity.
- d) **Option 3:** 50% joint and survivor annuity.
- e) **Option 4:** Other percentage joint and survivor annuity.
- f) **Option A:** 100% pop-up joint and survivor annuity.
- g) **Option B:** 75% pop-up joint and survivor annuity.
- h) **Option C:** 50% pop-up joint and survivor annuity.
- i) **Option D:** 25% pop-up joint and survivor annuity.

12. Cost-of-Living Adjustments

Also known as Pension Adjustments. Provided annually to retirees and survivors after 24 months of retirement prior to July 1, 2011. Chapter 78, P.L. 2011 eliminated future adjustments effective July 1, 2011. Adjustments may be reinstated in the future subject to certain conditions outlined in Chapter 78, P.L. 2011.

13. Changes in Plan Provisions Since Last Valuation

None.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we have prepared the following schedules for the Fund. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Table D-1 Schedule of Retirees and Beneficiaries Added to and Removed from Rolls								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance¹	% Increase in Average Annual Allowance¹
	Number	Annual Allowance	Number¹	Annual Allowance	Number¹	Annual Allowance		
2021	4,838	\$ 208,732,721	3,051	\$ 109,537,806	109,677	\$ 4,578,893,564	\$ 41,749	0.58%
2020	4,485	190,920,500	2,983	104,839,770	107,890	4,478,447,877	41,509	0.57%
2019	4,500	190,652,924	2,815	95,949,554	106,388	4,391,260,795	41,276	0.61%
2018	4,634	192,293,599	2,511	82,862,457	104,703	4,295,446,681	41,025	1.50%
2017	4,792	N/A	2,510	N/A	103,528	4,184,662,175	40,421	0.61%
2016	5,460	N/A	2,444	N/A	101,246	4,067,574,984	40,175	0.75%
2015	5,789	N/A	2,381	N/A	98,230	3,916,956,144	39,875	0.81%
2014	5,284	N/A	2,191	N/A	94,822	3,750,680,254	39,555	1.04%
2013	4,614	N/A	2,193	N/A	91,729	3,591,007,462	39,148	0.96%
2012	5,496	N/A	2,100	N/A	89,308	3,462,975,740	38,776	1.40%

¹Beginning with the 2018 valuation, QDRO records excluded from headcounts and QDRO benefits included with member records.

This change resulted in 948 fewer records on the rolls as of July 1, 2018.

Historical Data And Required ACFR Exhibits, *continued*

Table D-2					
Schedule of Active Member Valuation Data					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation¹	Annual Average Compensation¹	% Increase in Average Annual Compensation¹	Number of Participating Employers²
2021	141,521	\$ 11,509,652,923	\$ 81,328	2.05%	678
2020	142,283	11,338,928,538	79,693	2.16%	680
2019	141,795	11,061,603,138	78,011	1.72%	677
2018	141,128	10,823,504,797	76,693	1.84%	678
2017	143,092	10,775,872,458	75,307	1.59%	N/A
2016	142,845	10,588,493,706	74,126	1.02%	N/A
2015	142,454	10,453,176,648	73,379	0.82%	N/A
2014	141,874	10,325,972,743	72,783	2.83%	N/A
2013	151,318	10,710,424,746	70,781	1.36%	N/A
2012	150,200	10,488,890,840	69,833	1.31%	N/A

¹ Prior to July 1, 2018, includes non-contributing active members reported on active data with compensation.
 Prior to July 1, 2014, includes all non-contributing active members.

² Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

Historical Data And Required ACFR Exhibits, *continued*

Table D-3 Schedule of Funding Progress						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/ Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c)/(d)
2021	\$ 29,103,426,597	\$ 70,520,215,914	\$ 41,416,789,317	41.27%	\$ 11,509,652,923	359.84%
2020	26,582,892,740	66,877,318,975	40,294,426,235	39.75%	11,338,928,538	355.36%
2019	26,375,429,936	65,470,847,885	39,095,417,949	40.29%	11,061,603,138	353.43%
2018	26,308,754,955	60,971,919,315	34,663,164,360	43.15%	10,823,504,797	320.26%
2017	26,549,410,215	59,954,548,700	33,405,138,485	44.28%	10,775,872,458	310.00%
2016	27,169,758,348	57,865,971,163	30,696,212,815	46.95%	10,588,493,706	289.90%
2015	28,301,404,184	55,359,377,071	27,057,972,887	51.12%	10,453,176,648	258.85%
2014	29,044,777,902	53,749,976,641	24,705,198,739	54.04%	10,325,972,743	239.25%
2013	30,469,857,304	52,366,655,055	21,896,797,751	58.19%	10,710,424,746	204.44%
2012	31,079,212,983	51,194,110,587	20,114,897,604	60.71%	10,488,890,840	191.77%

¹Includes receivable amounts. Excludes Special Asset Value.

Historical Data And Required ACFR Exhibits, *continued*

Table D-4							
Schedule of Funded Liabilities by Type (Solvency Test)							
Valuation Date July 1,	Actuarial Accrued Liability for			Actuarial Value of Assets¹	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vested (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer (3)		(1)	(2)	(3)
	2021	\$ 15,771,203,493	\$ 44,565,286,920		\$ 10,183,725,501	\$ 29,103,426,597	100.00%
2020	14,960,290,939	42,958,862,310	8,958,165,726	26,582,892,740	100.00%	27.06%	0.00%
2019	14,079,166,893	42,467,777,887	8,923,903,105	26,375,429,936	100.00%	28.95%	0.00%
2018	13,283,767,530	40,171,903,581	7,516,248,204	26,308,754,955	100.00%	32.42%	0.00%
2017	12,466,587,057	39,224,970,512	8,262,991,131	26,549,410,215	100.00%	35.90%	0.00%
2016	11,709,150,079	38,027,977,392	8,128,843,692	27,169,758,348	100.00%	40.66%	0.00%
2015	11,129,745,608	36,128,130,029	8,101,501,434	28,301,404,184	100.00%	47.53%	0.00%
2014	10,624,778,098	34,587,834,921	8,537,363,622	29,044,777,902	100.00%	53.26%	0.00%
2013	10,079,938,128	33,312,970,535	8,973,746,392	30,469,857,304	100.00%	61.21%	0.00%
2012	9,432,073,781	32,411,855,950	9,350,180,856	31,079,212,983	100.00%	66.79%	0.00%

¹Includes receivable amounts. Excludes Special Asset Value.

Historical Data And Required ACFR Exhibits, *continued*

Table D-5 Analysis of Financial Experience Change in Unfunded Actuarial Accrued Liability						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan/Policy Changes	Contributions¹	Changes in Unfunded Actuarial Accrued Liability
2021	\$ (381,830,446)	\$ (26,516,157)	\$ 2,286,940,239	\$ 0	\$ (756,230,554)	\$ 1,122,363,082
2020	575,855,892	70,026,855	0	0	553,125,539	1,199,008,286
2019	374,388,860	67,077,019	3,353,517,001	(15,561,490)	652,832,199	4,432,253,589
2018	367,568,407	140,440,865	(286,796,037)	0	1,036,812,640	1,258,025,875
2017	513,526,758	126,550,240	822,620,195	0	1,246,228,477	2,708,925,670
2016	859,296,816	173,672,067	1,144,195,634	0	1,461,075,411	3,638,239,928
2015	495,166,374	398,659,572	0	0	1,458,948,202	2,352,774,148
2014	350,424,947	114,878,752	0	0	2,343,097,289	2,808,400,988
2013	902,561,234	22,121,971	(404,297,149)	0	1,050,981,941	1,571,367,997
2012	1,260,307,398	72,510,427	(337,666,242)	0	1,263,818,721	2,258,970,304

¹Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.



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January 24, 2023

**Police and Firemen's Retirement System of New Jersey – Board of Trustees
Actuary's Certification Letter for GASB 67 and 68 Reports as of June 30, 2022**

Dear Board Members:

This letter is being provided for purposes of the Actuarial Section of the Annual Comprehensive Financial Report for the Police and Firemen's Retirement System of New Jersey (PFRS) as of June 30, 2022. Specifically, this letter certifies the GASB 67 and 68 report as of June 30, 2022 completed by Segal.

The GASB 67 and 68 report as of June 30, 2022, dated December 15, 2022, was prepared by Segal to present certain disclosure information required for accounting and financial reporting purposes for the State and Local employers. It is not applicable for other purposes, including funding of PFRS. The following exhibits were included in our report:

- Net pension liability
- Determination of discount rate and investment rates of return
- Discount rate sensitivity
- Schedule of changes in Net Pension Liability – Last two fiscal years
- Deferred outflows and inflows of resources
- Schedule of recognition of change in total Net Pension Liability
- Pension expense
- Schedule of reconciliation of Net Pension Liability
- Schedule of contributions – Last ten fiscal years

The valuation is based on the following:

- The benefit provisions of PFRS, as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2021, provided by the Division of Pensions and Benefits (DPB);
- The draft assets of the Plan as of June 30, 2022, provided by the DPB
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2021 actuarial funding valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2021 valuation, unless otherwise noted below.

As noted above, the measurement of the Total Pension Liability as of June 30, 2022 is based on the actuarial funding valuation as of June 30, 2021 projected forward to the measurement date.

The demographic assumptions and economic assumptions except for the net investment return assumption and with one exception noted below are based on Actuarial Experience Study for the period July 1, 2018 through June 30, 2021, dated October 14, 2022.

The net investment return assumption of 7.0% is the same as used for GASB 67 and 68 purposes as of June 30, 2021 and for actuarial funding purposes as of July 1, 2022. The net investment return is determined based on direction from the Chief Financial Officer of PFRS and as adopted by the Board of Trustees.

The following changes to the plan of benefits not included in the June 30, 2021 actuarial funding valuation were made for purposes of determining the Total Pension Liability as of June 30, 2022:

- Chapter 52, P.L. 2021 allows members enrolled between January 18, 2000 and April 19, 2021 to retire prior to age 55 if they have attained 20 Years of Creditable Service and retire by May 1, 2023.
- The Dominick Marino PFRS Enhanced Benefits for Surviving Spouses Act placed a \$50,000 annual minimum on the pension of the pre-retirement accidental death benefit for surviving spouses.
- Chapter 255, P.L. 1944 was amended to allow police and fire department chiefs to remain members in the Police and Firemen's Retirement System of New Jersey until the end of the calendar year in which the member reaches age 67 provided the member was appointed as a chief prior to attaining age 65 and attain age 65 between the effective date and 24th month following that date.

The actuarial assumptions are the same as those used for purposes of plan funding as of June 30, 2022.

We are not aware of any events, other than those noted above, between the funding valuation date and the GASB measurement date that would be required to be reflected in the Total Pension Liability.

The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that Local employer contributions and State contributions will be made at the actuarially determined contribution amounts. The assumption that the State is paying 100% of the actuarially determined contribution is based on the State making the full contribution for the fiscal year ending June 30, 2022 contribution. For this purpose, only Local employer and State contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected Local employer and State contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position (FNP) was projected to be available to make all projected future benefit payments for 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 TPL.

This letter certifies that the GASB 67 and 68 report as of June 30, 2022 was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist the sponsors in preparing their financial report for their liabilities associated with the Police and Firemen's Retirement System of New Jersey. The census and financial information on which our calculations were based were provided by the Division of Pensions and Benefits. That assistance is gratefully acknowledged.

The measurements as of June 30, 2022 for GASB purposes may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.



The blended discount rate used for calculating total pension liability is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Regards,



Jonathan P. Scarpa, FSA, MAAA, EA
Vice President and Consulting Actuary

MEMBERSHIP INFORMATION

State Contributing Active Participants

As of June 30,	2020	2021	Change
Active participants	6,688	6,445 ¹	-3.6%
Average age	39.9	40.3 ²	0.4
Average years of service	12.8	13.2 ³	0.4
Average compensation	\$76,464	\$78,564 ⁴	2.7%

- ¹ 3,620, 219, and 2,606, respectively for Tier 1, 2, and 3
² 45.8, 37.7, and 31.9, respectively for Tier 1, 2, and 3
³ 19.2, 10.5, and 5.1, respectively for Tier 1, 2, and 3
⁴ \$91,574, \$79,488, and \$60,413, respectively for Tier 1, 2, and 3

Local Contributing Active Participants

As of June 30,	2020	2021	Change
Active participants	34,150	34,031 ¹	-0.3%
Average age	39.8	39.8 ²	0.0
Average years of service	13.5	13.5 ³	0.0
Average compensation	\$102,646	\$104,778 ⁴	2.1%

- ¹ 19,016, 496, and 14,519, respectively for Tier 1, 2, and 3
² 45.8, 37.0, and 32.0, respectively for Tier 1, 2, and 3
³ 19.8, 10.8, and 5.3, respectively for Tier 1, 2, and 3
⁴ \$127,023, \$107,114, and \$75,563, respectively for Tier 1, 2, and 3

Inactive Participants and Non-Contributory Active Participants

In this year's valuation, there were 60¹ participants with a vested right to a deferred or immediate vested benefit, as compared to 67 as included in the prior valuation.

Additionally, this year's valuation includes liabilities for 1,241 Local and 471 State non-contributing active members, as compared to 1,168 and 426 respectively in the prior year. These members are valued as active participants but are assumed to not earn future benefit accruals. The average last reported pay is \$79,595 for Local members and \$66,147 for State members.

¹ 10 State members with average monthly retirement allowance of \$1,603 and 50 Local members with average monthly retirement allowance of \$2,085.

Membership Information, *continued*

State Retired Participants and Beneficiaries

As of June 30,	2020	2021	Change
Retirees ¹	6,042	6,138	1.6%
Average age	N/A	62.5	N/A
Average retirement allowance	\$4,159	\$4,198 ²	0.9%
Beneficiaries	895	935	4.5%
Total monthly retirement allowance	\$27,567,145	\$28,336,037	2.8%

¹ As of June 30, 2021, there are 5,037 retirees and 1,101 disabled pensioners as compared to 4,935 and 1,107 in the prior year.

² \$4,196 for police and \$3,569 for firefighters.

Local Retired Participants and Beneficiaries

As of June 30,	2020	2021	Change
Retirees ¹	32,848	33,458	1.9%
Average age	N/A	64.1	N/A
Average retirement allowance	\$5,433	\$5,539 ²	2.0%
Beneficiaries	6,786	6,987	3.0%
Total monthly retirement allowance	\$197,897,721	\$205,736,239	4.0%

¹ As of June 30, 2021, there are 28,514 retirees and 4,944 disabled pensioners as compared to 27,920 and 4,928 in the prior year.

² \$5,493 for police and \$5,753 for firefighters.

Active Liability by Type

The tables below show the Actuarial Liability by Tier for contributing and non-contributing active members, respectively, for State and Local employers as of July 1, 2021.

Contributing Actives by Tier				
	Number of Members	Appropriation Payroll¹	Actuarial Liability	Gross Normal Cost
State				
Tier 1	3,620	\$331,410,531	\$1,614,040,834	\$77,661,462
Tier 2	219	17,407,921	34,898,452	3,254,135
Tier 3	2,606	157,437,132	163,484,264	30,189,985
Total	6,445	\$506,255,584	\$1,812,423,549	\$111,105,581
Local				
Tier 1	19,016	\$2,413,850,371	\$12,230,757,916	\$553,274,841
Tier 2	496	53,128,486	110,509,985	10,051,061
Tier 3	14,519	1,096,964,733	1,225,335,884	210,915,145
Total	34,031	\$3,563,943,590	\$13,556,603,784	\$774,241,048

¹ Excludes pay for members who attain the mandatory retirement age of 65 prior to midyear. Tier 1 members limited to the 401(a)(17) pay limit. Tier 2 and Tier 3 members limited to the Social Security Wage Base.

Membership Information, *continued*

Non-Contributing Actives by Tier				
	Number of Members	Last Reported Payroll¹	Actuarial Liability	Gross Normal Cost
State				
Tier 1	261	\$18,693,672	\$70,989,404	\$0
Tier 2	8	550,723	841,903	0
Tier 3	202	10,467,483	7,711,349	0
Total	471	\$29,711,878	\$79,542,656	\$0
Local				
Tier 1	770	\$67,038,489	\$250,718,667	\$0
Tier 2	12	1,099,944	2,046,415	0
Tier 3	459	26,964,861	21,638,535	0
Total	1,241	\$95,103,294	\$274,403,617	\$0

¹ Excludes pay for members who attain the mandatory retirement age of 65 prior to midyear. Tier 1 members limited to the 401(a)(17) pay limit. Tier 2 and Tier 3 members limited to the Social Security Wage Base.

Table of Plan Demographics for State

Category	Year Ended June 30		Change From Prior Year
	2021	2020	
Contributing Active Participants in Valuation:			
Number	6,445	6,688	-3.6%
Average age	40.3	39.8	0.5
Average years of service	13.2	12.8	0.4
Projected total payroll for police	\$503,120,897	\$508,153,401	-1.0%
Projected average payroll for police	\$78,637	\$76,518	2.8%
Projected total payroll for firefighters	\$3,221,495	\$3,239,478	-0.6%
Projected average payroll for firefighters	\$68,542	\$68,925	-0.6%
Non-Contributing Active Participants	471	426	10.6%
Inactive Vested Participants	10	13	-23.1%
Average monthly benefit	\$1,603	\$1,491	7.5%
Retired Participants:			
Number in pay status	5,037	4,935	2.1%
Average age	63.5	N/A	N/A
Average monthly benefit	\$4,488	\$4,455	0.7%

Membership Information, continued

Table of Plan Demographics for State, continued

Category	Year Ended June 30		Change From Prior Year
	2021	2020	
Ordinary Disabled Participants:			
Number in pay status	721	732	-1.5%
Average age	59.1	N/A	N/A
Average monthly benefit	\$2,343	\$2,322	0.9%
Accidental Disabled Participants:			
Number in pay status	380	375	1.3%
Average age	53.5	N/A	N/A
Average monthly benefit	\$3,866	\$3,838	0.7%
Beneficiaries:			
Number in pay status	935	895	4.5%
Average age	69.4	N/A	N/A
Average monthly benefit	\$2,749	\$2,728	0.8%

Table of Plan Demographics for Local

Category	Year Ended June 30		Change From Prior Year
	2021	2020	
Contributing Active Participants in Valuation:			
Number	34,031	34,150	-0.3%
Average age	39.8	39.8	0.0
Average years of service	13.5	13.5	0.0
Projected total payroll for police	\$2,875,097,908	\$2,830,430,380	1.6%
Projected average payroll for police	\$105,024	\$102,809	2.2%
Projected total payroll for firefighters	\$688,845,682	\$674,944,650	2.1%
Projected average payroll for firefighters	\$103,763	\$101,971	1.8%
Non-Contributing Active Participants	1,241	1,168	6.3%
Inactive Vested Participants	50	54	-7.4%
Average monthly benefit	\$2,085	\$1,996	4.5%
Retired Participants:			
Number in pay status	28,514	27,920	2.1%
Average age	65.4	N/A	N/A
Average monthly benefit	\$5,853	\$5,745	1.9%

Membership Information, *continued*

Table of Plan Demographics for Local, *continued*

Category	Year Ended June 30		Change From Prior Year
	2021	2020	
Ordinary Disabled Participants:			
Number in pay status	2,242	2,233	0.4%
Average age	57.2	N/A	N/A
Average monthly benefit	\$2,645	\$2,566	3.1%
Accidental Disabled Participants:			
Number in pay status	2,702	2,695	0.3%
Average age	54.7	N/A	N/A
Average monthly benefit	\$4,627	\$4,575	1.1%
Beneficiaries:			
Number in pay status	6,987	6,786	3.0%
Average age	74.7	N/A	N/A
Average monthly benefit	\$2,923	\$2,865	2.0%

Reconciliation of Participant Data

	Contributing Actives	Non-Contributing Actives	Deferred Vested	Retired	Disabled	Beneficiaries	Total
Number as of July 1, 2020	40,838	1,594	67	32,855	6,035	7,681	89,070
New or previously unreported participants	1,654	128	0	7	4	158	1,951
Terminations - with vested rights	(1)	(2)	3	N/A	0	0	0
Terminations - without vested rights	(136)	(227)	0	N/A	N/A	N/A	(363)
Retirements	(1,428)	(39)	(9)	1,476	0	N/A	0
New disabilities	(68)	(69)	0	(3)	140	N/A	0
Return to work	0	0	0	0	0	N/A	0
Died with beneficiary	(29)	0	0	(384)	(62)	475	0
Died without beneficiary	(12)	(5)	0	(391)	(67)	(334)	(809)
Active started contributing	265	(265)	N/A	N/A	N/A	N/A	0
Active stopped contributing	(607)	607	N/A	N/A	N/A	N/A	0
Certain period expired	N/A	N/A	0	0	0	(58)	(58)
Data adjustments	0	(10)	(1)	(9)	(5)	0	(25)
Number as of July 1, 2021	40,476	1,712	60	33,551	6,045	7,922	89,766

ACTUARIAL ASSUMPTIONS AND METHODS

Rationale for Assumptions:

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study for the period July 1, 2013 – June 30, 2018 as completed by Cheiron. Current data is reviewed in conjunction with each annual valuation. Based on professional judgment, the assumptions outlined in that report remain reasonable for long-term funding purposes and no changes in assumptions are warranted at this time.

The net investment return assumption is recommended by the Chief Financial Officer.

Net Investment Return:

7.00%.

The net investment return assumption is chosen based on direction from the Chief Financial Officer and as adopted by the Board of Trustees.

Salary Increases:

Service	Rate (%)
0-1	15.25
2	12.75
3	10.75
4	10.25
5	9.25
6	8.25
7	7.25
8	5.75
9	5.25
10	4.75
11	4.25
12	3.75
13+	3.25

Salary increases include an assumed inflation rate of 2.75%.

Pay Limits:

401(a)(17) pay limit is assumed to increase 2.75% per year and social security wage base is assumed to increase 3.25% per year.

Cost-of-Living Adjustments:

No future COLAs are assumed. COLAs earned prior to the valuation date are included in the valuation data.

Mortality Rates:

Employee: 105.6% of Pub-2010 Safety Employee amount-weighted mortality table for males and 102.5% of Safety Employee amount-weighted mortality table for females, projected generationally from 2010 with Scale MP-2018. 5% of deaths are assumed to be accidental.

Healthy Annuitant: 96.7% of Pub-2010 Safety Retiree Below Median amount-weighted mortality table for males and 96.0% of Pub-2010 Safety Retiree Below Median amount-weighted mortality table for females, projected generationally from 2010 with Scale MP-2018.

Actuarial Assumptions and Methods, *continued*

Disabled: 152.0% of Safety Disabled Retiree amount-weighted mortality table for males and 109.3% of Safety Disabled Retiree amount-weighted mortality table for females, projected generationally from 2010 with Scale MP-2018.

Contingent Annuitant: Pub-2010 General Retiree Below-Median amount-weighted mortality table projected generationally from 2010 with Scale MP-2018.

Termination Rates Before Retirement:

Service	Withdrawal Rate ¹	Service	Withdrawal Rate ¹	Service	Withdrawal Rate ¹
0	2.00	7	1.40	14	0.35
1	2.00	8	1.00	15	0.30
2	1.90	9	0.80	16	0.25
3	1.80	10	0.80	17	0.20
4	1.70	11	0.50	18	0.15
5	1.60	12	0.45	19	0.10
6	1.50	13	0.40	20+	0.00

¹ Withdrawal rates do not apply at or beyond early retirement age. All future terminating members assumed to elect a refund of contributions.

Age	Ordinary Disability ²	Accidental Disability
20	0.030%	0.020%
30	0.105%	0.100%
40	0.345%	0.400%
50	0.240%	0.180%
59+	0.500%	0.160%

² No ordinary disability is assumed prior to ordinary disability eligibility at four years of service.

No members are assumed to receive the involuntary disability retirement benefit.

Retirement Rates for Active Participants:

For those with less than 25 years of service:

Age	Retirement Probability
40-49	2.00%
50-57	3.00
58	3.50
59	4.25
60	5.00
61	8.00
62	10.00
63	12.00
64	14.00
65 and older	100.00

For those with 25 years of service:

Age	Retirement Probability
48 and younger	45.00%
49-54	50.00
55-59	55.00
60	60.00
61	65.00
62	70.00
63	75.00
64	90.00
65 and older	100.00

Actuarial Assumptions and Methods, continued

For those with 26 or more years of service:

Age	Retirement Probability
53 and younger	22.00%
54-59	24.00
60	26.00
61	28.00
62-63	30.00
64	40.00
65 and older	100.00

Weighted Average Retirement Age: Age 54, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active participants included in the July 1, 2021 actuarial valuation.

Retirement Age for Inactive Vested Participants: 55.

Non-Contributory Group Insurance: All benefits paid as lump sums.

Unknown Data for Participants: Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.

Percent Married: 90%.

Age of Spouse: Females three years younger than males.

Family Composition: Retirees with a beneficiary allowance reported in the data are assumed to be married. None are assumed to have dependent children or parents.

Current dependents receiving a pre-retirement accidental death benefit under age 24 are assumed to receive a benefit until age 24 while those over age 24 are assumed to receive a benefit for their lifetime.

Current dependents receiving a benefit other than a pre-retirement accidental benefit under age 19 are assumed to receive a benefit until age 19 while those over age 19 are assumed to receive a benefit for their lifetime.

Actuarial Value of Assets: Sum of actuarial value at beginning of year and increase in cost value during year excluding realized appreciation or losses plus 20 percent of market value at end of year in excess of that preliminary value. The asset method provides a degree of conservatism to increase the likelihood that benefits are funded.

Actuarial Assumptions and Methods, continued

Actuarial Cost Method:	Projected Unit Credit Actuarial Cost Method. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and allocated linearly by service.
Administrative Expense:	None.
Contribution Timing:	<p>State contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date, in line with the requirements of Chapter 83, P.L. 2016 which requires the State to pay at least 25% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30.</p> <p>Local employers' contributions are expected to be paid on April 1st, 21 months after the valuation date.</p> <p>Member's contributions and lottery revenue are expected to be received monthly.</p> <p>Contributions payable in the fiscal year starting on the valuation date are included in the actuarial value of assets as receivable contributions, discounted by the applicable valuation interest rate.</p>
Justification for Change in Actuarial Assumptions:	On recommendation from the Chief Financial Officer, the net investment return was decreased from 7.30% to 7.00% with this valuation.

SUMMARY OF PLAN PROVISIONS

This exhibit summarizes the major provisions of the PFRS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30.
Plan Status:	Ongoing.
Membership Tiers:	Tier 1: Hired on or before May 21, 2010. Tier 2: Hired between May 21, 2010 and June 28, 2011. Tier 3: Hired after June 28, 2011.
Compensation:	Base salary upon which contributions by a Member were made to the Annuity Savings Fund in the last year of service limited to the compensation limit under IRC Section 401(a)(17) for Tier 1 members and the annual maximum wage base for Social Security for Tier 2 and Tier 3 members.
Final Compensation:	Tier 1 members: Annual compensation received by the Member in the last 12 months of Creditable Service preceding their retirement. Tier 2 and Tier 3 members: Average annual compensation for the three fiscal years of membership providing the largest benefit.
Service Retirement:	<ul style="list-style-type: none">• Requirement for Members enrolled as of January 18, 2000: Age 55 or 20 Years of Creditable Service.• Requirement for Members enrolled after January 18, 2000: Age 55.• Base Amount: 2% of Final Compensation for each year of creditable service up to 30 years plus 1% of Final Compensation for each year of Creditable Service over 30 years.• 20-Year Amount: In lieu of the base amount, 50% of Final Compensation if the member has 20 or more years of Creditable Service.• Special Catch-up Amount: In lieu of the amounts above, members enrolled as of January 18, 2000 who reach mandatory retirement age of 65 and have between 20 and 25 years of Creditable Service will receive 50% of Final Compensation plus 3% of Final Compensation for each year of Creditable Service over 20 years.
Special Retirement:	<ul style="list-style-type: none">• Service Requirement: 25 Years of Creditable Service.• Amount for Tier 1 and Tier 2 members: 65% of Final Compensation plus 1% of Final Compensation for each year of Creditable Service in excess of 25 years with a maximum of 70% of Final Compensation, unless the member had 30 or more years of Creditable Service on June 30, 1979.• Amount for Tier 3 members: 60% of Final Compensation plus 1% of Final Compensation for each year of Creditable Service in excess of 25 years with a maximum of 65% of Final Compensation.
Deferred Retirement:	<ul style="list-style-type: none">• Age Requirement: 55 and terminated service prior to age 55.• Service Requirement: 10 Years of Creditable Service.• Amount: At member's election the choice of a refund of aggregate member contributions paid at termination or 2% of Final Compensation for each year of creditable service up to 30 years plus 1% of Final Compensation for each year of Creditable Service over 30 years.

Summary of Plan Provisions, *continued*

Ordinary Disability:

- **Service Requirement:** Four years of Creditable Service.
- **Other Requirement:** Totally and permanently incapacitated from the performance of usual or available duties.
- **Amount:** Greater of 40% of Final Compensation or 1.5% of Final Compensation for each year of Creditable Service.

Involuntary Ordinary Disability:

- **Requirement:** Same as Ordinary Disability except retirement applied for by employer.
- **Amount:** Same as Ordinary Disability unless the member has between 20 and 25 years of Creditable Service, in which case, 50% of Final Compensation plus 3% of Final Compensation for each year of Creditable Service over 20 years.

Accidental Disability:

- **Requirement:** Totally and permanently disabled as a direct result of a traumatic event occurring during and a result of regular or assigned duties and such member is mentally or physically incapacitated for the performance of their usual duties. Special rules may apply to duties regarding World Trade Center rescue, recovery, or cleanup operations.
- **Amount:** 2/3 of annual compensation at the time of the traumatic event (or at the time of retirement if greater).

Special Disability:

- **Age Requirement:** Under age 55.
- **Service Requirement:** 5 Years of Creditable Service.
- **Other Requirement:** Received heart transplant.
- **Amount:** 50% of Final Compensation.

Ordinary Pre-Retirement Death Benefits (active members or inactive vested members who elected a deferred pension during deferral period):

- **Non-Contributory Group Life Insurance Benefit:** Lump sum of 350% of Compensation.
- **Pension Amount:** 50% of Final Compensation payable to surviving spouse or dependent children in equal shares. If no surviving spouse or dependent children, 25% payable to a dependent parent (or 40% payable to two dependent parents). If no surviving spouse, dependent children, or dependent parents, refund of aggregate contributions.

Accidental Pre-Retirement Death Benefits (active member who dies in or from performance of duties):

- **Non-Contributory Group Life Insurance Benefit:** Lump sum of 350% of Compensation.
- **Pension Amount:** The greater of \$50,000 or 70% of Compensation payable to surviving spouse. If no surviving spouse, 70% of Compensation payable to dependent children in equal shares. If no surviving spouse or dependent children, 25% payable to a dependent parent (or 40% payable to two dependent parents). If no surviving spouse, dependent children, or dependent parents, refund of aggregate contributions.

Post-Retirement Death Benefits:

- **Non-Contributory Group Life Insurance Benefit:** Lump sum of 50% of Compensation except for disabled retirees who die before age 55 in which case a lump sum of 350% of Compensation.
- **Pension Amount:** The greater of \$4,500 per year or 50% of Final Compensation plus 15% of Final Compensation for one dependent child (or plus 25% of Final Compensation for two dependent children) payable to surviving spouse. If no surviving spouse, 20% of Final Compensation payable to one dependent child (or 35% for two children or 50% for three children). Previously granted COLAs also apply.

Summary of Plan Provisions, *continued*

Changes in Plan Provisions:

The following plan provisions were changed between July 1, 2020 and July 1, 2021 and are reflected in this valuation:

- Chapter 52, P.L. 2021 allows members enrolled between January 18, 2000 and April 19, 2021 to retire prior to age 55 if they have attained 20 Years of Creditable Service and retire by May 1, 2023.
- The Dominick Marino PFRS Enhanced Benefits for Surviving Spouses Act placed a \$50,000 annual minimum on the pension on the pre-retirement accidental death benefit for surviving spouses.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

The information on the following tables for State and Local employers is based on the final actuarial valuation reports for the given years. The amounts do not reflect differences between the discounted State appropriations receivable and the actual State contribution amounts that became known after the issuance of the reports.

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we prepared the following schedules for the System. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in the report.

Table 1								
Schedule of Retirees and Beneficiaries Added to and Removed From Rolls								
State								
Valuation Date July 1,	Added to Rolls		Removed From Rolls		Rolls at End of Year		Average Annual Allowance^{1,2,3}	% Increase in Average Annual Allowance^{1,2}
	Number³	Annual Allowance	Number^{1,2}	Annual Allowance	Number^{1,2,3}	Annual Allowance		
2021	286	\$ 14,546,292	150	\$ 4,944,492	7,073	\$ 340,032,444	48,072	0.81%
2020	271	14,487,175	137	5,025,049	6,937	330,805,742	47,687	1.02%
2019	249	12,168,447	119	4,338,355	6,803	321,147,218	47,207	0.55%
2018	256	12,439,023	131	4,867,322	6,673	313,277,156	46,947	7.64%
2017	372	17,056,592	172	5,162,512	7,007	305,608,112	43,615	1.07%
2016	407	17,916,150	188	5,868,202	6,807	293,751,067	43,154	0.84%
2015	597	27,506,231	136	4,428,009	6,588	281,941,189	42,796	1.24%
2014	411	18,319,747	125	3,624,098	6,127	259,008,914	42,273	1.08%
2013	562	25,376,310	144	3,961,938	5,841	244,287,186	41,823	1.68%
2012	483	21,936,867	83	2,596,132	5,423	223,064,017	41,133	1.49%

¹Beginning with the 2018 valuation, QDRO records excluded from headcounts and QDRO benefits included with member records. The change resulted in 459 fewer records on the rolls as of July 1, 2018.

²Location 91999 was reclassified as a Local employer beginning with 2016 valuation; 30 retirees receiving \$1,361,259 and 6 beneficiaries receiving \$168,613 were removed from the State rolls in 2016.

³Location 91999 was reclassified as a State employer beginning with the 2018 valuation; 29 retirees receiving \$1,398,446 and 5 beneficiaries receiving \$123,147 were added to the State rolls in 2018.

Historical Data and Required ACFR Exhibits, *continued*

Table 2								
Schedule of Retirees and Beneficiaries Added to and Removed From Rolls								
Local Employers								
Valuation Date July 1,	Added to Rolls		Removed From Rolls		Rolls at End of Year		Average Annual Allowance^{1,2,3}	% Increase in Average Annual Allowance^{1,2}
	Number²	Annual Allowance	Number^{1,3}	Annual Allowance	Number^{1,2,3}	Annual Allowance		
2021	1,838	\$ 139,907,988	1,027	\$ 37,150,128	40,445	\$ 2,468,834,868	\$ 61,044	1.88%
2020	2,051	151,159,484	1,151	47,184,702	39,634	2,374,772,652	59,918	2.26%
2019	1,890	134,104,687	1,050	42,654,216	38,734	2,269,658,558	58,596	1.99%
2018	1,740	121,278,555	1,169	45,359,799	37,894	2,177,011,512	57,450	8.15%
2017	1,879	119,494,770	1,157	41,177,074	39,540	2,100,385,456	53,121	1.97%
2016	2,131	127,903,000	977	33,478,631	38,818	2,022,136,965	52,093	1.77%
2015	2,223	137,472,290	1,008	34,566,655	37,664	1,927,850,322	51,185	2.23%
2014	2,157	125,562,304	1,061	37,217,915	36,449	1,824,960,208	50,069	2.01%
2013	2,126	123,863,237	1,062	34,299,782	35,353	1,735,172,993	49,081	2.32%
2012	2,131	119,315,514	855	29,526,388	34,289	1,644,739,476	47,967	1.94%

¹ Beginning with the 2018 valuation, QDRO records excluded from headcounts and QDRO benefits included with member records. This change resulted in 2,217 fewer records on the rolls as of July 1, 2018.

² Location 91999 was reclassified as a Local employer beginning with 2016 valuation; 30 retirees receiving \$1,361,259 and 6 beneficiaries receiving \$168,613 were added to the Local employer rolls in 2016.

³ Location 91999 was reclassified as a State employer beginning with the 2018 valuation; 29 retirees receiving \$1,398,446 and 5 beneficiaries receiving \$123,147 were removed from the Local employer rolls in 2018.

Historical Data and Required ACFR Exhibits, *continued*

**Table 3
 Schedule of Retirees and Beneficiaries Added to and Removed From Rolls**

Total								
Valuation Date July 1,	Added to Rolls		Removed From Rolls		Rolls at End of Year		Average Annual Allowance ^{1,2,3}	% Increase in Average Annual Allowance ^{1, 2, 3}
	Number ^{2, 3}	Annual Allowance	Number ^{1, 2, 3}	Annual Allowance	Number ^{1,2,3}	Annual Allowance		
2021	2,124	\$ 155,001,084	1,175	\$ 42,094,620	47,518	\$ 2,808,867,312	\$ 59,112	1.76%
2020	2,322	165,646,659	1,288	52,209,751	46,571	2,705,578,394	58,096	2.11%
2019	2,139	146,273,134	1,169	46,992,571	45,537	2,590,805,776	56,895	1.82%
2018	1,996	133,717,578	1,300	50,227,121	44,567	2,490,288,668	55,877	8.10%
2017	2,251	136,551,362	1,329	46,339,586	46,547	2,405,993,568	51,690	1.83%
2016	2,538	145,819,150	1,165	39,346,833	45,625	2,315,888,032	50,759	1.65%
2015	2,820	164,978,521	1,144	38,994,664	44,252	2,209,791,511	49,937	2.02%
2014	2,568	143,882,051	1,186	40,842,013	42,576	2,083,969,122	48,947	1.86%
2013	2,688	149,239,547	1,206	38,261,720	41,194	1,979,460,179	48,052	2.17%
2012	2,614	141,252,381	938	32,122,520	39,172	1,867,803,493	47,034	1.82%

¹ Beginning with the 2018 valuation, QDRO records excluded from headcounts and QDRO benefits included with member records. This change resulted in 2,676 fewer records on the rolls as of July 1, 2018.

² Location 91999 was reclassified as a Local employer beginning with the 2016 valuation; 30 retirees receiving \$1,361,259 and 6 beneficiaries receiving \$168,613 were added to the Local employers rolls and removed from the State rolls in 2016.

³ Location 91999 was reclassified as a State employer beginning with the 2018 valuation; 29 retirees receiving \$1,398,446 and 5 beneficiaries receiving \$123,147 were added to the State rolls and removed from the Local employers rolls in 2018.

Historical Data and Required ACFR Exhibits, *continued*

Table 4					
Schedule of Active Member Valuation Data					
State					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation¹	Annual Average Compensation¹	% Increase in Average Annual Compensation¹	Number of Participating Employers²
2020	6,688	\$ 511,392,879	\$ 76,464	7.94%	38
2019	6,875	487,025,462	70,840	0.47%	38
2018	6,807	479,941,514	70,507	-1.07%	40
2017	7,072	504,025,065	71,271	-3.00%	N/A
2016	6,911	507,802,380	73,477	-2.38%	N/A
2015	6,883	518,087,705	75,271	-0.14%	N/A
2014	7,025	529,501,284	75,374	0.54%	N/A
2013	7,098	532,147,062	74,971	-0.65%	N/A
2012	7,187	542,344,707	75,462	-0.31%	N/A

¹ Prior to July 1, 2018, includes non-contributing active members.

² Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

Table 5					
Schedule of Active Member Valuation Data					
Local Employers					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation¹	Annual Average Compensation¹	% Increase in Average Annual Compensation¹	Number of Participating Employers²
2020	34,150	\$ 3,505,375,030	\$ 102,646	1.62%	574
2019	34,164	3,450,951,747	101,011	1.32%	575
2018	34,013	3,390,777,193	99,691	1.01%	576
2017	34,447	3,399,605,586	98,691	0.68%	N/A
2016	33,878	3,320,721,980	98,020	0.27%	N/A
2015	33,476	3,272,560,644	97,758	-0.38%	N/A
2014	33,081	3,246,344,549	98,133	0.99%	N/A
2013	33,274	3,233,135,473	97,167	1.52%	N/A
2012	33,632	3,218,932,891	95,710	3.85%	N/A

¹Prior to July 1, 2018, includes non-contributing active members.

² Number of locations reporting contributing active members.

Historical Data and Required ACFR Exhibits, continued

Table 6					
Schedule of Active Member Valuation Data					
Total					
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation¹	Annual Average Compensation¹	% Increase in Average Annual Compensation¹	Number of Participating Employers²
2020	40,838	\$ 4,016,767,909	\$ 98,359	2.50%	612
2019	41,039	3,937,977,209	95,957	1.19%	613
2018	40,820	3,870,718,707	94,824	0.85%	616
2017	41,519	3,903,630,651	94,020	0.17%	N/A
2016	40,789	3,828,524,360	93,861	-0.07%	N/A
2015	40,359	3,790,648,349	93,923	-0.24%	N/A
2014	40,106	3,775,845,833	94,147	0.95%	N/A
2013	40,372	3,765,282,535	93,265	1.22%	N/A
2012	40,819	3,761,277,598	92,145	3.16%	N/A

¹Prior to July 1, 2018, includes non-contributing active members.

² Number of locations reporting contributing active members. For GASB reporting purposes, the State may be considered the participating employer for multiple locations.

Table 7						
Schedule of Funding Progress						
State						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 2,103,993,000	\$ 5,814,553,891	\$ 3,710,560,891	36.18%	\$ 506,255,584	732.94%
2020	1,935,340,424	5,449,871,027	3,514,530,603	35.51%	511,392,879	687.25%
2019	1,896,362,754	5,261,107,456	3,364,744,702	36.04%	487,025,462	690.88%
2018	1,872,048,766	4,983,733,970	3,111,685,204	37.56%	479,941,514	648.35%
2017	1,887,486,318	4,873,081,731	2,985,595,413	38.73%	504,025,065	592.35%
2016	1,928,447,404	4,676,642,040	2,748,194,636	41.24%	507,802,380	541.19%
2015	2,004,579,109	4,516,438,165	2,511,859,056	44.38%	518,087,705	484.83%
2014	2,062,185,965	4,365,609,664	2,303,423,699	47.24%	529,501,284	435.02%
2013	2,127,491,585	4,188,523,037	2,061,031,452	50.79%	532,147,062	387.30%
2012	2,137,727,566	4,026,954,882	1,889,227,316	53.09%	542,377,707	348.34%

¹Includes receivable amounts.

²Prior to July 1, 2018, includes non-contributing active members.

Historical Data and Required ACFR Exhibits, continued

Table 8						
Schedule of Funding Progress						
Local Employers						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 29,499,250,329	\$ 41,694,235,840	\$ 12,194,985,511	70.75%	\$ 3,563,943,590	342.18%
2020	27,723,057,451	38,853,311,601	11,130,254,150	71.35%	3,505,375,030	317.52%
2019	27,023,458,408	37,671,711,185	10,648,252,777	71.73%	3,450,951,747	308.56%
2018	26,109,128,660	35,523,376,524	9,414,247,864	73.50%	3,390,777,193	277.64%
2017	25,183,776,588	34,474,127,537	9,290,350,949	73.05%	3,399,605,586	273.28%
2016	24,420,145,823	32,793,439,210	8,373,293,387	74.47%	3,320,721,980	252.15%
2015	23,935,037,150	31,205,965,303	7,270,928,153	76.70%	3,272,560,644	222.18%
2014	23,066,498,788	30,239,286,907	7,172,788,119	76.28%	3,246,344,549	220.95%
2013	22,170,221,173	28,811,698,272	6,641,477,099	76.95%	3,233,135,473	205.42%
2012	21,549,327,079	27,705,168,437	6,155,841,358	77.78%	3,218,932,891	191.24%

¹Includes receivable amounts.

²Prior to July 1, 2018, includes non-contributing active members.

Table 9						
Schedule of Funding Progress						
Total						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 31,603,243,329	\$ 47,508,789,731	\$ 15,905,546,402	66.52%	\$ 4,070,199,174	390.78%
2020	29,658,397,875	44,303,182,628	14,644,784,753	66.94%	4,016,767,909	364.59%
2019	28,919,821,162	42,932,818,641	14,012,997,479	67.36%	3,937,977,209	355.84%
2018	27,981,177,426	40,507,110,494	12,525,933,068	69.08%	3,870,718,707	323.61%
2017	27,071,262,906	39,347,209,268	12,275,946,362	68.80%	3,903,630,651	314.48%
2016	26,348,593,227	37,470,081,250	11,121,488,023	70.32%	3,828,524,360	290.49%
2015	25,939,616,259	35,722,403,468	9,782,787,209	72.61%	3,790,648,349	258.08%
2014	25,128,684,753	34,604,896,571	9,476,211,818	72.62%	3,775,845,833	250.97%
2013	24,297,712,758	33,000,221,309	8,702,508,551	73.63%	3,765,282,535	231.12%
2012	23,687,054,645	31,732,123,319	8,045,068,674	74.65%	3,761,277,598	213.89%

¹Includes receivable amounts.

²Prior to July 1, 2018, includes non-contributing active members.

Historical Data and Required ACFR Exhibits, *continued*

Table 10 Schedule of Funded Liabilities by Type (Solvency Test)							
State							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets ²	Portion of Actuarial Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vested ¹ (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer ¹ (3)		(1)	(2)	(3)
	2020	\$ 542,459,438	\$ 3,733,528,284		\$ 1,173,883,305	\$ 1,935,340,424	100.00%
2019	521,602,269	3,646,779,490	1,092,725,697	1,896,362,754	100.00%	37.70%	0.00%
2018	500,503,234	3,483,286,430	999,944,306	1,872,048,766	100.00%	39.38%	0.00%
2017	475,818,046	3,424,967,760	972,295,925	1,887,486,318	100.00%	41.22%	0.00%
2016	463,313,193	3,266,044,658	947,284,189	1,928,447,404	100.00%	44.86%	0.00%
2015	453,476,665	3,068,942,554	994,018,946	2,004,579,109	100.00%	50.54%	0.00%
2014	461,707,703	2,836,126,945	1,067,775,016	2,062,185,965	100.00%	56.43%	0.00%
2013	446,509,394	2,645,278,934	1,096,734,709	2,127,491,585	100.00%	63.55%	0.00%
2012	444,953,351	2,418,803,841	1,163,197,690	2,137,727,566	100.00%	69.98%	0.00%

¹Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2).

²Includes receivable amounts.

Historical Data and Required ACFR Exhibits, *continued*

Table 11							
Schedule of Funded Liabilities by Type (Solvency Test)							
Local Employers							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets²	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vested¹ (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer¹ (3)		(1)	(2)	(3)
2020	\$ 3,498,478,260	\$ 26,075,894,477	\$ 9,278,938,864	\$ 27,723,057,451	100.00%	92.90%	0.00%
2019	3,446,814,312	24,931,997,761	9,292,899,112	27,023,458,408	100.00%	94.56%	0.00%
2018	3,358,899,795	23,292,240,823	8,872,235,906	26,109,128,660	100.00%	97.67%	0.00%
2017	3,247,943,768	22,521,319,267	8,704,864,502	25,183,776,588	100.00%	97.40%	0.00%
2016	3,131,241,592	21,445,939,675	8,216,257,943	24,420,145,823	100.00%	99.27%	0.00%
2015	3,028,571,346	19,956,349,181	8,221,044,776	23,935,037,150	100.00%	100.00%	11.56%
2014	2,953,537,557	18,953,799,304	8,331,950,046	23,066,498,788	100.00%	100.00%	13.91%
2013	2,842,256,925	17,710,792,805	8,258,648,542	22,170,221,173	100.00%	100.00%	19.58%
2012	2,726,801,462	16,780,025,399	8,198,341,576	21,549,327,079	100.00%	100.00%	24.91%

¹Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2)

² Includes receivable amounts.

Historical Data and Required ACFR Exhibits, *continued*

Table 12							
Schedule of Funded Liabilities by Type (Solvency Test)							
Total							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets²	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vested¹ (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer¹ (3)		(1)	(2)	(3)
	2020	\$ 4,040,937,698	\$ 29,809,422,761		\$ 10,452,822,169	\$ 29,658,397,875	100.00%
2019	3,968,416,581	28,578,777,251	10,385,624,809	28,919,821,162	100.00%	87.31%	0.00%
2018	3,859,403,029	26,775,527,253	9,872,180,212	27,981,177,426	100.00%	90.09%	0.00%
2017	3,723,761,814	25,946,287,027	9,677,160,427	27,071,262,906	100.00%	89.98%	0.00%
2016	3,594,554,785	24,711,984,333	9,163,542,132	26,348,593,227	100.00%	92.08%	0.00%
2015	3,482,048,011	23,025,291,735	9,215,063,722	25,939,616,259	100.00%	97.53%	0.00%
2014	3,415,245,260	21,789,926,249	9,399,725,062	25,128,684,753	100.00%	99.65%	0.00%
2013	3,288,766,319	20,356,071,739	9,355,383,251	24,297,712,758	100.00%	100.00%	6.98%
2012	3,171,754,813	19,198,829,240	9,361,539,266	23,687,054,645	100.00%	100.00%	14.06%

¹Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2).

² Includes receivable amounts.

Historical Data and Required ACFR Exhibits, continued

Table 13						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
State¹						
Valuation Date July 1,	Actuarial Value of Asset Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions²	Change in Unfunded Actuarial Accrued Liability
2020	\$ 65,538,544	\$ 43,904,735	\$ 0	\$ 0	\$ 40,342,622	\$ 149,785,901
2019	50,667,502	(1,753,977)	141,225,547	0	62,920,426	253,059,498
2018	47,194,210	(21,317,092)	(918,724)	0	101,131,397	126,089,791
2017	N/A	N/A	N/A	N/A	N/A	237,400,777
2016	N/A	N/A	N/A	N/A	N/A	236,335,580
2015	N/A	N/A	N/A	N/A	N/A	208,435,357
2014	N/A	N/A	N/A	N/A	N/A	242,392,247
2013	N/A	N/A	N/A	N/A	N/A	171,804,136
2012	N/A	N/A	N/A	N/A	N/A	135,957,284

¹ Prior actuary did not provide enough information for the sources of (gain)/loss split by State and Local employers.

² Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

Historical Data and Required ACFR Exhibits, continued

Table 14						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
Local¹						
Valuation Date July 1,	Actuarial Value of Asset Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions²	Change in Unfunded Actuarial Accrued Liability
2020	\$ 407,764,587	\$ 95,550,635	\$ 0	\$ 0	\$ (19,313,849)	\$ 482,001,373
2019	154,026,781	92,692,895	980,278,502	0	7,006,735	1,234,004,913
2018	107,152,686	28,336,995	(52,999,153)	0	41,406,387	123,896,915
2017	N/A	N/A	N/A	N/A	N/A	917,057,562
2016	N/A	N/A	N/A	N/A	N/A	1,102,365,234
2015	N/A	N/A	N/A	N/A	N/A	98,140,034
2014	N/A	N/A	N/A	N/A	N/A	531,311,020
2013	N/A	N/A	N/A	N/A	N/A	485,635,741
2012	N/A	N/A	N/A	N/A	N/A	228,890,862

¹ Prior actuary did not provide enough information for the sources of (gain)/loss split by State and Local employers.

² Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

Table 15						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
Total						
Valuation Date July 1,	Actuarial Value of Asset Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions¹	Change in Unfunded Actuarial Accrued Liability
2020	\$ 471,303,131	\$ 139,455,370	\$ 0	\$ 0	\$ 21,028,773	\$ 631,787,274
2019	204,694,283	90,938,917	1,121,504,049	0	69,927,161	1,487,064,411
2018	154,346,896	7,019,903	(53,917,877)	0	142,537,784	249,986,706
2017	259,929,381	58,991,642	657,629,731	0	177,907,585	1,154,458,339
2016	558,181,587	110,733,636	432,218,931	0	237,566,660	1,338,700,814
2015	187,148,126	101,636,627	(179,494,261)	0	197,284,899	306,575,391
2014	8,564,819	85,366,939	359,942,089	0	319,829,420	773,703,267
2013	416,678,002	101,967,970	0	0	138,793,905	657,439,877
2012	640,359,684	(279,145,857)	(150,622,578)	0	154,256,897	364,848,146

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

*Classic Values, Innovative Advice*

June 2, 2023

Board of Trustees
State Police Retirement System of New Jersey

Re: Actuary's Certification Letter

Dear Board Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the State Police Retirement System of New Jersey (SPRS or System) as of June 30, 2022. This letter includes references to three documents produced by Cheiron for the System: the Actuarial Valuation Report as of July 1, 2021 (transmitted April 13, 2022) and the GASB 67 and 68 Reports as of June 30, 2022 (transmitted February 23, 2023 and May 16, 2023, respectively).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of SPRS on that date and to calculate the Statutory Contribution amount for the State for the Fiscal Year Ending 2023. The prior review was conducted as of July 1, 2020, and included the Statutory Contribution amount for the Fiscal Year Ending 2022.

Actuarial funding is based on the Projected Unit Credit Cost Method. The Statutory Contribution amounts contain two components: the employer normal cost (cost of benefits for the upcoming year) and an amortization for the unfunded actuarial liability (UAL). The funding methodology prescribed by the N.J. State Statutes does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the amortization amount is calculated to amortize the UAL over an open 30 year period as a level dollar amount.
- Beginning with the July 1, 2019 actuarial valuation, the amortization amount will be calculated to amortize the UAL over a closed 30 year period (i.e., for each subsequent actuarial valuation, the amortization period shall decrease by one year) as a level dollar amount.
- Beginning with the July 1, 2029 actuarial valuation, when the amortization period reaches 20 years, an increase or decrease in the UAL as a result of actuarial losses and gains will increase or decrease, respectively, the amortization period for the UAL, except that the amortization period will not exceed 20 years.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the Statutory Contribution, any existing UAL may not be fully amortized in the future.

Member contributions are set in the N.J. State Statutes.

The non-contributory group life insurance benefit is funded separately through a term cost.

For actuarial valuation purposes, assets are valued at Actuarial Value as prescribed in the N.J. State Statutes. Under this method, the assets used to determine the Statutory Contribution amounts take into account market value by spreading all investment gains and losses (returns above or below expected returns) over a rolling five-year period.

The actuarial value of assets is intended to dampen the volatility in the market value of assets, resulting in a smoother pattern of contributions. Actuarial Standards of Practice (ASOP) No. 44 states that the asset valuation method should produce an actuarial value of assets that falls within a reasonable range of market value, recognizes the difference between the market value and actuarial value of assets within a reasonably short period of time, and is likely to produce actuarial value of assets that are sometimes greater than and sometimes less than the corresponding market values. The asset method required under the N.J. State Statutes does not meet the requirements of ASOP No. 44 because this method has produced actuarial value of assets which have consistently been greater than the market value of assets and recognizes investment losses slowly over time. Additionally, the method may produce an actuarial value of assets that falls outside of a reasonable range of the market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Buck Global, LLC.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Active Member Valuation Data
- Schedule of Funding Progress
- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods
- Membership Information (Active, Deferred Vested, and Retired)

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2014 – June 30, 2018 Experience Study, which was approved by the Board of Trustees on January 28, 2020. Subsequent to the issuance of the July 1, 2021 Actuarial Valuation Report, we completed an Experience Study covering the period July 1, 2018 – June 30, 2021, which was approved by the Board of Trustees on November 22, 2022 for use in the July 1, 2022 Actuarial Valuation Report.

The assumed investment rate of return of 7.00% was recommended by the State Treasurer.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices except as noted. In particular, the assumptions and methods (other than the asset method) used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular ASOPs Nos. 4, 27 and 35. As noted above the asset method does not meet the requirements of ASOP No. 44.

GASB 67 and 68 Reports as of June 30, 2022

The purpose of the GASB 67 and 68 Reports as of June 30, 2022 is to provide accounting and financial reporting information under GASB 67 for SPRS and under GASB 68 for the State. These reports are not appropriate for other purposes, including the measurement of funding requirements for SPRS.

For financial reporting purposes, the Total Pension Liability is based on the July 1, 2021 actuarial valuation updated to the measurement date of June 30, 2022. As a result of the Experience Study covering the period July 1, 2018 – June 30, 2021, the demographic and economic assumptions were updated. We are not aware of any other significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and an adjustment to reflect the changes in assumptions.

Please refer to our GASB 67 and 68 Reports as of June 30, 2022 for additional information related to the financial reporting of the System. We

prepared the following schedules for inclusion in the Financial Section of the Annual Comprehensive Financial Report based on the June 30, 2022 GASB 67 and 68 reports:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2018 – June 30, 2021 Experience Study performed by Cheiron and approved by the Board of Trustees on November 22, 2022. The assumptions used in the most recent reports are intended to produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years through 2024.

Based on the State Treasurer's recommendation, the investment return assumption used to determine the Statutory Contribution amounts is 7.00% per annum.

In accordance with Paragraph 40 of GASB Statement No. 67, the projection of the Plan's fiduciary net position is based on a long-term expected rate of return of 7.00% per annum as recommended by the State Treasurer.

We certify that the reports were performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

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

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

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Cheiron's reports were prepared for SPRS for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of these reports are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

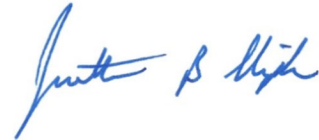
These reports and their contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as

well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in these reports. These reports do not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.


Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The following is a list of data charts contained in this section:

- A-1: Contributing Active Member Data by Tier
- A-2: Non-Contributing Active Member Data by Tier
- A-3: Inactive Member Data, Total Annual and Average Retirement Allowances by Status
- A-4: Reconciliation of Plan Membership

Table A-1			
Contributing Active Member Data by Tier			
	July 1, 2021	July 1, 2020	% Change
Tier 1			
Count	1,604	1,710	-6.2%
Average Age	44.6	44.0	1.2%
Average Service	18.4	17.8	3.2%
Average Appropriation Pay	\$ 132,345	\$ 122,163	8.3%
Total Appropriation Payroll	\$ 212,281,375	\$ 208,899,415	1.6%
Tier 2			
Count	1,353	1,052	28.6%
Average Age	31.7	31.9	-0.8%
Average Service	5.0	5.1	-2.8%
Average Appropriation Pay	\$ 88,501	\$ 84,938	4.2%
Total Appropriation Payroll	\$ 119,741,423	\$ 89,355,099	34.0%
Total			
Count	2,957	2,762	7.1%
Average Age	38.7	39.4	-1.9%
Average Service	12.3	13.0	-5.6%
Average Appropriation Pay	\$ 112,284	\$ 107,985	4.0%
Total Appropriation Payroll	\$ 332,022,798	\$ 298,254,514	11.3%

Membership Information, continued

Table A-2			
Non-Contributing Active Member Data by Tier			
	July 1, 2021	July 1, 2020	% Change
Tier 1			
Count	29	29	0.0%
Average Age	48.9	48.4	0.9%
Average Service	12.0	12.3	-2.0%
Average Last Reported Pay	\$ 97,525	\$ 95,522	2.1%
Total Last Reported Pay	\$ 2,828,222	\$ 2,770,124	2.1%
Tier 2			
Count	32	28	14.3%
Average Age	33.4	33.0	1.5%
Average Service	3.5	3.1	11.0%
Average Last Reported Pay	\$ 80,315	\$ 76,357	5.2%
Total Last Reported Pay	\$ 2,570,093	\$ 2,138,008	20.2%
Total			
Count	61	57	7.0%
Average Age	40.8	40.8	-0.1%
Average Service	7.5	7.8	-3.1%
Average Last Reported Pay	\$ 88,497	\$ 86,108	2.8%
Total Last Reported Pay	\$ 5,398,315	\$ 4,908,132	10.0%

Membership Information, *continued*

Table A-3 Inactive Member Data by Status			
	July 1, 2021	July 1, 2020	% Change
Retirees			
Count	2,770	2,721	1.8%
Annual Retirement Allowances	\$ 204,606,252	\$ 198,240,895	3.2%
Average Retirement Allowance	\$ 73,865	\$ 72,856	1.4%
Beneficiaries			
Count	484	468	3.4%
Annual Retirement Allowances	\$ 18,810,600	\$ 17,976,004	4.6%
Average Retirement Allowance	\$ 38,865	\$ 38,410	1.2%
Ordinary Disability			
Count	125	127	-1.6%
Annual Retirement Allowances	\$ 5,076,997	\$ 5,143,134	-1.3%
Average Retirement Allowance	\$ 40,616	\$ 40,497	0.3%
Accidental Disability			
Count	165	163	1.2%
Annual Retirement Allowances	\$ 10,197,110	\$ 9,956,297	2.4%
Average Retirement Allowance	\$ 61,801	\$ 61,082	1.2%
In-Pay Total			
Count	3,544	3,479	1.9%
Annual Retirement Allowances	\$ 238,690,959	\$ 231,316,330	3.2%
Average Retirement Allowance	\$ 67,351	\$ 66,489	1.3%
Deferred Vested Members			
Count	0	0	N/A
Annual Retirement Allowances	\$ 0	\$ 0	N/A
Average Retirement Allowance	\$ 0	\$ 0	N/A

QDRO benefits included with member records for valuation purposes.

Membership Information, continued

Table A-4 Reconciliation of Plan Membership from July 1, 2020 to July 1, 2021							
	Contributing Actives	Non-Contributing Actives	Deferred Vested	Retired	Disabled	Beneficiaries	Total
1. July 1, 2020	2,762	57	0	2,721	290	468	6,298
2. Additions							
a. New entrants	308	1					309
b. New beneficiaries						10	10
c. Data correction							0
d. Total	<u>308</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>10</u>	<u>319</u>
3. Reductions							
a. Withdrawal	(2)	(4)					(6)
b. Died without beneficiary				(25)	(1)	(23)	(49)
c. Payments ceased							0
d. Total	<u>(2)</u>	<u>(4)</u>	<u>0</u>	<u>(25)</u>	<u>(1)</u>	<u>(23)</u>	<u>(55)</u>
4. Changes in Status							
a. Contributing Active	1	(1)					0
b. Non-Contributing Active	(9)	9					0
c. Deferred Vested							0
d. Retired	(101)	(1)		102			0
e. Disabled	(1)			(3)	4		0
f. Died with beneficiary	(1)			(25)	(3)	29	0
g. Total	<u>(111)</u>	<u>7</u>	<u>0</u>	<u>74</u>	<u>1</u>	<u>29</u>	<u>0</u>
5. July 1, 2021	2,957	61	0	2,770	290	484	6,562

QDRO benefits included with member records for valuation purposes.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Investment Rate of Return** 7.00% per annum, compounded annually.
- 2. Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.
- 3. Cost-of-Living Adjustments (COLAs)** No future COLAs are assumed. Previously granted COLAs are included in the data.
- 4. Salary Increases** Salaries are assumed to increase by 2.95% per year through fiscal year 2025 and 3.95% per year for fiscal years 2026 and thereafter.

Salary increases are assumed to occur on January 1.
- 5. 401 (a)(17) Pay Limit** \$290,000 in 2021 increasing 2.75% per annum, compounded annually.
- 6. Social Security Wage Base** \$142,800 in 2021 increasing 3.25% per annum, compounded annually.
- 7. Termination** Termination rates are as follows:

Service	Rates
0-3	0.450%
4	0.300
5	0.225
6	0.200
7	0.175
8	0.150
9	0.125
10	0.100
11-19	0.075
20	0.000

No termination is assumed after attainment of retirement eligibility.

All members with 10 or more years of service at termination are assumed to elect a deferred retirement benefit.

Summary of Actuarial Assumptions and Methods, *continued*

8. Disability

Representative disability rates are as follows:

Age	Ordinary Disability	Accidental Disability
20	0.027%	0.015%
25	0.041	0.025
30	0.061	0.053
35	0.169	0.194
40	0.172	0.208
45	0.218	0.214
50	0.375	0.220
54	0.505	0.295

No ordinary disability is assumed prior to attainment of ordinary disability retirement eligibility at four years of service or after attainment of special retirement eligibility at 25 years of service.

Accidental disability rates apply at all ages until the mandatory retirement age of 55.

Members retiring under the ordinary disability decrement with 20 or more years of service are assumed to receive the involuntary disability retirement benefit.

Members are assumed to receive the greater of the applicable disability benefit or the service or special retirement benefit, depending on eligibility.

9. Mortality

Pre-Retirement: The Pub-2010 Public Safety Above-Median Income Employee mortality table [*PubS-2010(A) Employee*] as published by the Society of Actuaries (SOA), unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

35% of the deaths are assumed to be accidental.

For purposes of pre-retirement accidental death benefits based on Adjusted Final Compensation, the benefit is assumed to increase at the same rate as active salaries.

Healthy Retirees (Healthy Annuitants): The Pub-2010 Public Safety Above-Median Income Healthy Retiree Mortality table [*PubS-2010(A) Healthy Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Beneficiaries (Contingent Annuitants): The Pub-2010 General Above-Median Income Healthy Retiree mortality table [*PubG-2010(A) Healthy Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Public Safety Disabled Retiree mortality table [*PubS-2010 Disabled Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Summary of Actuarial Assumptions and Methods, continued

10. Retirement For those with 24 years of service or less: 0.50%

For those with 25 years of service:

Age	Rates
48 or younger	25.00%
49-54	50.00

For those with 26 or more years of service: 35.00%

Mandatory retirement at age 55.

11. Family Composition Assumptions

For members not currently in receipt, 83.3% of members are assumed married to spouses of the opposite sex. Males are assumed to be three years older than females.

For purposes of the post-retirement death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member’s spouse of the opposite sex with males assumed to be three years older than females.

No additional dependent children or parents are assumed.

For current dependents receiving a pre-retirement accidental death benefit, those under age 24 are assumed to receive a benefit until age 24 while those over age 24 are assumed to receive a benefit for the remainder of their lifetime.

For current dependents receiving a benefit other than a pre-retirement accidental death benefit, those under age 18 are assumed to receive a benefit until age 18 while those over age 18 are assumed to receive a benefit for the remainder of their lifetime.

12. Data

Information provided by the prior actuary was relied upon for the purposes of setting the status of and valuing non-contributing active records.

For current beneficiaries with missing data, reasonable assumptions were made based on the information available in prior years.

Inactives receiving benefits according to the 2020 data but omitted from the 2021 data are assumed to have died without a beneficiary.

13. Rationale for Assumptions

The demographic and economic assumptions used in this report, except for the investment return assumption, reflect the results of the July 1, 2014 - June 30, 2018 Experience Study, which was approved by the Board of Trustees on January 28, 2020.

The investment return assumption was recommended by the State Treasurer.

14. Changes in Assumptions Since Last Valuation

The assumed rate of return was decreased from 7.30% to 7.00% per annum, compounded annually.

Summary of Actuarial Assumptions and Methods, continued

B. Projection Assumptions

- 1. Investment Rate of Return** July 1, 2022 and later valuations: 7.00% per annum, compounded annually.
- 2. Appropriation Percentages** The State is assumed to appropriate 100% of the Statutory contribution in FYE 2023, and each year thereafter.
- 3. Administrative Expenses** The actual administrative expenses paid in FYE 2021 are assumed to increase by 2.75% per annum, compounded annually.
- 4. New Entrants**
 - Contributing active population assumed to remain at 2021 levels.
 - Assumed to join mid-year.
 - Age/sex distributions based on the last three years of new hires.
 - Salary based on salary for most recent hires reported on 2021 data.
 - New entrant salary assumed to increase at the same rate used for current members.
- 5. Demographic Assumptions** Same as those used for valuation purposes.
- 6. Projection Basis**

This report includes projections of future assets, liabilities, funded status and contributions for the purpose of assisting the Board of Trustees with the management of the System.

The projections are based on the same census data and financial information as of July 1, 2021 which has been used for the actuarial valuation. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2021 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2021 unless otherwise indicated. While the assumptions individually are reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate.

The projections are based on our proprietary model *PScan* developed by our firm that utilizes the results shown in this valuation report. The projections assume that all future assumptions are met except where indicated with respect to future investment returns and demographic assumptions. The future outcomes become increasingly uncertain over time, and therefore the general trends and not the absolute values should be considered in the review of these projections.

C. Actuarial Methods

The actuarial methods used for determining State contributions are described as follows:

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits linearly allocated to periods prior to the

Summary of Actuarial Assumptions and Methods, continued

valuation year based on service. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30 year period.
- Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over a closed 30 year period (i.e., for each subsequent actuarial valuation the amortization period shall decrease by one year).
- Beginning with the July 1, 2029 actuarial valuation, when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20 year amortization period.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the actuarially determined contribution, any existing unfunded accrued liability may not be fully amortized in the future.

2. Asset Valuation Method

For the purposes of determining contribution rates, an actuarial value of assets is used that dampens the volatility in the market value of assets, resulting in a smoother pattern of contributions.

The actuarial value of assets is adjusted to reflect actual contributions, benefit payments and administrative expenses and an assumed return on the previous year's assets and the current year's cash flow at the prior year's actuarial valuation interest rate, with a further adjustment to reflect 20% of the difference between the resulting value and the actual market value of Plan assets.

3. State Contribution Payable Dates

Chapter 83, P.L. 2016 requires the State to make the required pension contributions on a quarterly basis in each fiscal year according to the following schedule: at least 25% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30. As such, contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date, with the exception of the FYE 2022 contribution. For FYE 2022 only, we assumed that the entire contribution was made in a single payment on July 1, 2021 based on information provided by the DPB.

4. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

5. Changes in Actuarial Methods Since Last Valuation

None.

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the SPRS used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 53, Chapter 5A, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on plan provisions in effect as of July 1, 2021 and does not reflect the impact of any changes in benefits that may have been approved after the valuation date.

1. Eligibility of Membership

All members of the former State Police and Benevolent Fund and full-time commissioned officers, non-commissioned officers or troopers of the Division of State Police. Membership is a condition of employment.

- a) Tier 1 Member: Any member hired on or before May 21, 2010.
- b) Tier 2 Member: Any member hired after May 21, 2010.

The hiring, rehiring, retention, and benefits of certain public employees during the COVID-19 Public Health Emergency was modified under Executive Order No. 103 of 2020, as extended.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Service Credit

Service rendered while a member as described above.

4. Credited Service

A year is credited for each year of service as an officer or trooper in the State Police.

5. Compensation

Base salary in accordance with established salary policies of the state for all employees in the same position. Compensation does not include individual salary adjustments granted primarily in anticipation of the retirement or for temporary or extracurricular duties beyond the regular work day or shift. Effective June 30, 1996, Chapter 113, P. L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code. Chapter 1, P. L. 2010 provides that for members hired on or after May 22, 2010, the amount of compensation used for employer and member contributions and benefits under the System cannot exceed the annual maximum wage contribution base for Social Security, pursuant to the Federal Insurance Contributions Act.

6. Final Compensation

Average compensation received by the member in the last 12 months of credited service preceding retirement or death. Such term includes the value of the member's maintenance allowance for the same period. Chapter 1, P. L. 2010 provides that for members hired on or after May 22, 2010, Final Compensation means the average annual compensation for service for which contributions are made during any three fiscal years of membership providing the largest possible benefit to the member or the member's beneficiary.

7. Aggregate Contributions

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf.

Summary of Plan Provisions, continued

8. Member Contributions

Each member contributes 9.0% of base salary. For contribution purposes, compensation does not include overtime, bonuses, maintenance or any adjustments before retirement.

9. Adjusted Final Compensation

For purposes of the pre-retirement accidental death benefit, the amount of compensation or compensation as adjusted, as the case may be, increased by the same percentage increase which is applied in any adjustments of the compensation schedule of active members after the member's death and before the date on which the deceased member of the retirement system would have accrued 25 years of service under an assumption of continuous service, at which time that amount will become fixed. Adjustments to compensation or adjusted compensation shall take effect at the same time as any adjustments in the compensation schedule of active members.

10. Benefits

a) Service and Special Retirement

Mandatory retirement at age 55. Voluntary retirement prior to age 55.

- (1) Service Retirement: 20 years of service credit, or members as of August 29, 1985 who would not have 20 years of service credit at age 55.

Benefit is an annual retirement allowance equal to 50% of final compensation.

- (2) Special Retirement: 25 years of service credit.

Benefit is an annual retirement allowance equal to 65% of final compensation, plus 1% for each year of service credit in excess of 25 years, to a maximum of 70% of final compensation.

- (3) Members as of August 29, 1985 who would have 20 years of service credit but not 25 years at age 55.

Benefit is an annual retirement allowance equal to 50% of final compensation, plus 3% for each year of service credit in excess of 20 years.

b) Deferred Retirement

Termination of service prior to age 55 with 10 years of service credit.

Benefit is either a refund of aggregate contributions, or a deferred life annuity beginning at age 55 equal to 2% of final compensation for each year of service credit up to 25 years.

For members who die during the deferral period, the benefit is a return of aggregate contributions.

c) Non-Vested Termination

Termination of service prior to age 55 and less than 10 years of service credit.

Benefit is a return of aggregate contributions.

d) Death Benefits

- (1) Ordinary Death Before Retirement: Death of an active member of the plan. Benefit is equal to:

- a. Lump sum payment equal to 350% of final compensation, also known as the noncontributory group life insurance benefit, plus

Summary of Plan Provisions, continued

- b. Spousal life annuity of 50% of final compensation payable until spouse's death or remarriage. If there is no surviving spouse, or upon death or remarriage, 50% of final compensation payable to surviving children in equal shares. If there is no surviving spouse or dependent child(ren), 25% (40%) of final compensation to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of accumulated contributions.

(2) Accidental Death Before Retirement: Death of an active member of the plan resulting during performance of duties. Benefit is equal to:

- a. Lump sum payment equal to 350% of final compensation, also known as the non-contributory group life insurance benefit, plus
- b. Spousal life annuity of 70% of final compensation or adjusted final compensation (if appropriate) payable until spouse's death. If there is no surviving spouse, or upon death of the surviving spouse, 70% of final compensation or adjusted final compensation (if appropriate) payable to surviving children in equal shares. If there is no surviving spouse or dependent children, 25% (40%) of final compensation or adjusted final compensation (if appropriate) to one (two) dependent parents. If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of accumulated contributions.

(3) Death After Retirement: Death of a retired member of the plan. Accidental death benefits in certain circumstances are provided to surviving spouses and children of SPRS retirees who participated in the World Trade Center rescue, recovery or cleanup operations and died prior to July 2, 2019.

Benefit is equal to:

- a. Lump sum payment equal to 50% of final compensation for a member retired under service, special or deferred retirement. For a member receiving a disability benefit, lump sum payment of 350% of final compensation if death occurs prior to age 55 and 50% of final compensation if death occurs after age 55. This benefit is also known as the noncontributory group life insurance benefit, plus
- b. Spousal life annuity of 50% of final compensation payable until spouse's death or remarriage. If there is no surviving spouse, or upon death or remarriage, a total of 20% (35%, 50%) of final compensation payable to one (two, three or more) dependent child(ren). Previously granted COLAs also apply.

e) Disability Retirement

(1) Ordinary Disability Retirement: Four years of service credit and mentally or physically incapacitated for the performance of his usual duty and of any other available duty in the Division of State Police and such incapacity is likely to be permanent.

Benefit is an immediate life annuity equal to the greater of:

- a. 40% of final compensation, or
- b. 1.5% of final compensation for each year of service credit.

(2) Involuntary Ordinary Disability Retirement: Ordinary Disability Retirement applied for by the employer.

Benefit is an immediate life annuity equal to:

- a. For members with 20 years of service credit but less than 25 years, 50% of final compensation plus 3% of final compensation for each year of service credit in excess of 20 years, to a maximum of 65% of final compensation.
- b. For all other members, the Ordinary Disability benefit.

(3) Accidental Disability Retirement: Totally and permanently disabled as a direct result of a traumatic event occurring during and as a result of his regular or assigned duties and such member is mentally or physically incapacitated for the performance of his usual

Summary of Plan Provisions, *continued*

duties in the Division of State Police. Under certain conditions, regular or assigned duties may include the World Trade Center (WTC) rescue, recovery, or cleanup operations between September 11, 2001 and October 11, 2001. For such member who participated in the WTC rescue, recovery, or cleanup operations, the total and permanent disability may occur after retirement on a service retirement or an ordinary disability retirement.

Benefit is an immediate life annuity equal to $2/3$ of annual rate of compensation, including the maintenance allowance, at the time of the traumatic event or retirement, whichever is greater.

11. Forms of Payment

No optional forms of payment available.

12. Changes in Plan Provisions Since Last Valuation

Chapter 115, P.L. 2020 modified the hiring, rehiring, retention, and benefits of certain public employees during the COVID-19 Public Health Emergency under Executive Order No. 103 of 2020, as extended.

Chapter 75, P.L. 2021 provides accidental death benefits in certain circumstances to surviving spouses and children of SPRS retirees who participated in the World Trade Center rescue, recovery or cleanup operations and died prior to July 8, 2019.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we prepared the following schedules for the Fund. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Table D-1								
Schedule of Retirees and Beneficiaries Added to and Removed from Rolls								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance¹	% Increase in Average Annual Allowance¹
	Number	Annual Allowance	Number¹	Annual Allowance	Number¹	Annual Allowance		
2021	142	\$ 10,977,530	77	\$ 3,625,235	3,544	\$ 238,690,959	\$ 67,351	1.30%
2020	161	11,682,136	82	3,767,812	3,479	231,316,330	66,489	1.19%
2019	79	5,012,378	83	3,855,314	3,400	223,394,278	65,704	0.66%
2018	127	9,003,637	64	2,802,076	3,404	222,196,734	65,275	8.54%
2017	101	5,551,153	79	3,074,257	3,588	215,773,680	60,138	0.54%
2016	137	8,351,556	82	3,165,408	3,566	213,292,784	59,813	0.91%
2015	160	10,330,374	58	2,732,284	3,511	208,106,636	59,273	0.77%
2014	201	14,131,655	45	1,563,031	3,409	200,508,546	58,817	1.81%
2013	291	20,641,305	68	2,192,736	3,253	187,939,922	57,774	3.28%
2012	256	17,483,694	44	1,557,365	3,030	169,491,353	55,938	3.06%

¹ Beginning with the 2018 valuation. QDRO records excluded from headcounts and QDRO benefits included with member records. This change resulted in 247 fewer records on the rolls as of July 1, 2018.

Table D-2				
Schedule of Active Member Valuation Data				
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation¹	Annual Average Compensation¹	% Increase / (Decrease) in Average Annual Compensation¹
2021	2,957	\$ 332,022,798	\$ 112,284	3.98%
2020	2,762	298,254,514	107,985	0.84%
2019	2,766	296,189,926	107,082	3.32%
2018	2,661	275,790,087	103,642	0.84%
2017	2,812	289,022,222	102,782	0.83%
2016	2,725	277,771,135	101,934	(0.98%)
2015	2,676	275,477,457	102,944	(1.09%)
2014	2,522	262,496,289	104,083	(1.46%)
2013	2,481	262,063,829	105,628	1.48%
2012	2,721	283,219,927	104,086	7.56%

¹ Prior to July 1, 2018, includes non-contributing active members.

Historical Data and Required ACFR Exhibits, continued

Table D-3 Schedule of Funding Progress						
Valuation Date July 1,	Actuarial Value of Assets ¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a)/(b)	Covered Payroll² (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c)/(d)
2021	\$ 2,173,817,051	\$ 3,994,414,280	\$ 1,820,597,229	54.42%	\$ 332,022,798	548.34%
2020	2,001,925,624	3,692,501,511	1,690,575,887	54.22%	298,254,514	566.82%
2019	1,971,653,600	3,595,361,713	1,623,708,113	54.84%	296,189,926	548.20%
2018	1,939,304,839	3,430,821,762	1,491,516,923	56.53%	275,790,087	540.82%
2017	1,923,127,122	3,346,082,274	1,422,955,152	57.47%	289,022,222	492.33%
2016	1,931,131,875	3,209,386,033	1,278,254,158	60.17%	277,771,135	460.18%
2015	1,969,239,472	3,090,220,484	1,120,981,012	63.72%	275,477,457	406.92%
2014	1,981,376,495	2,963,182,120	981,805,625	66.87%	262,496,289	374.03%
2013	1,990,797,312	2,870,590,700	879,793,388	69.35%	262,063,829	335.72%
2012	1,995,388,133	2,767,768,813	772,380,680	72.09%	283,219,927	272.71%

¹ Includes receivable amounts.

² Prior to July 1, 2018, includes non-contributing active members.

Table D-4 Schedule of Funded Liabilities by Type (Solvency Test)							
Valuation Date July 1,	Actuarial Accrued Liabilities for			Actuarial Value of Assets¹	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member (1)	Retirees, Beneficiaries & Deferred Vesteds (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer (3)		(1)	(2)	(3)
2021	\$ 244,835,739	\$ 2,799,992,676	\$ 949,585,865	\$ 2,173,817,051	100.00%	68.89%	0.00%
2020	237,863,129	2,647,423,561	807,214,821	2,001,925,624	100.00%	66.63%	0.00%
2019	232,360,668	2,562,244,073	800,756,972	1,971,653,600	100.00%	67.88%	0.00%
2018	215,026,809	2,512,523,540	703,271,413	1,939,304,839	100.00%	68.63%	0.00%
2017	206,680,622	2,445,366,686	694,034,966	1,923,127,122	100.00%	70.19%	0.00%
2016	190,955,019	2,401,980,284	616,450,730	1,931,131,875	100.00%	72.45%	0.00%
2015	181,536,046	2,289,865,821	618,818,617	1,969,239,472	100.00%	78.07%	0.00%
2014	173,529,948	2,173,442,158	616,210,014	1,981,376,495	100.00%	83.18%	0.00%
2013	171,462,709	2,034,551,263	664,576,728	1,990,797,312	100.00%	89.42%	0.00%
2012	180,407,372	1,822,707,659	764,653,782	1,995,388,133	100.00%	99.58%	0.00%

¹ Includes receivable amounts.

Historical Data and Required ACFR Exhibits, *continued*

Table D-5 Analysis of Financial Experience Change in Unfunded Actuarial Accrued Liability						
Valuation Date July 1,	Actuarial Value of Asset Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Change	Plan Changes	Contributions¹	Change in Unfunded Actuarial Accrued Liability
2021	\$ (40,856,964)	\$ 70,169,384	\$ 137,855,533	\$ 0	\$ (37,146,611)	\$ 130,021,342
2020	35,163,723	3,355,504	0	0	28,348,547	66,867,774
2019	17,233,108	(2,412,105)	79,849,779	0	37,520,408	132,191,190
2018	14,491,075	(3,282,548)	2,791,271	0	54,561,973	68,561,771
2017	23,174,471	1,508,647	55,934,385	239,606	63,843,885	144,700,994
2016	46,667,367	(8,038,512)	45,696,315	0	72,947,976	157,273,146
2015	17,135,937	71,841	52,383,620	0	69,583,989	139,175,387
2014	3,558,670	16,454,524	1,252,085	0	80,746,958	102,012,237
2013	39,486,464	15,629,542	0	0	52,296,702	107,412,708
2012	59,989,655	65,124,479	27,320,457	0	53,619,373	206,053,964

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

*Classic Values, Innovative Advice*

June 2, 2023

State House Commission
Judicial Retirement System of New Jersey

Re: Actuary's Certification Letter

Dear Commission Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the Judicial Retirement System of New Jersey (JRS or System) as of June 30, 2022. This letter includes references to three documents produced by Cheiron for the System: the Actuarial Valuation Report as of July 1, 2021 (transmitted April 13, 2022) and the GASB 67 and 68 Reports as of June 30, 2022 (transmitted February 23, 2023 and May 16, 2023, respectively).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of JRS on that date and to calculate the Statutory Contribution amount for the State for the Fiscal Year Ending 2023. The prior review was conducted as of July 1, 2020, and included the Statutory Contribution amount for the Fiscal Year Ending 2022.

Actuarial funding is based on the Projected Unit Credit Cost Method. The Statutory Contribution amounts contain two components: the employer normal cost (cost of benefits for the upcoming year) and an amortization for the unfunded actuarial liability (UAL). The funding methodology prescribed by the N.J. State Statutes does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the amortization amount is calculated to amortize the UAL over an open 30 year period as a level dollar amount.
- Beginning with the July 1, 2019 actuarial valuation, the amortization amount will be calculated to amortize the UAL over a closed 30 year period (i.e., for each subsequent actuarial valuation, the amortization period shall decrease by one year) as a level dollar amount.
- Beginning with the July 1, 2029 actuarial valuation, when the amortization period reaches 20 years, an increase or decrease in the UAL as a result of actuarial losses and gains will increase or decrease, respectively, the amortization period for the UAL, except that the amortization period will not exceed 20 years.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the Statutory Contribution, any existing UAL may not be fully amortized in the future.

Member contributions are set in the N.J. State Statutes.

The non-contributory group life insurance benefit is funded separately through a term cost.

For actuarial valuation purposes, assets are valued at Actuarial Value as prescribed in the N.J. State Statutes. Under this method, the assets used to determine the Statutory Contribution amounts take into account market value by spreading all investment gains and losses (returns above or below expected returns) over a rolling five-year period.

The actuarial value of assets is intended to dampen the volatility in the market value of assets, resulting in a smoother pattern of contributions. Actuarial Standards of Practice (ASOP) No. 44 states that the asset valuation method should produce an actuarial value of assets that falls within a reasonable range of market value, recognizes the difference between the market value and actuarial value of assets within a reasonably short period of time, and is likely to produce actuarial value of assets that are sometimes greater than and sometimes less than the corresponding market values. The asset method required under the N.J. State Statutes does not meet the requirements of ASOP No. 44 because this method has produced actuarial value of assets which have consistently been greater than the market value of assets and recognizes investment losses slowly over time. Additionally, the method may produce an actuarial value of assets that falls outside of a reasonable range of the market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Buck Global, LLC.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Active Member Valuation Data
- Schedule of Funding Progress
- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods
- Membership Information (Active, Deferred Vested, and Retired)

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2014 – June 30, 2018 Experience Study, approved by the State House Commission on July 2, 2020. Subsequent to the issuance of the July 1, 2021 Actuarial Valuation Report, we completed an Experience Study covering the period July 1, 2018 – June 30, 2021, which was approved by the Commission on January 9, 2023 for use in the July 1, 2022 Actuarial Valuation Report.

The assumed investment rate of return of 7.00% was recommended by the State Treasurer.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices except as noted. In particular, the assumptions and methods (other than the asset method) used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular ASOPs Nos. 4, 27 and 35. As noted above the asset method does not meet the requirements of ASOP No. 44.

GASB 67 and 68 Reports as of June 30, 2022

The purpose of the GASB 67 and 68 Reports as of June 30, 2022 is to provide accounting and financial reporting information under GASB 67 for JRS and under GASB 68 for the State. These reports are not appropriate for other purposes, including the measurement of funding requirements for JRS.

For financial reporting purposes, the Total Pension Liability is based on the July 1, 2021 actuarial valuation updated to the measurement date of June 30, 2022. As a result of the Experience Study covering the period July 1, 2018 – June 30, 2021, the demographic and economic assumptions were updated. We are not aware of any other significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and an adjustment to reflect the changes in assumptions.

Please refer to our GASB 67 and 68 Reports as of June 30, 2022 for additional information related to the financial reporting of the System. We prepared the following schedules for inclusion in the Financial Section of the Annual Comprehensive Financial Report based on the June 30, 2022 GASB 67 and 68 reports

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Changes in Net Pension Liability and Related Ratios
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

The demographic and economic (other than the investment rate of return) actuarial assumptions are based on the recommendations from the July 1, 2018 – June 30, 2021 Experience Study performed by Cheiron and approved by the State House Commission on January 9, 2023. The assumptions used in the most recent reports are intended to produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years through 2024.

Based on the State Treasurer's recommendation, the investment return assumption used to determine the Statutory Contribution amounts is 7.00% per annum.

In accordance with Paragraph 40 of GASB Statement No. 67, the projection of the Plan's fiduciary net position is based on a long-term expected rate of return of 7.00% per annum as recommended by the State Treasurer.

We certify that the reports were performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

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

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

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Cheiron's reports were prepared for JRS for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of these reports are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

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

Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The following is a list of data charts contained in this section:

- A-1: Contributing Active Member Data
- A-2: Non-Contributing Active Member Data
- A-3: Inactive Member Data, Total Annual and Average Retirement Allowances by Status
- A-4: Reconciliation of Plan Membership

Table A-1 Contributing Active Member Data			
	July 1, 2021	July 1, 2020	% Change
Count	394	405	-2.7%
Average Age	59.2	59.0	0.4%
Average Judicial Service	9.3	9.2	1.3%
Average Appropriation Pay	\$ 193,912	\$ 190,050	2.0%
Total Appropriation Payroll	\$ 76,401,342	\$ 76,970,450	-0.7%

Table A-2 Non-Contributing Active Member Data			
Members Eligible for Annuity	July 1, 2021	July 1, 2020	% Change
Count	1	4	-75.0%
Average Age	63.2	68.8	-8.1%
Average Judicial Service	4.9	13.3	-63.0%
Average Last Reported Pay	\$ 192,289	\$ 191,634	0.3%
Total Last Reported Pay	\$ 192,289	\$ 766,534	-74.9%
Members Only Eligible for Refund			
Count	9	6	50.0%
Last Reported Annuity Savings Fund	\$ 476,587	\$ 238,090	100.2%
Total			
Count	10	10	0.0%

Membership Information, *continued*

Table A-3 Inactive Member Data by Status			
	July 1, 2021	July 1, 2020	% Change
Retirees			
Count	465	455	2.2%
Annual Retirement Allowances	\$ 50,500,191	\$ 48,885,221	3.3%
Average Retirement Allowance	\$ 108,603	\$ 107,440	1.1%
Beneficiaries			
Count	180	176	2.3%
Annual Retirement Allowances	\$ 10,263,291	\$ 9,989,366	2.7%
Average Retirement Allowance	\$ 57,018	\$ 56,758	0.5%
Disabled			
Count	10	9	11.1%
Annual Retirement Allowances	\$ 1,175,655	\$ 1,049,214	12.1%
Average Retirement Allowance	\$ 117,566	\$ 116,579	0.8%
In-Pay Total			
Count	655	640	2.3%
Annual Retirement Allowances	\$ 61,939,137	\$ 59,923,801	3.4%
Average Retirement Allowance	\$ 94,564	\$ 93,631	1.0%
Deferred Vested Members			
Count	9	6	50.0%
Annual Retirement Allowances	\$ 660,288	\$ 331,785	99.0%
Average Retirement Allowance	\$ 73,365	\$ 55,298	32.7%

QDRO benefits included with member records for valuation purposes.

Membership Information, *continued*

Table A-4 Reconciliation of Plan Membership from July 1, 2020 to July 1, 2021							
	Contributing Actives	Non-Contributing Actives	Deferred Vested	Retired	Disabled	Beneficiaries	Total
1. July 1, 2020	405	10	6	455	9	176	1,061
2. Additions							
a. New entrants	22						22
b. New dependents							0
c. Data corrections						3	3
c. Total	<u>22</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>25</u>
3. Reductions							
a. Withdrawal	(2)						(2)
b. Died without beneficiary	(1)			(7)		(8)	(16)
c. Payments ceased							0
d. Total	<u>(3)</u>	<u>0</u>	<u>0</u>	<u>(7)</u>	<u>0</u>	<u>(8)</u>	<u>(18)</u>
4. Changes in Status							
a. Contributing Active							0
b. Non-Contributing Active	(4)	4					0
c. Deferred Vested	(3)		3				0
d. Retired	(21)	(4)		25			0
e. Disabled	(1)				1		0
f. Died with beneficiary	(1)			(8)		9	0
g. Total	<u>(30)</u>	<u>0</u>	<u>3</u>	<u>17</u>	<u>1</u>	<u>9</u>	<u>0</u>
5. July 1, 2021	394	10	9	465	10	180	1,068

QDRO benefits included with member records for valuation purposes.

ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Investment Rate of Return** 7.00% per annum, compounded annually.
- 2. Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.
- 3. Interest Crediting Rate on Accumulated Deductions** 7.00% per annum, compounded annually. Interest credits are assumed to end upon termination.
- 4. Cost-of-Living Adjustments (COLAs)** No future COLA is assumed. Previously granted COLAs are included in the data.
- 5. Salary Increases** Salaries are assumed to increase 4.6% from FYE 2018 to FYE 2019, 4.4% from FYE 2019 to FYE 2020, 2.0% per year for the following five years (from FYE 2020 to FYE 2025), and 2.75% per year thereafter.
 Salary increases are assumed to occur on January 1.
- 6. 401 (a)(17) Pay Limit** \$290,000 in 2021 increasing 2.75% per annum, compounded annually.
- 7. Disability** Representative disability rates are as follows:

Age	Rates
30	0.022%
35	0.026
40	0.033
45	0.064
50	0.114
55	0.197
60	0.326
65	0.473

- 8. Mortality**

Healthy Retirees (Healthy Annuitants): The Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table [*PubT-2010(A) Healthy Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

Actuarial Assumptions and Methods, continued

Pre-Retirement (Non-Annuitants): The Pub-2010 Teachers Above-Median Income Employee mortality table [*PubT-2010(A) Employee*] as published by the Society of Actuaries, unadjusted, and with future improvement from the base year of 2010 on a generational basis using SOA's Scale MP-2018.

9. Retirement

Retirement rates are as follows:

Age	Less than 15 Years of Judicial Service	15-19 Years of Judicial Service	20 or More Years of Judicial Service
<60	0.0%	0.0%	0.0%
60	2.0	5.0	20.0
61	2.0	5.0	20.0
62	2.0	5.0	20.0
63	2.0	5.0	20.0
64	2.0	5.0	20.0
65	5.0	40.0	30.0
66	2.0	50.0	20.0
67	2.0	60.0	20.0
68	2.0	60.0	20.0
69	2.0	60.0	20.0
70	100.0	100.0	100.0

10. Termination

None assumed.

11. Family Composition Assumptions

For members not currently in receipt, 90% of members are assumed married to spouses of the opposite sex. Males are assumed to be three years older than females.

For purposes of the optional form of payment death benefit for members currently in receipt, beneficiary status is based on the beneficiary allowance reported. If no beneficiary date of birth is provided, the beneficiary is assumed to be the member's spouse of the opposite sex with males assumed to be three years older than females.

Actuarial Assumptions and Methods, *continued*

For purposes of the statutory death benefit for members currently in receipt, 100% of participants are assumed married to spouses of the opposite sex, with the exception of those members who elected Optional Forms A, B, C or D and are currently in receipt of their maximum retirement allowance. The spouse is assumed to be the reported beneficiary. If no beneficiary date of birth is provided, males are assumed to be three years older than females.

No additional dependent children or parents are assumed.

Current dependents under age 21 are assumed to receive a benefit until age 21. Current dependents over age 21 are assumed to receive a benefit for the remainder of their lifetime.

12. Form of Payment

Current actives are assumed to elect the Maximum Option.

13. Data

Information provided by the prior actuary was relied upon for the purposes of valuing the deferred vested members.

For current beneficiaries with missing data, reasonable assumptions were made based on the information available in prior years.

Inactives receiving benefits according to the 2020 data but omitted from the 2021 data are assumed to have died without a beneficiary.

14. Rationale for Assumptions

The demographic and economic assumptions used in this report, except for the investment return assumption, reflect the results of the July 1, 2014 – June 30, 2018 Experience Study, which was approved by the State House Commission on July 2, 2020. The investment return assumption was recommended by the State Treasurer.

15. Changes in Assumptions Since Last Valuation

The assumed investment rate of return was decreased from 7.30% to 7.00% per annum, compounded annually.

The interest crediting rate on accumulated deductions from 7.30% to 7.00% per annum, compounded annually.

B. Projection Assumptions

1. Investment Rate of Return

July 1, 2022 and later valuations: 7.00% per annum, compounded annually.

2. Appropriation Percentages

The State is assumed to appropriate 100% of the Statutory contribution in FYE 2023, and each year thereafter.

3. Administrative Expenses

The actual administrative expenses paid in FYE 2021 are assumed to increase 2.75% per annum, compounded annually.

4. New Entrants

- Contributing active population assumed to remain at 2021 levels.
- Assumed to join mid-year.
- Age/sex distributions based on the last three years of new hires.
- Salary based on salary for most recent hires reported on 2021 data.
- New entrant salary assumed to increase at the same rate used for current members.

Actuarial Assumptions and Methods, continued

- 5. Demographic Assumptions** Same as those used for valuation purposes.
- 6. Projection Basis** This report includes projections of future assets, liabilities, funded status and contributions for the purpose of assisting the Board of Trustees with the management of the System.
- The projections are based on the same census data and financial information as of July 1, 2021 which has been used for actuarial valuation. The projections assume continuation of the plan provisions and actuarial assumptions in effect as of July 1, 2021 and do not reflect the impact of any changes in benefits or actuarial assumptions that may be adopted after July 1, 2021 unless otherwise indicated. While the assumptions are individually reasonable for the underlying valuation that supports the projections, specifically for projection purposes, they are also considered reasonable in the aggregate.
- The projections assume that all future assumptions are met except where indicated with respect to future investment returns and demographic assumptions. The future outcomes become increasingly uncertain over time, and therefore the general trends and not the absolute values should be considered in the review of these projections.

C. Actuarial Methods

The actuarial methods used for determining State contributions are described as follows.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits linearly allocated to periods prior to the valuation year based on judicial service. Refunds are valued as the reported Accumulated Deductions as provided by the DPB. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

In accordance with Chapter 78, P.L. 2011:

- Beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30 year period.
- Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over a closed 30 year period (i.e., for each subsequent actuarial valuation the amortization period shall decrease by one year).
- Beginning with the July 1, 2029 actuarial valuation, when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20 year amortization period.

To the extent that the amortization period remains an open period in future years and depending upon the specific circumstances, it should be noted that in the absence of emerging actuarial gains or contributions made in excess of the actuarially determined contribution, any existing unfunded accrued liability may not be fully amortized in the future.

Actuarial Assumptions and Methods, *continued*

2. Asset Valuation Method

For the purposes of determining contribution rates, an actuarial value of assets is used that dampens the volatility in the market value of assets, resulting in a smoother pattern of contributions.

The actuarial value of assets is adjusted to reflect actual contributions, benefit payments and administrative expenses and an assumed return on the previous year's assets and the current year's cash flow at the prior year's actuarial valuation interest rate, with a further adjustment to reflect 20% of the difference between the resulting value and the actual market value of Plan assets.

3. State Contribution Payable Dates

Chapter 83, P.L. 2016 requires the State to make the required pension contributions on a quarterly basis in each fiscal year according to the following schedule: at least 25% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30. As such, contributions are assumed to be made on a quarterly basis with the first contribution 15 months after the associated valuation date, with the exception of the FYE 2022 contribution. For FYE 2022 only, we assumed that the entire contribution was made in a single payment on July 1, 2021 based on information provided by the DPB.

4. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

5. Changes in Actuarial Methods Since Last Valuation

None.

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the JRS used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 6A, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on plan provisions in effect as of July 1, 2021 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility for Membership

Chief Justice and Associate Justices of the State Supreme Court, and judges of the Appellate Court, Superior Court and Tax Court of the State of New Jersey.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Service Credit

A year is credited for each year of service as a public employee in the State of New Jersey. Any service, for which the member did not receive annual salary of at least \$500, shall be excluded. Judicial service credit is based on biweekly pay periods for which member contributions are made to JRS.

4. Final Salary

Annual salary received by the member at the time of retirement or other termination of service. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code.)

5. Accumulated Deductions

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf.

6. Interest Credits on Accumulated Deductions

Members receive interest credits while contributing and for the first two years of inactivity. Prior to July 1, 2018, members received interest credits for the entire period of inactivity until retirement or death.

7. Employee Contributions

Any member enrolled prior to January 1, 1996 contributes 3% of the difference between current salary and salary for the position on January 18, 1982. Members enrolled on or after January 1, 1996 contribute 3% of their full salary.

Chapter 78, P.L. 2011 increased Member Contributions by 9% of salary phased in over a period of seven years beginning October 2011. (The additional 9% of salary was fully recognized in July 2017.)

a) For members enrolled prior to January 1, 1996:

- (1) Member contributes 9% (phased in over a period of seven years beginning October 2011) of the salary for that position on January 18, 1982.
- (2) Member contributes 12% (9% of that phased in over a period of seven years beginning October 2011) of the difference between current salary and salary for that position on January 18, 1982.

b) For members enrolled on or after January 1, 1996, Member contributes 12% (9% of that phased in over a period of seven years beginning October 2011) of full salary.

Summary of Plan Provisions, continued

8. Retirement Allowance

Benefit comprised of a member annuity plus an employer pension.

9. Benefits

a) Service Retirements

Mandatory retirement at age 70. Voluntary retirement prior to that age.

Chapter 105 P.L. 2021 removed the mandatory retirement at age 70 for a member who has been appointed by the Governor, with the advice and consent of the Senate, to the position of county prosecutor.

(1) Age 70 and 10 years of judicial service; or

Age 65 and 15 years of judicial service; or

Age 60 and 20 years of judicial service.

Benefit is an annual retirement allowance equal to 75% of final salary.

(2) Age 65 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service; or

Age 60 while serving as a judge, 5 consecutive years of judicial service and 20 years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 50% of final salary.

(3) Age 60 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year of public service in excess of 25 years.

(4) Age 60 while serving as a judge.

Benefit is an annual retirement allowance equal to 2% of final salary for each year of judicial service up to 25 years plus 1% for each year of public service in excess of 25 years.

b) Early Retirement

Prior to age 60 while serving as a judge, 5 consecutive years of judicial service and 25 or more years in the aggregate of public service.

Benefit is an annual retirement allowance equal to 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year of public service in excess of 25 years, actuarially reduced for commencement prior to age 60.

c) Deferred Retirement

Termination of service prior to age 60, with 5 consecutive years of judicial service and 10 years in the aggregate of public service.

Benefit is a refund of accumulated deductions, or a deferred life annuity beginning at age 60 equal to 2% of final salary for each year of public service up to 25 years, plus 1% of final salary for each year of public service in excess of 25 years.

d) Non-Vested Termination

Termination of service prior to age 60, with less than 5 years of judicial service or less than 10 years in the aggregate of public service.

Benefit is a refund of accumulated deductions.

e) Disability Retirement

Physically or otherwise incapacitated for the full and efficient service to State in his judicial capacity and such incapacity is likely to be permanent.

Benefit is an annual retirement allowance of 75% of final salary.

Summary of Plan Provisions, continued**f) Death Benefits**

(1) Before Retirement: Death of an active member of the plan. Benefit is equal to:

- a) Lump sum payment equal to 150% of final salary also known as the non-contributory group life insurance benefit, plus
- b) Spousal life annuity of 25% of final salary payable until spouse's remarriage plus 10% (15%) to one (two or more) dependent child(ren). If there is no surviving spouse, or upon death or remarriage, a total of 15% (20%, 30%) of final salary payable to one (two, three or more) dependent child(ren). If there is no surviving spouse or dependent child(ren), 20% (30%) of final salary to one (two) dependent parent(s). If there is no surviving spouse, dependent child(ren) or parent(s), the benefit is a refund of accumulated deductions with interest. This is also known as the statutory death benefit.

(2) After Retirement: Death of a retired member of the plan. The benefit is equal to:

- a) Lump sum of 25% of final salary for a member retired under service or early retirement. For a member receiving a disability benefit, a lump sum of 150% of final salary if death occurred before the member attained age 60 and 25% of final salary if death occurred after age 60. This is also known as the non-contributory group life insurance benefit, plus
- b) Spousal life annuity of 25% of final salary adjusted for any previously granted Cost-of-Living Adjustments, or the salary of an active judge in the member's final position at retirement, if larger, payable until spouse's remarriage plus 10% (15%) to one (two or more) dependent child(ren). If there is no surviving spouse, or upon death or remarriage, a total of 15% (20%, 30%) of final salary payable to one (two, three or more) dependent child(ren). This is also known as the statutory death benefit.

10. Forms of Payment

In addition to the postretirement death benefits listed above, the member may elect the following forms of payment.

- a) Maximum Option: Single life annuity with a return of the balance of the member accumulated deductions with credited interest.
- b) Option 1: Single life annuity with a return of the balance of the initial reserve.
- c) Option 2: 100% joint and survivor annuity.
- d) Option 3: 50% joint and survivor annuity.
- e) Option 4: Other percentage joint and survivor annuity.
- f) Option A: 100% pop-up joint and survivor annuity.
- g) Option B: 75% pop-up joint and survivor annuity.
- h) Option C: 50% pop-up joint and survivor annuity.
- i) Option D: 25% pop-up joint and survivor annuity

11. Changes in Plan Provisions Since Last Valuation

Chapter 105, P.L. 2021 removed the mandatory retirement at age 70 for a member who has been appointed by the Governor, with the advice and consent of the Senate, to the position of county prosecutor.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we prepared the following schedules for the System. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Table D-1 Schedule of Retirees and Beneficiaries Added to and Removed from Rolls								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance¹	% Increase in Average Annual Allowance¹
	Number	Annual Allowance	Number¹	Annual Allowance	Number¹	Annual Allowance		
2021	38	\$ 3,954,037	23	\$ 1,938,703	655	\$ 61,939,137	\$ 94,564	1.00%
2020	41	3,538,867	34	3,037,320	640	59,923,801	93,631	-0.21%
2019	38	3,911,675	19	1,734,194	633	59,393,303	93,828	0.78%
2018	31	2,668,375	28	1,958,556	614	57,164,048	93,101	2.69%
2017	37	3,058,274	19	1,670,094	623	56,481,444	90,660	-0.44%
2016	41	3,599,047	22	1,471,553	605	55,093,264	91,063	0.75%
2015	43	4,254,340	18	1,234,963	586	52,965,770	90,385	1.52%
2014	34	3,165,378	22	1,456,153	561	49,946,393	89,031	1.33%
2013	48	4,091,470	34	2,021,915	549	48,237,168	87,864	1.82%
2012	34	3,723,186	21	1,423,636	535	46,167,613	86,295	2.69%

¹Beginning with the 2018 valuation, QDRO records excluded from headcounts and QDRO benefits included with member records. This change resulted in 12 fewer records on the rolls as of July 1, 2018.

Table D-2 Schedule of Active Member Valuation Data				
Valuation Date July 1,	Number of Contributing Active Members¹	Annual Compensation¹	Annual Average Compensation¹	% Increase in Average Annual Compensation¹
2021	394	\$ 76,401,342	\$ 193,912	2.03%
2020	405	76,970,450	190,050	4.42%
2019	421	76,627,036	182,012	4.62%
2018	447	77,763,777	173,968	4.79%
2017	430	71,385,705	166,013	0.00%
2016	410	68,062,584	166,006	-0.05%
2015	404	67,097,166	166,082	-0.14%
2014	397	66,028,491	166,319	0.32%
2013	409	67,810,110	165,795	-0.03%
2012	407	67,497,660	165,842	-0.16%

¹ Prior to July 1, 2018, includes non-contributing active members.

Historical Data And Required ACFR Exhibits, continued

Table D-3 Schedule of Funding Progress						
Valuation Date July 1,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 249,915,574	\$ 854,306,065	\$ 604,390,491	29.25%	\$ 76,401,342	791.07%
2020	214,861,100	809,796,408	594,935,308	26.53%	76,970,450	772.94%
2019	207,308,308	790,936,136	583,627,828	26.21%	76,627,036	761.65%
2018	209,981,271	670,562,613	460,581,342	31.31%	77,763,777	592.28%
2017	216,952,852	646,507,109	429,554,257	33.56%	71,385,705	601.74%
2016	226,310,119	629,810,812	403,500,693	35.93%	68,062,584	592.84%
2015	243,864,022	602,364,200	358,500,178	40.48%	67,097,166	534.30%
2014	258,101,497	632,679,937	374,578,440	40.79%	66,028,491	567.30%
2013	276,966,331	620,376,292	343,409,961	44.64%	67,810,110	506.43%
2012	290,191,842	605,180,634	314,988,792	47.95%	67,497,660	466.67%

¹Includes receivable amounts.

Table D-4 Schedule of Funded Liabilities by Type (Solvency Test)							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets²	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vested¹ (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer¹ (3)		(1)	(2)	(3)
	2021	\$ 59,863,926	\$ 596,712,989		\$ 197,729,150	\$ 249,915,574	100.00%
2020	56,024,212	561,766,393	192,005,803	214,861,100	100.00%	28.27%	0.00%
2019	50,003,665	557,371,419	183,561,052	207,308,308	100.00%	28.22%	0.00%
2018	44,573,503	474,289,256	151,699,854	209,981,271	100.00%	34.87%	0.00%
2017	37,093,233	471,714,228	137,699,648	216,952,852	100.00%	38.13%	0.00%
2016	31,564,870	460,298,517	137,947,425	226,310,119	100.00%	42.31%	0.00%
2015	26,322,768	430,541,499	145,499,933	243,864,022	100.00%	50.53%	0.00%
2014	23,058,086	444,577,573	165,044,278	258,101,497	100.00%	52.87%	0.00%
2013	20,588,967	435,970,958	163,816,367	276,966,331	100.00%	58.81%	0.00%
2012	19,799,227	417,423,315	167,958,092	290,191,842	100.00%	64.78%	0.00%

¹Prior to July 1, 2018, actuarial accrued liability for deferred vesteds included under (3) instead of (2).

²Includes receivable amounts.

Historical Data And Required ACFR Exhibits, *continued*

Table D-5 Analysis of Financial Experience Change in Unfunded Actuarial Accrued Liability						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions¹	Change in Unfunded Actuarial Accrued Liability
2021	\$ (1,254,706)	\$ (94,031)	\$ 22,751,668	\$ 0	\$ (11,947,748)	\$ 9,455,183
2020	4,836,409	(4,390,489)	0	0	10,861,560	11,307,480
2019	3,596,522	11,540,552	95,614,278	0	12,295,134	123,046,486
2018	3,628,245	11,259,223	240,890	0	15,898,727	31,027,085
2017	4,846,305	(4,615,530)	7,782,928	0	18,039,861	26,053,564
2016	7,475,692	6,312,912	7,095,990	0	24,115,921	45,000,515
2015	4,537,795	(2,080,753)	(46,435,820)	0	27,900,516	(16,078,262)
2014	3,383,419	(5,591,539)	550,325	0	32,826,274	31,168,479
2013	8,171,361	(2,041,123)	0	0	22,290,931	28,421,169
2012	11,628,201	(2,699,458)	4,492,499	0	26,591,545	40,012,787

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

*Classic Values, Innovative Advice*

June 2, 2023

Board of Trustees
Consolidated Police and Firemen's Pension Fund of New Jersey**Re: Actuary's Certification Letter**

Dear Board Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the Consolidated Police and Firemen's Pension Fund of New Jersey (CPFPPF or Fund) as of June 30, 2022. This letter includes references to two documents produced by Cheiron for the Fund: the Actuarial Valuation Report as of July 1, 2021 (transmitted April 13, 2022) and the GASB 67 Report as of June 30, 2022 (transmitted December 5, 2022).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of CPFPPF on that date and to calculate the Statutory Contribution amount for the State for the Fiscal Year Ending 2023. The prior review was conducted as of July 1, 2020, and included the Statutory Contribution amount for the Fiscal Year Ending 2022.

Beginning with the July 1, 2021 Actuarial Valuation Report, the results include assets and liabilities associated with cost-of-living adjustments. The cost-of-living adjustments were previously separately funded on a pay-as-you-go basis through the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. In FYE 2021, a portion of the Pension Adjustment Fund assets related to CPFPPF was transferred into the CPFPPF and cost-of-living adjustments were paid directly from the CPFPPF, instead of through annual contributions from the Pension Adjustment Fund. Any ongoing contributions required to fund the cost-of-living adjustments are included with the Statutory Contribution.

Actuarial funding is based on the Projected Unit Credit Cost Method. The Statutory Contribution amounts contain two components: the employer normal cost (cost of benefits for the upcoming year) and an amortization for the unfunded actuarial liability (UAL). Since CPFPPF does not have any active members, there is no normal cost component. The funding methodology prescribed by the N.J. State Statutes does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

The UAL as of June 30, 1990 was amortized over a closed period of nine years. Without additional guidance, we have assumed that any future UAL will be amortized over one year

For actuarial valuation purposes, assets are valued at market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Buck Global, LLC.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Funding Progress

- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods
- Membership Information (Active, Deferred Vested, and Retired)

The actuarial assumptions and methods are based on the draft 2019 Experience Study dated October 23, 2019 and approved by the Division of Pensions and Benefits (DPB). Subsequent to the issuance of the July 1, 2021 Actuarial Valuation Report, we completed an Experience Study covering the period from July 1, 2018 – June 30, 2021, which was approved by the DPB for use in the July 1, 2022 Actuarial Valuation Report.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. The assumptions and methods used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular, ASOPs Nos. 4, 27, 35, and 44.

GASB 67 Report as of June 30, 2022

The purpose of the GASB 67 Report as of June 30, 2022 is to provide accounting and financial reporting information under GASB 67 for CPFPE. This report is not appropriate for other purposes, including the measurement of funding requirements for CPFPE.

For financial reporting purposes, the Total Pension Liability is based on the July 1, 2021 actuarial valuation updated to the measurement date of June 30, 2022. The assumed discount rate used to measure the Total Pension Liability was changed as of the measurement date, increasing from 2.16% as of June 30, 2021 to 3.54% as of June 30, 2022. We are not aware of any other significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and an adjustment to reflect the change in assumptions.

Please refer to our GASB 67 Report as of June 30, 2022 for additional information related to the financial reporting of the Fund. We prepared the following schedules for inclusion in the Financial Section of the Annual Comprehensive Financial Report based on the June 30, 2022 GASB 67 report:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

The demographic and economic actuarial assumptions are based on the recommendations from the 2022 Experience Study dated November 9, 2022, performed by Cheiron and approved by the DPB. The assumptions used in the most recent report are intended to produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years through 2024.

The State prescribed the use of an expected long-term rate of return based on the Bond Buyer Go 20-Bond Municipal Bond Index for GASB 67 purposes in lieu of the 2.00% long-term rate of return used for funding.

We certify that the reports were performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

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

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

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Cheiron's reports were prepared for CPFPF for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of these reports are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

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


Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The following is a list of data charts contained in this section:

- A-1 and A-2: Inactive Member Data by Age and Status
- A-3: Reconciliation of Plan Membership

Table A-1			
Counts by Age and Status of Inactive Members			
As of July 1, 2021			
Attained Age	Status		Total
	Retiree	Beneficiary	
Under 45	0	0	0
45-49	0	0	0
50-54	0	0	0
55-59	0	0	0
60-64	0	0	0
65-69	0	1	1
70-74	0	2	2
75-79	0	2	2
80-84	0	3	3
85 & Over	1	24	25
Total	1	32	33

Membership Information, continued

Table A-2 Annual Basic Retirement Allowances by Age and Status of Inactive Members As of July 1, 2021			
Attained Age	Status		Total
	Retiree	Beneficiary	
Under 45	\$ 0	\$ 0	\$ 0
45-49	0	0	0
50-54	0	0	0
55-59	0	0	0
60-64	0	0	0
65-69	0	7,678	7,678
70-74	0	21,202	21,202
75-79	0	10,342	10,342
80-84	0	45,855	45,855
85 & Over	51,639	487,427	539,067
Total	\$ 51,639	\$ 572,504	\$ 624,143

Table A-3 Reconciliation of Plan Members from July 1, 2020 to July 1, 2021			
	Retired	Beneficiaries	Total
1. July 1, 2020	2	41	43
2. Reductions			
a. Died without beneficiary	(1)	(9)	(10)
3. Changes in Status			
a. Died with beneficiary			0
4. July 1, 2021	1	32	33

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Investment Rate of Return** 2.00% compounded annually.
- 2. Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.
- 3. Mortality**

Healthy retirees: The Pub-2010 Public Safety Healthy Retiree mortality table [*PubS-2010 Healthy Retiree*] as published by the Society of Actuaries (SOA), unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2018.

Beneficiaries: The Pub-2010 General Healthy Retiree mortality table [*PubG-2010 Healthy Retiree*] as published by the SOA, unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2018.
- 4. Family Composition Assumptions**

For those participants with listed beneficiaries, the beneficiary allowance was assumed to be the greater of twice the amount contained in the record or the minimum of \$4,500/yr. (The information contained in the record has not been updated for the change from 25% to 50% payment to the survivor.)

For those participants without listed beneficiaries, 65% were assumed to be married and the beneficiary amount was assumed to be the minimum benefit payable (\$4,500/yr).

Males are assumed to be four years older than females.

No assumption was made for children.
- 5. Rationale for Assumptions** The assumptions are based on the draft 2019 Experience Study dated October 23, 2019 and approved by the Division of Pensions and Benefits.
- 6. Changes in Actuarial Assumptions Since Last Valuation** None.

B. Actuarial Methods

The actuarial methods used for determining State contributions are described below.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

The unfunded actuarial liability as of June 30, 1990 was amortized over a closed period of nine years. Without additional guidance, we assumed that if there is an unfunded actuarial liability in the future it will be amortized over one year.

Summary of Actuarial Assumptions and Methods, *continued*

Beginning with the July 1, 2021 valuation, liabilities associated with cost-of-living adjustments are included in the valuation based on the amounts provided in the census data by the DPB. Previously, the cost-of-living adjustments were separately funded on a pay-as-you-go basis through the Pension Adjustment Fund and the associated liabilities were excluded from the valuation.

2. Asset Valuation Method

The actuarial value of assets is equal to the market value of assets.

In FYE 2021, the Pension Adjustment Fund was transferred into the CPFPPF and cost-of-living adjustments are now paid directly from the CPFPPF.

3. State Contribution Payable Dates

Chapter 83, P.L. 2016 requires the State to make the required pension contributions on a quarterly basis in each fiscal year according to the following schedule: at least 25% by September 30, at least 50% by December 31, at least 75% by March 31, and at least 100% by June 30. As such, contributions are assumed to be made on a quarterly basis.

4. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

5. Changes in Actuarial Methods Since Last Valuation

Effective with the July 1, 2021 valuation, assets and liabilities associated with cost-of-living adjustments are included in the valuation. Previously, the cost-of-living adjustments were separately funded on a pay-as-you-go basis through the pension Adjustment Fund and the associated assets and liabilities were excluded from the valuation.

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the CPFPPF used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 16, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on the plan provisions in effect as of July 1, 2021 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility of Membership

Member of a municipal police department, a municipal paid or part-paid fire department, a county police department, or a paid or part-paid fire department of a fire district located in a township who has contributed to this pension fund and who is not covered by the Police and Firemen's Retirement System, which became effective on July 1, 1944.

2. Active Member

Any member who is a policeman, fireman, detective, lineman, driver of police van, fire alarm operator, or inspector of combustibles, and who is subject to call for active service as such.

3. Employee Member

Any member who is not subject to active service or duty.

4. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

5. Service Credit

Service rendered while a member as described above.

6. Compensation

Base salary, not including individual salary adjustments which are granted primarily in anticipation of retirement or additional remuneration for performing temporary duties beyond the regular workday. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code.)

7. Final Compensation

Compensation received during the last 12 months of service preceding retirement or other termination of service.

8. Average Salary

Salary averaged over the last three years prior to retirement or other termination of service.

9. Contributions

Each active member contributes 7% of his salary to the pension fund.

Summary of Plan Provisions, continued

10. Benefits

a) Service Retirements

Mandatory retirement at age 65 with 25 years of service (a municipality may retain the Chief of Police until age 70). Voluntary retirement after 25 years of service for an active member and after age 60 with 25 years of experience for an employee member. Benefit is life annuity equal to 60% of final compensation, plus 1% of final compensation for years of service in excess of 25.

b) Death Benefits

(1) While on Duty

Immediate life annuity equal to 70% of average salary payable to the spouse. If there is no spouse, or if the spouse dies or remarries, 20% of final compensation will be payable to one surviving child, 35% to two surviving children, or 50% to three surviving children. If is no surviving spouse or child, 25% of the member's average salary will be payable to one dependent parent or 40% to two dependent parents. The minimum spousal benefit is \$4,500 per annum.

(2) While not on duty after retirement

Life annuity equal to 50% of the member's average salary payable to the spouse, plus 15% to one surviving child or 25% to two or more surviving children. If there is no surviving spouse or if the surviving spouse dies or remarries, 20% of the member's average salary to one child, 35% to two surviving children, or 50% to three or more surviving children. If is no surviving spouse or child, 25% of the member's average salary will be payable to one dependent parent or 40% to two dependent parents. The minimum spousal benefit is \$4,500 per annum.

c) Ordinary Disability Retirement

Totally and permanently incapacitated from service for any cause other than as a direct result of a traumatic event occurring during the performance of a duty. Benefit is an immediate life annuity equal to 1/2 of average salary.

d) Accidental Disability Retirement

Totally and permanently incapacitated as a direct result of a traumatic event occurring while performing regular or assigned duties. Benefit is an immediate life annuity equal to 2/3 of average salary.

e) Cost-of-Living Adjustments

Cost-of-living increases are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. The additional liability due to the pension adjustment was previously paid by the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. Chapter 78, P.L. 2011 suspended the cost-of-living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law. In FYE 2021, the Pension Adjustment Fund was transferred into the CPFPPF and cost-of-living adjustments were paid directly from the CPFPPF, instead of through annual contributions from the Pension Adjustment Fund.

11. Changes in Plan Provisions Since Last Valuation

The benefits associated with cost-of-living increases will be paid directly from the CPFPPF, instead of through annual contributions from the Pension Adjustment Fund. The actuarial accrued liability as of July 1, 2021 has been increased to reflect the value of the cost-of-living adjustments.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

The information above is based on the final actuarial valuation reports for the given years. The amounts do not reflect differences between the discounted State appropriations receivable and the actual State contribution amounts that became known after the issuance of the reports.

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports, we prepared the following schedules for the Fund. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance	% Increase (Decrease) in Average Annual Allowance
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance		
2021	0	\$ 0	10	\$ 79,329	33	\$ 624,143	\$ 18,913	151.34%
2020	0	0	9	63,449	43	323,589	7,525	1.10%
2019	0	0	10	57,040	52	387,038	7,443	3.91%
2018	0	0	15	96,452	62	444,078	7,163	2.04%
2017	0	0	18	117,408	77	540,530	7,020	1.36%
2016	0	0	29	164,935	95	657,938	6,926	4.37%
2015	0	0	25	210,952	124	822,873	6,636	(4.35%)
2014	0	0	36	268,424	149	1,033,825	6,938	(1.43%)
2013	0	0	56	414,903	185	1,302,249	7,039	(1.21%)
2012	3	46,595	72	478,997	241	1,717,152	7,125	2.75%

¹ Annual allowances do not include cost-of-living adjustments prior to July 1, 2021 valuation.

Valuation Date July 1,	Actuarial Value of Assets ¹ (a)	Actuarial Accrued Liability ² (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c)/(d)
2021	\$ 2,260,738	\$ 2,845,637	\$ 584,899	79.45%	\$ 0	N/A
2020	1,295,217	1,369,932	74,715	94.55%	0	N/A
2019	1,387,550	1,628,242	240,692	85.22%	0	N/A
2018	2,313,665	2,186,581	(127,084)	105.81%	0	N/A
2017	2,721,368	2,674,728	(46,640)	101.74%	0	N/A
2016	3,017,928	3,336,743	318,815	90.45%	0	N/A
2015	3,340,908	4,208,241	867,333	79.39%	0	N/A
2014	4,366,457	4,848,499	482,042	90.06%	0	N/A
2013	6,445,847	6,102,292	(343,555)	105.63%	0	N/A
2012	7,179,322	8,026,421	847,099	89.45%	0	N/A

¹ Includes receivable amounts. Values from valuations prior to July 1, 2021 do not include assets associated with cost-of-living adjustments.

² Values from valuations prior to July 1, 2021 do not include liabilities associated with cost-of-living adjustments.

Historical Data and Required ACFR Exhibits, continued

Table D-3							
Schedule of Funded Liabilities by Type (Solvency Test)							
Valuation Date July 1,	Actuarial Accrued Liabilities for			Actuarial Value of Assets²	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vested¹ (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer (3)		(1)	(2)	(3)
2021	\$ 0	\$ 2,845,637	\$ 0	\$ 2,260,738	N/A	79.45%	N/A
2020	0	1,369,932	0	1,295,217	N/A	94.55%	N/A
2019	0	1,628,242	0	1,387,550	N/A	85.22%	N/A
2018	0	2,186,581	0	2,313,665	N/A	100.00%	N/A
2017	0	2,674,728	0	2,721,368	N/A	100.00%	N/A
2016	0	3,336,743	0	3,017,928	N/A	90.45%	N/A
2015	0	4,208,241	0	3,340,908	N/A	79.39%	N/A
2014	0	4,848,499	0	4,366,457	N/A	90.06%	N/A
2013	0	6,102,292	0	6,445,847	N/A	100.00%	N/A
2012	0	8,026,421	0	7,179,322	N/A	89.45%	N/A

¹ Values from valuations prior to July 1, 2021 do not include liabilities associated with cost-of-living adjustments.

² Includes receivable amounts. Values from valuations prior to July 1, 2021 do not include assets associated with cost-of-living adjustments.

Table D-4						
Analysis of Financial Experience						
Change in Unfunded Actuarial Accrued Liability						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions¹	Change in Unfunded Actuarial Accrued Liability
2021	\$ 40,512	\$ (121,005)	\$ 667,664	\$ 0	\$ (76,987)	\$ 510,184
2020	10,163	61,238	0	0	(237,378)	(165,977)
2019	113,583	(31,761)	289,436	0	(3,482)	367,776
2018	137,551	(63,930)	10,670	0	(164,735)	(80,444)
2017	164,069	(154,174)	0	0	(375,350)	(365,455)
2016	194,017	(264,949)	0	0	(477,586)	(548,518)
2015	228,240	(201,179)	348,589	0	9,641	385,291
2014	265,707	(314,561)	0	0	874,451	825,597
2013	306,998	(650,553)	0	0	(847,099)	(1,190,654)
2012	355,895	(515,459)	1,006,663	0	(879,297)	(32,198)

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.



Classic Values, Innovative Advice

June 2, 2023

Board of Trustees
Prison Officers' Pension Fund of New Jersey

Re: Actuary's Certification Letter

Dear Board Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the Prison Officers' Pension Fund of New Jersey (POPF or Fund) as of June 30, 2022. This letter includes references to two documents produced by Cheiron for the Fund: the Actuarial Valuation Report as of July 1, 2021 (transmitted April 13, 2022) and the GASB 67 Report as of June 30, 2022 (transmitted December 5, 2022).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of POPF on that date and to calculate the Statutory Contribution amount for the State for the Fiscal Year Ending 2023. The prior review was conducted as of July 1, 2020, and included the Statutory Contribution amount for the Fiscal Year Ending 2022.

Beginning with the July 1, 2021 Actuarial Valuation Report, the results include assets and liabilities associated with cost-of-living adjustments. The cost-of-living adjustments were previously separately funded on a pay-as-you-go basis through the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. In FYE 2021, a portion of the Pension Adjustment Fund assets related to POPF was transferred into the POPF and cost-of-living adjustments were paid directly from the POPF, instead of through annual contributions from the Pension Adjustment Fund. Any ongoing contributions required to fund the cost-of-living adjustments are included with the Statutory Contribution.

Actuarial funding is based on the Projected Unit Credit Cost Method. The Statutory Contribution amounts contain two components: the employer normal cost (cost of benefits for the upcoming year) and an amortization for the unfunded actuarial liability (UAL). Since POPF does not have any active members, there is no normal cost component. Also, because POPF has a surplus (assets in excess of actuarial liability), there is no UAL funding component. The funding methodology prescribed by the N.J. State Statute does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

The UAL as of July 1, 1988 was amortized over a closed period of 14 years. Without additional guidance, we have assumed that any future UAL will be amortized over one year.

For actuarial valuation purposes, assets are valued at market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Buck Global, LLC.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Funding Progress
- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods

- Membership Information (Active, Deferred Vested, and Retired)

The actuarial assumptions are based on the draft 2019 Experience Study dated October 23, 2019 and approved by the Division of Pensions and Benefits (DPB). Subsequent to the issuance of the July 1, 2021 Actuarial Valuation Report, we completed an Experience Study covering the period July 1, 2018 – June 30, 2021, which was approved by the DPB for use in the July 1, 2022 Actuarial Valuation Report.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. The assumptions and methods used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular, ASOPs Nos. 4, 27, 35 and 44.

GASB 67 Report as of June 30, 2022

The purpose of the GASB 67 Report as of June 30, 2022 is to provide accounting and financial reporting information under GASB 67 for POPF. This report is not appropriate for other purposes, including the measurement of funding requirements for POPF.

For financial reporting purposes, the Total Pension Liability is based on the July 1, 2021 actuarial valuation updated to the measurement date of June 30, 2022. The assumed discount rate used to measure the Total Pension Liability was changed as of the measurement date, increasing from 2.16% as of June 30, 2021 to 3.54% as of June 30, 2022. We are not aware of any other significant events between the valuation date and the measurement date, so the update procedures only included the addition of service cost and interest cost offset by actual benefit payments, and an adjustment to reflect the change in assumptions.

Please refer to our GASB 67 Report as of June 30, 2022 for additional information related to the financial reporting of the Fund. We prepared the following schedules for inclusion in the Financial Section of the Annual Comprehensive Financial Report based on the June 30, 2022 GASB 67 report:

- Change in Net Pension Liability
- Sensitivity of Net Pension Liability to Changes in Discount Rate
- Schedule of Employer Contributions
- Notes to the Schedule of Employer Contributions

The demographic and economic actuarial assumptions are based on the recommendations from the 2022 Experience Study dated November 9, 2022, performed by Cheiron and approved by the DPB. The assumptions used in the most recent report are intended to produce results that, in the aggregate, reasonably approximate the anticipated future experience of the Plan. The next experience analysis is expected to cover the years through 2024.

The State prescribed the use of an expected long-term rate of return based on the Bond Buyer Go 20-Bond Municipal Bond Index for GASB 67 purposes in lieu of the 2.00% long-term rate of return used for funding.

We certify that the reports were performed in accordance with generally accepted actuarial principles and practices. In particular, the assumptions and methods used for disclosure purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB.

Disclaimers

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

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

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Cheiron's reports were prepared for POPF for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of these reports are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

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

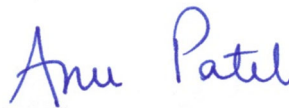
Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The following is a list of data charts contained in this section:

- A-1 and A-2: Inactive Member Data by Age and Status
- A-3: Reconciliation of Plan Membership

Table A-1					
Counts by Age and Status of Inactive Members					
Attained Age	Status				Total
	Retiree	Beneficiary	Ordinary Disability	Accidental Disability	
Under 45	0	0	0	0	0
45-49	0	0	0	0	0
50-54	0	0	0	0	0
55-59	0	0	0	0	0
60-64	0	0	0	0	0
65-69	0	1	0	0	1
70-74	0	1	0	0	1
75-79	0	2	0	0	2
80-84	0	2	0	0	2
85 & Up	6	33	2	0	41
Total	6	39	2	0	47

Table A-2					
Annual Basic Retirement Allowances by Age and Status of Inactive Members					
Attained Age	Status				Total
	Retiree	Beneficiary	Ordinary Disability	Accidental Disability	
Under 45	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
45-49	0	0	0	0	0
50-54	0	0	0	0	0
55-59	0	0	0	0	0
60-64	0	0	0	0	0
65-69	0	8,469	0	0	8,469
70-74	0	22,179	0	0	22,179
75-79	0	24,262	0	0	24,262
80-84	0	26,333	0	0	26,333
85 & Up	130,281	330,186	45,253	0	505,720
Total	\$ 130,281	\$ 411,429	\$ 45,253	\$ 0	\$ 586,963

Membership Information, continued

Table A-3				
Reconciliation of Plan Membership from July 1, 2020 to July 1, 2021				
	Retired	Disabled	Beneficiaries	Total
1. July 1, 2020	7	2	48	57
2. Reductions				
a. Died without beneficiary	(1)		(9)	(10)
3. Changes in Status				
a. Died with beneficiary				
4. July 1, 2021	6	2	39	47

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- | | |
|--|---|
| 1. Investment Rate of Return | 2.00% compounded annually. |
| 2. Administrative Expenses | No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute. |
| 3. Mortality | <p><u>Healthy retirees:</u> The Pub-2010 Public Safety Healthy Retiree mortality table [<i>PubS-2010 Healthy Retiree</i>] as published by the Society of Actuaries (SOA), unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2018.</p> <p><u>Beneficiaries:</u> The Pub-2010 General Healthy Retiree mortality table [<i>PubG-2010 Healthy Retiree</i>] as published by the SOA, unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2018.</p> <p><u>Disabled retirees:</u> The Pub-2010 Public Safety Disabled Retiree mortality table [<i>PubS-2010 Disabled Retiree</i>] as published by the SOA, unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2018.</p> |
| 4. Family Composition Assumptions | Males are assumed to be 3 years older than females. No assumption was made for children. |
| 5. Rationale for Assumptions | The assumptions are based on the draft 2019 Experience Study dated October 23, 2019 and approved by the Division of Pensions and Benefits. |
| 6. Changes in Actuarial Assumption since Last Valuation | None. |

B. Actuarial Methods

The actuarial methods used for determining State contributions are described as follows.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

The unfunded actuarial liability as of July 1, 1988 was amortized over a closed period of 14 years. Without additional guidance, we assumed that if there is an unfunded actuarial liability in the future it will be amortized over one year.

Beginning with the July 1, 2021 valuation, liabilities associated with cost-of-living adjustments are included in the valuation based on the amounts provided in the census data by the DPB. Previously, cost-of-living adjustments were separately funded on a pay-as-you-go basis through the Pension Adjustment Fund and the associated liabilities were excluded from the valuation.

Summary of Actuarial Assumptions and Methods, continued

2. Asset Valuation Method

The actuarial value of assets is equal to the market value of assets.

In FYE 2021, the Pension Adjustment Fund was transferred into the POPF and cost-of-living adjustments are now paid directly from the POPF.

3. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech), to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

4. Changes in Actuarial Methods Since Last Valuation

Effective with the July 1, 2021 valuation, assets and liabilities associated with cost-of-living adjustments are included in the valuation. Previously, the cost-of-living adjustments were separately funded on a pay-as-you-go basis through the Pension Adjustment Fund and the associated assets and liabilities were excluded from the valuation.

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the POPF used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 7, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on the plan provisions in effect as of July 1, 2021 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility of Membership

Employees of State penal institutions, employed prior to January 1, 1960 who did not transfer to the Police & Firemen's Retirement System in accordance with Chapter 205 of Public Law 1989. The System no longer accepts new members.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Service Credit

A year is credited for each year an employee is a member of the retirement system.

4. Average Final Compensation (AFC)

Average annual compensation for the three years immediately preceding retirement. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a) (17) of the Internal Revenue Code.)

5. Accumulated Deductions

The sum (without interest) of all required amounts deducted from the compensation of a member or contributed by him or on his behalf.

6. Benefits**a) Service Retirements**

25 years of service, or age 55 and 20 years of service. The benefit is a life annuity equal to the greater of (1), (2), and (3) below:

- (1) 2% of AFC up to 30 years of service plus 1% for each year in excess of 30 and prior to age 65;
- (2) 50% of final pay; and
- (3) For a member with 25 years of service, 2% of AFC up to 30 years of service plus 1 % for each year in excess of 30.

b) Vested Retirements

Eligible upon termination of employment. Benefits are summarized as follows:

- (1) Termination with 10 or more years of service: Benefit is a deferred life annuity payable at age 55 equal to 2% of AFC for service up to 30 years plus 1 % for service over 30 years.
- (2) Termination with less than 10 years of service: Refund of accumulated deductions.

c) Ordinary Disability Retirement

Permanent and total disability for causes other than as a direct result of a traumatic event occurring during the performance of regular or assigned duties. Benefit is an immediate life annuity equal to 1/2 of AFC.

Summary of Plan Provisions, *continued*

d) Accidental Disability Retirement

Permanent and total disability as a direct result of a traumatic event occurring while performing regular or assigned duties. Benefit is an immediate life annuity of 2/3 of AFC.

e) Death Benefits

Spouse must be either married to the member prior to retirement, or at least five years before the member's death. Benefit is an annuity equal to 25% of member's AFC, plus an additional 15% for one surviving dependent child or 25% for at least two surviving dependent children.

If there is no surviving spouse or spouse remarries, an annuity equal to 20% of member's AFC will be given to one surviving dependent child, or 35% of the member's AFC to two surviving dependent children, or 50% of the member's AFC to three or more surviving dependent children.

If there is no surviving spouse or child, an annuity equal to 25% of member's AFC will be given to one dependent parent or 40% to two dependent parents, provided the member has not retired.

Minimum spousal annuity is \$1,600 per annum. If no other benefit is payable prior to retirement, the member's beneficiary will receive the accumulated deductions.

f) Cost-of-Living Adjustments

Cost-of-living increases are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. The additional liability due to the pension adjustment was previously paid by the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. Chapter 78, P.L. 2011 suspended the cost-of-living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law. In FYE 2021, the Pension Adjustment Fund was transferred into the POPF and cost-of-living adjustments were paid directly from the POPF, instead of through annual contributions from the Pension Adjustment Fund.

7. Employee Contributions

Each member contributes 6% of compensation.

8. Changes in Plan Provisions Since Last Valuation

The benefits associated with cost-of-living increases will be paid directly from the POPF, instead of through annual contributions from the Pension Adjustment Fund. The actuarial accrued liability as of July 1, 2021 has been increased to reflect the value of the cost-of-living adjustments.

HISTORICAL DATA AND REQUIRED ACFR EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports, we prepared the following schedules for the Fund. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Table D-1								
Schedule of Retirees and Beneficiaries Added to and Removed from Rolls¹								
Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance	% Increase (Decrease) in Average Annual Allowance
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance		
2021	0	\$ 0	10	\$ 57,533	47	\$ 586,963	\$ 12,489	105.28%
2020	1	2,722	6	26,933	57	346,813	6,084	1.67%
2019	1	13,904	10	91,530	62	371,024	5,984	(5.30%)
2018	3	14,633	9	54,505	71	448,650	6,319	(0.39%)
2017	1	5,776	14	96,732	77	488,522	6,344	(1.48%)
2016	1	10,055	9	82,458	90	579,478	6,439	(3.20%)
2015	2	11,794	14	152,980	98	651,881	6,652	(7.74%)
2014	1	7,671	12	71,652	110	793,067	7,210	1.79%
2013	1	2,856	15	82,854	121	857,048	7,083	2.05%
2012	3	20,252	10	76,496	135	937,046	6,941	(0.77%)

¹ Annual allowances prior to July 1, 2021 valuation do not include cost-of-living adjustments.

Table D-2						
Schedule of Funding Progress						
Valuation Date July 1,	Actuarial Value of Assets^{1,2} (a)	Actuarial Accrued Liability² (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c)/(d)
2021	\$ 5,136,045	\$ 3,540,725	\$ (1,595,320)	145.06%	\$ 0	N/A
2020	4,643,012	2,148,107	(2,494,905)	216.14%	0	N/A
2019	4,925,932	2,433,686	(2,492,246)	202.41%	0	N/A
2018	5,223,456	2,595,221	(2,628,235)	201.27%	0	N/A
2017	5,620,868	2,849,732	(2,771,136)	197.24%	0	N/A
2016	6,111,233	3,461,099	(2,650,134)	176.57%	0	N/A
2015	6,704,568	3,889,524	(2,815,044)	172.38%	0	N/A
2014	7,383,201	4,301,307	(3,081,894)	171.65%	0	N/A
2013	8,171,920	4,748,938	(3,422,982)	172.08%	0	N/A
2012	9,044,236	5,395,505	(3,648,731)	167.63%	0	N/A

¹ Includes receivable amounts.

² Values prior to July 1, 2021 valuation do not include assets and liabilities associated with cost-of-living adjustments.

Historical Data and Required ACFR Exhibits, Continued

Table D-3 Schedule of Funded Liabilities by Type (Solvency Test)							
Valuation Date July 1,	Actuarial Accrued Liabilities For			Actuarial Value of Assets^{1,2}	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vesteds¹ (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer (3)		(1)	(2)	(3)
	2021	\$ 0	\$ 3,540,725		\$ 0	\$ 5,136,045	N/A
2020	0	2,148,107	0	4,643,012	N/A	100.00%	N/A
2019	0	2,433,686	0	4,925,932	N/A	100.00%	N/A
2018	0	2,595,221	0	5,223,456	N/A	100.00%	N/A
2017	0	2,849,732	0	5,620,868	N/A	100.00%	N/A
2016	0	3,461,099	0	6,111,233	N/A	100.00%	N/A
2015	0	3,889,524	0	6,704,568	N/A	100.00%	N/A
2014	0	4,301,307	0	7,383,201	N/A	100.00%	N/A
2013	0	4,748,938	0	8,171,920	N/A	100.00%	N/A
2012	0	5,395,505	0	9,044,236	N/A	100.00%	N/A

¹ Values prior to July 1, 2021 valuation do not include assets and liabilities associated with cost-of-living adjustments.

² Includes receivable amounts.

Table D-4 Analysis of Financial Experience Change in Unfunded Actuarial Accrued Liability						
Valuation Date July 1,	Actuarial Value of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions¹	Change in Unfunded Actuarial Accrued Liability
2021	\$ 99,877	\$ (83,064)	\$ 929,207	\$ 0	\$ (46,435)	\$ 899,585
2020	20,038	22,474	0	0	(45,171)	(2,659)
2019	139,661	(191,104)	314,525	0	(127,093)	135,989
2018	199,280	78,644	(888)	0	(134,135)	142,901
2017	261,844	(254,575)	0	0	(128,271)	(121,002)
2016	302,063	(1,843)	0	0	(135,310)	164,910
2015	345,889	(281,392)	350,461	0	(148,108)	266,850
2014	381,569	124,670	0	0	(165,151)	341,088
2013	421,375	(20,326)	0	0	(175,300)	225,749
2012	473,239	203,418	813,420	0	(237,950)	1,252,127

¹ Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

*Classic Values, Innovative Advice*

June 2, 2023

Council

Supplemental Annuity Collective Trust of New Jersey

Re: Actuary's Certification Letter

Dear Council Members:

This is the Actuary's Certification Letter for the Actuarial Section of the Annual Comprehensive Financial Report for the Supplemental Annuity Collective Trust of New Jersey (SACT or Trust) as of June 30, 2022. This letter includes references to a document produced by Cheiron for the Trust: the Actuarial Valuation Report as of July 1, 2021 (transmitted October 25, 2022).

Actuarial Valuation Report as of July 1, 2021

The purpose of the annual Actuarial Valuation Report as of July 1, 2021 is to determine the actuarial funding status of SACT on that date. The prior review was conducted as of July 1, 2018. N.J. State Statute 52:18A provides for an actuarial review at least once in every three-year period. Active members of the following State-administered retirement systems make voluntary additional contributions through their retirement systems to purchase retirement annuities to supplement the benefits provided by their retirement system:

1. Public Employees' Retirement System
2. Teachers' Pension and Annuity Fund
3. Police and Firemen's Retirement System
4. State Police Retirement System
5. Judicial Retirement System

N.J. State Statutes allow for both variable and fixed annuities; however, only the variable annuity program is in operation.

N.J. State Statute 52:18A provides for the following accounts under the Variable Division:

The Variable Accumulation Account is the account to which participant contributions are credited. An individual account is maintained for each participant.

The Variable Benefit Account is the account from which the variable benefits are paid. Upon retirement, a participant's account in the Variable Accumulation Account is transferred to the Variable Benefit Account.

The Variable Reserve Account is the account to which all investment earnings or losses of the Variable Division are credited or charged. The balance of this account is distributed to the Variable Benefit Account and to the individual accounts in the Variable Accumulation Account in accordance with the rules and regulations of the Council.

The actuarial liability is used for determining the funded status of the Variable Benefit Account and what levels (if any) of mortality adjustments are needed to properly maintain the funded status. The actuarial liability of the Variable Benefit Account is calculated as the actuarial present value of the projected benefits. The actuarial liability of the Variable Accumulation Account is equal to the Variable Accumulation Reserve.

For actuarial valuation purposes, assets are valued at market value.

We prepared the following schedules, which we understand will be included in the Actuarial Section of the Annual Comprehensive Financial Report, based on the July 1, 2021 actuarial valuation. All historical information prior to the July 1, 2018 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Buck Global, LLC.

- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedule of Active Member Valuation Data

- Schedule of Funding Progress
- Schedule of Funded Liabilities by Type (formerly referred to as the Solvency Test)
- Analysis of Financial Experience: Change in Unfunded Actuarial Accrued Liability
- Summary of Plan Provisions
- Summary of Current Actuarial Assumptions and Methods
- Membership Information (Active, Suspended, and Retired)

The actuarial assumptions are based on the mortality experience review covering the period from July 1, 2018 through June 30, 2021 contained in Appendix E of the report and a 4.00% discount rate. The discount rate is based on administrative practice.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices except as noted. In particular, the assumptions (other than the investment rate of return) and methods used for funding purposes meet the requirements of the Actuarial Standards of Practice (ASOP), in particular ASOPs Nos. 4, 27, 35 and 44.

Disclaimers

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

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

This report is for the use of SACT, DPB and their auditor in preparing financial reports in accordance with applicable law and accounting requirements. Any other user of this report is not an intended user and is considered a third party.

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

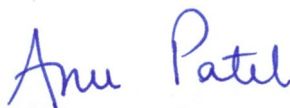
Cheiron's report was prepared for SACT for the purposes described herein and for use by the plan auditor in completing an audit related to matters herein. Other users of this report are not intended as users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any such party.

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

Respectfully submitted,



Janet Cranna, FSA, FCA, MAAA, EA
Principal Consulting Actuary



Anu Patel, FSA, MAAA, EA
Principal Consulting Actuary



Jonathan B. Chipko, FSA, MAAA, EA
Consulting Actuary



MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of June 30, 2021. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23. The following is a list of data charts contained in this section:

- A-1: Active Member Data by Retirement System and Plan
- A-2: Suspended Member Data by Retirement System and Plan
- A-3: Active and Suspended Member Data
- A-4: Inactive Member Data by Status
- A-5: Reconciliation of Plan Membership

Table A-1			
Counts by Retirement System and Plan of Active Members¹			
	Number	Total Equity Units	Dollar Value
Public Employees' Retirement System			
Regular Plan	936	450,412.0008	\$ 72,731,539
Tax Sheltered Plan	113	69,167.0505	11,168,943
QVEC Plan	3	687.1811	110,964
Total	1,052	520,266.2324	\$ 84,011,446
Police and Firemen's Retirement System			
Regular Plan	849	541,290.5899	\$ 87,406,414
Total	849	541,290.5899	\$ 87,406,414
Teachers' Pension and Annuity Fund			
Regular Plan	33	15,809.8912	\$ 2,552,946
Tax Sheltered Plan	177	193,118.6288	31,184,371
Total	210	208,928.5200	\$ 33,737,317
State Police Retirement System			
Regular Plan	8	3,836.4205	\$ 619,497
Total	8	3,836.4205	\$ 619,497
Judicial Retirement System			
Regular Plan	2	2,614.6764	\$ 422,212
Total	2	2,614.6764	\$ 422,212
Legislative Retirement System			
Regular Plan	1	1,099.4542	\$ 177,537
Total	1	1,099.4542	\$ 177,537
Total			
Regular Plan	1,829	1,015,063.0330	\$ 163,910,145
Tax Sheltered Plan	290	262,285.6793	42,353,314
QVEC Plan	3	687.1811	110,964
Grand Total	2,122	1,278,035.8934	\$ 206,374,423

¹ Units for the quarter ended June 30, 2021 were distributed after that date and are not reflected in this data.

Membership Information, continued

Table A-2			
Counts by Retirement System and Plan of Suspended Members¹			
	Number	Equity Units	Dollar Value
Public Employees' Retirement System			
Regular Plan	91	7,258.5892	\$ 1,172,101
Tax Sheltered Plan	23	2,782.3950	449,295
Total	114	10,040.9842	\$ 1,621,396
Police and Firemen's Retirement System			
Regular Plan	11	2,666.3583	\$ 430,558
Total	11	2,666.3583	\$ 430,558
Teachers' Pension and Annuity Fund			
Regular Plan	38	4,249.3788	\$ 686,180
Tax Sheltered Plan	20	4,312.3425	696,348
Total	58	8,561.7213	\$ 1,382,528
State Police Retirement System			
Regular Plan	0	0	\$ 0
Total	0	0	\$ 0
Judicial Retirement System			
Regular Plan	0	0	\$ 0
Total	0	0	\$ 0
Legislative Retirement System			
Regular Plan	1	0	\$ 0
Total	1	0	\$ 0
Total			
Regular Plan	141	14,174.3263	\$ 2,288,839
Tax Sheltered Plan	43	7,094.7375	1,145,643
Grand Total	184	21,269.0638	\$ 3,434,482

¹ Units for the quarter ended June 30, 2021 were distributed after that date and are not reflected in this data.

Membership Information, continued

Table A-3			
Active and Suspended Member Data			
	June 30, 2021	June 30, 2018	% Change
Actives¹			
Count	2,122	2,223	-4.5%
Average Age	48.3	48.9	-1.3%
Equity Units	1,278,035.8934	1,450,045.5120	-11.9%
Average Equity Units	602.2789	652.2922	-7.7%
Dollar Value of Average Equity Units	\$ 97,255	\$ 70,361	38.2%
Suspended¹			
Count	184	178	3.4%
Average Age	67.3	65.8	2.2%
Equity Units	21,269.0638	19,495.7695	9.1%
Average Equity Units	115.5927	109.5268	5.5%
Dollar Value of Average Equity Units	\$ 18,666	\$ 11,814	58.0%

¹ Units for the quarter ended June 30, 2021 were distributed after that date and are not reflected in this data.

Active members are still working and contributing to the Trust and have not retired or terminated employment. Suspended members are members who are no longer contributing to the Trust, whether by choice or because of termination of employment, and have not begun collecting benefits. They may also include members whom the DPB has not been able to locate.

Table A-4			
Inactive Member Data by Status			
	June 30, 2021	June 30, 2018	% Change
Retirees			
Count	279	324	-13.9%
Annual Equity Units	22,082.3117	26,315.4276	-16.1%
Average Annual Equity Units	79.1481	81.2205	-2.6%
Dollar Value of Average Annual Equity Units	\$ 12,781	\$ 8,761	45.9%
Beneficiaries			
Count	44	49	-10.2%
Annual Equity Units	3,570.0378	4,457.8392	-19.9%
Average Annual Equity Units	81.1372	90.9763	-10.8%
Dollar Value of Average Annual Equity Units	\$ 13,102	\$ 9,813	33.5%
Disabled			
Count	3	4	-25.0%
Annual Equity Units	188.6828	289.0248	-34.7%
Average Annual Equity Units	62.8943	72.2562	-13.0%
Dollar Value of Average Annual Equity Units	\$ 10,156	\$ 7,794	30.3%
In-Pay Total			
Count	326	377	-13.5%
Annual Equity Units	25,841.0323	31,062.2916	-16.8%
Average Annual Equity Units	79.2670	82.3933	-3.8%
Dollar Value of Average Annual Equity Units	\$ 12,800	\$ 8,888	44.0%

Membership Information, continued

Table A-5 Reconciliation of Plan Membership from June 30, 2018 to June 30, 2021						
	Active	Suspended	Retired	Disabled	Beneficiaries	Total
1. June 30, 2018	2,223	178	324	4	49	2,778
2. Additions						
a. New entrants	381					381
b. Data correction			2			2
c. Total	<u>381</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>383</u>
3. Reductions						
a. Withdrawal	(446)	(6)				(452)
b. Died without beneficiary			(66)	(1)	(9)	(76)
c. Total	<u>(446)</u>	<u>(6)</u>	<u>(66)</u>	<u>(1)</u>	<u>(9)</u>	<u>(528)</u>
4. Changes in Status						
a. Active	1	(1)				0
b. Suspended	(13)	13				0
c. Retired	(24)		23			(1)
d. Disabled						0
e. Died with beneficiary			(4)		4	0
f. Total	<u>(36)</u>	<u>12</u>	<u>19</u>	<u>0</u>	<u>4</u>	<u>(1)</u>
5. June 30, 2021	2,122	184	279	3	44	2,632

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

- 1. Discount Rate** 4.00% compounded annually.
- 2. Administrative Expenses** No explicit assumption is made for administrative expenses for funding purposes.
- 3. Mortality**

Healthy Retirees and Beneficiaries (Healthy Annuitants): The Pub-2010 General Healthy Retiree mortality table [*PubG-2010 Healthy Retiree*] as published by the Society of Actuaries (SOA), unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2021.

Disabled Retirees (Disabled Annuitants): The Pub-2010 Non-Safety Disabled Retiree mortality table [*PubNS-2010 Disabled Retiree*] as published by the SOA, unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2021.
- 4. Missing Data**

Suspended status was assumed for members who were reported with the same number of Equity Units in this valuation and the prior valuation.

The 100% Joint & Survivor payment form was assumed for retirees who were reported with a spouse date of birth and no certain period.

A single life annuity payment form was assumed for beneficiaries who were reported with no certain period or a certain period that expired prior to the valuation date.
- 5. Rationale for Assumptions**

The discount rate is based on administrative practice as indicated by the DPB. Investment returns greater or less than the discount rate will be reflected equally in the Variable Benefit Account's actuarial liability and reserve resulting in no impact on the unfunded actuarial liability or surplus.

The mortality assumptions are based on the experience analysis shown in Appendix E.
- 6. Changes in Actuarial Assumptions Since Last Valuation**

The mortality assumptions were updated to use mortality improvement Scale MP-2021. For a detailed description of the assumptions before and after the change reflected in this valuation, please reference Appendix E.

B. Actuarial Methods

The actuarial methods used for determining the funded status is described as follows.

- 1. Actuarial Cost Method**

The actuarial liability of the Variable Benefit Account is calculated as the actuarial present value of the projected benefits. The actuarial liability of the Variable Accumulation Account is equal to the Variable Accumulation Reserve.
- 2. Asset Valuation Method**

Assets are valued at market value.
- 3. Changes in Actuarial Methods Since Last Valuation**

None.

SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the SACT used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 52, Chapter 18A, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on the plan provisions in effect as of June 30, 2021 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility of Membership

Member of a State-administered retirement system who has elected to make voluntary additional contributions to the SACT or for whom an employer has agreed to purchase an annuity from the SACT.

2. Participant Accounts

NJ State Statute allows for both variable and fixed annuities; however, only the variable annuity program is in operation.

a) Participants can have accounts under three plans:

(1) SACT Regular Plan

- i. Available to all eligible employees
- ii. Contributions do not reduce participant's taxable compensation

(2) SACT Tax-Sheltered Plan

- i. Available to eligible employees of public education institutions
- ii. Contributions reduce a participant's taxable compensation

(3) Qualified Voluntary Employee Contribution Plan (QVEC)

- i. Contributions treated as IRA contributions for tax purposes
- ii. Eliminated as of January 1, 1987

b) Account values are expressed in terms of equity units. The total number of equity units in a variable account at the end of each month is determined as follows:

(1) Number of equity units at beginning of month; plus

(2) Number of equity units credited as of the first of the month for participant's contributions received during the preceding quarter, if any; less

(3) Number of equity units paid out in the current month on account of terminations for death or withdrawal during the preceding month; less

(4) Number of equity units transferred as of the first of the month for retirement during the preceding month; plus

(5) One third of one percent of the balance so obtained.

3. Equity Units

Dollar value initially set at \$10 and recomputed at the end of each month. The dollar value varies with the investment experience of the entire variable annuity program.

4. Contributions

a) **Participants**

Participants may voluntarily contribute between 1% and 100% of base salary through payroll deductions. Contributions to the SACT are subject to applicable limits. Contributions may be changed or suspended at the beginning of a quarter.

Summary of Plan Provisions, *continued*

b) Employers

Employees may enter into an agreement with the employees' employer whereby the employee agrees to a reduction in salary in return for the employer's agreement to use the amount of such reduction in salary to purchase on behalf of such employee from SACT an annuity, provided that any such annuity qualifies under section 403(b) of the Internal Revenue Code of 1986, as amended.

Currently, no employers are contributing to the Trust.

5. Investments

All investments are pooled and managed by the Division of Investment, Department of Treasury, State of New Jersey.

6. Vesting

Participants are fully vested in their account values.

7. Benefits

a) Retirement

Upon retirement from a State administered retirement system. The benefit is a single cash payment equal to the participant's account value as of the close of the month in which the retirement becomes effective or a variable benefit. The variable benefit is a life annuity, expressed as a fixed number of equity units, with the payment amount determined as the actuarial equivalent of the number of equity units in the participant's account as of the close of the month in which the retirement becomes effective, multiplied by the value of the units for the prior month end.

In the event that the initial monthly payment of the variable benefit is less than \$10, the benefit is paid in a single cash payment.

b) Death Before Retirement

Upon death prior to retirement. The benefit is a single cash payment equal to the participant's account value as of the last day of the month in which death occurs. The beneficiary may elect, in lieu of a single cash payment, a life annuity under any forms of payment available to the participant.

c) Withdrawal

Upon termination from a State administered retirement system without qualifying and applying for other benefits from the Trust. The benefit is a single cash payment equal to the participant's account value as of the last day of the month in which membership in a State administered retirement system ceases.

The council may terminate inactive accounts if the account value is less than \$100. In such a case, the benefit is a single cash payment equal to the account value.

8. Optional Forms of Payment

The member, and the beneficiary of a member who dies prior to retirement, may elect the following forms of payment.

- a)** 5-year certain and life annuity.
- b)** 10-year certain and life annuity.
- c)** 100% joint and survivor annuity.
- d)** 50% joint and survivor annuity.

9. Changes in Plan Provisions Since Last Valuation

None.

REQUIRED ACFR EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports (ACFRs), we prepared the following schedules for the Trust. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability/Present Value of Benefits used elsewhere in this report.

Table D-1				
Schedule of Active Member Valuation Data				
Valuation Date June 30,	Number of Active Members¹	Total Variable Equity Units¹	Average Variable Equity Units¹	% Increase (Decrease) in Average Variable Equity Units¹
2021	2,122	1,278,035.8934	602.2789	(7.67%)
2018	2,223	1,450,045.5120	652.2922	(6.40%)
2015	2,402	1,673,916.6458	696.8845	2.92%
2012	2,279	1,847,879.8189	677.1271	14.52%
2009	3,317	1,961,173.8340	591.2493	11.41%
2006	3,576	1,897,693.2350	530.6748	9.09%
2003	3,910	1,902,053.0982	486.4586	(9.34%)
2000	4,023	2,158,681.7328	536.5851	(21.74%)

¹Excludes suspended members.

Units for the quarter preceding the valuation date were distributed after that date and are not reflected in data.

Table D-2								
Schedule of Retirees and Beneficiaries Added to and Removed from Rolls (Allowance in Variable Equity Units)								
Valuation Date June 30,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance	% Increase (Decrease) in Average Annual Allowance
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance		
2021	29	1,851.1334	80	7,045.8348	326	25,841.0323	79.2670	(3.79%)
2018	41	3,384.5208	65	7,131.7872	377	31,062.2916	82.3933	(5.27%)
2015	41	3,786.0852	94	9,951.7512	401	34,876.9704	86.9750	(3.79%)
2012	25	2,353.8420	97	9,841.6716	454	41,042.6364	90.4023	(2.02%)
2009	36	3,512.0064	113	11,157.3420	526	48,530.4660	92.2632	(0.96%)
2006	35	2,435.0580	100	9,824.2776	603	56,175.8016	93.1605	(2.10%)
2003	47	6,040.8276	118	10,755.7560	668	63,565.0212	95.1572	2.99%
2000	57	5,584.7820	122	10,275.5556	739	68,279.9496	92.3951	1.80%

Required ACFR Exhibits, *continued*

Table D-3 Schedule of Funding Progress						
Valuation Date June 30,	Actuarial Value of Assets¹ (a)	Actuarial Accrued Liability (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2021	\$ 310,671,311	\$ 285,988,079	\$ (24,683,232)	108.63%	N/A	N/A
2018	229,942,681	216,358,053	(13,584,628)	106.28%	N/A	N/A
2015	206,729,868	196,810,185	(9,919,683)	105.04%	N/A	N/A
2012	149,840,256	146,132,680	(3,707,576)	102.54%	N/A	N/A
2009	120,414,735	116,870,615	(3,544,120)	103.03%	N/A	N/A
2006	159,612,705	162,490,488	2,877,783	98.23%	N/A	N/A
2003	127,186,109	127,349,554	163,445	99.87%	N/A	N/A
2000	216,985,359	215,916,009	(1,069,350)	100.50%	N/A	N/A

¹Equals Fund Balance.

Table D-4 Schedule of Funded Liabilities by Type (Solvency Test)							
Valuation Date June 30,	Actuarial Accrued Liability for				Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets		
	Active & Suspended Member Contributions (1)	Retirees & Beneficiaries (2)	Active & Suspended Member Benefits Financed by Employer (3)	Actuarial Value of Assets¹			
2021	\$ 246,674,980	\$ 39,313,099	\$ 0	\$ 310,671,311	100.00%	100.00%	N/A
2018	186,116,019	30,242,034	0	229,942,681	100.00%	100.00%	N/A
2015	169,950,687	26,859,498	0	206,729,868	100.00%	100.00%	N/A
2012	123,893,449	22,239,231	0	149,840,256	100.00%	100.00%	N/A
2009	98,576,297	18,294,318	0	120,414,735	100.00%	100.00%	N/A
2006	131,801,641	30,688,847	0	159,612,705	100.00%	90.62%	N/A
2003	100,766,629	26,582,925	0	127,186,109	100.00%	99.39%	N/A
2000	169,574,883	46,341,126	0	216,985,359	100.00%	100.00%	N/A

¹Equals Fund Balance.

Required ACFR Exhibits, continued

Table D-5 Analysis of Financial Experience Change in Unfunded Actuarial Accrued Liability			
Valuation Date June 30,	Retiree Experience¹	Assumptions & Method Changes	Change in Unfunded Actuarial Accrued Liability
2021	\$ (10,662,457)	\$ (436,147)	\$ (11,098,604)
2018	(4,126,763)	461,818	(3,664,945)
2015	(4,347,567)	(1,684,539)	(6,032,106)
2012	(947,053)	783,596	(163,457)
2009	(6,421,903)	0	(6,421,903)
2006	1,128,877	1,585,451	2,714,328
2003	1,232,795	0	1,232,795
2000	1,919,537	(2,230,603)	(311,066)

¹ Includes mortality experience, census data updates, investment experience and interest on any Unfunded Actuarial Accrued Liability after transfers to the Variable Reserve Account.

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STATISTICAL SECTION

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Schedule of Retired Members by Type of Benefit (Based on the most recent actuarial valuation prepared as of 6/30/21)									
Group	PERS (State)	PERS (Local)	TPAF	PFRS	SPRS	JRS	CPFPF	POPF	Total
Service Retirements									
Number	51,659	105,744	98,582	33,551	2,770	465	1	6	292,778
Annual Allowance	\$1,580,380,612	\$2,101,663,102	\$4,261,814,061	N/A	\$204,606,252	\$50,500,191	\$51,639	\$130,281	\$8,199,146,138
Average Annual Allowance	\$30,593	\$19,875	\$43,231	N/A	\$73,865	\$108,603	\$51,639	\$21,714	\$28,005
Ordinary Disability Retirements									
Number	4,468	7,707	3,397	2,963	125	10	—	2	18,672
Annual Allowance	\$92,238,384	\$133,716,763	\$99,513,291	N/A	\$5,076,997	\$1,175,655	—	\$45,253	\$331,766,343
Average Annual Allowance	\$20,644	\$17,350	\$29,294	N/A	\$40,616	\$117,566	—	\$22,627	\$17,768
Accidental Disability Retirements									
Number	511	845	280	3,082	165	—	—	—	4,883
Annual Allowance	\$16,044,417	\$24,534,981	\$13,090,361	N/A	\$10,197,110	—	—	—	\$63,866,869
Average Annual Allowance	\$31,398	\$29,035	\$46,751	N/A	\$61,801	—	—	—	\$13,079
Members' Death Benefits									
Number	4,897	11,541	7,418	7,922	484	180	32	39	32,513
Annual Allowance	\$88,181,040	\$154,455,891	\$204,475,851	N/A	\$18,810,600	\$10,263,291	\$572,504	\$411,429	\$477,170,606
Average Annual Allowance	\$18,007	\$13,383	\$27,565	N/A	\$38,865	\$57,018	\$17,891	\$10,549	\$14,676
Deferred Terminated Vested									
Number	186	537	354	60	—	9	—	—	1,146
Annual Allowance	\$3,165,564	\$5,923,740	\$6,566,904	N/A	—	660,288	—	—	\$16,316,496
Average Annual Allowance	\$17,019	\$11,031	\$18,551	N/A	—	73,365	—	—	\$14,238

Note: See "Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls" in Actuarial Section for Average Annual Allowance for the last five fiscal years.

Schedule of Revenues by Source
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Member Contributions ⁽¹⁾	Employer/ Non-employer Contributions ⁽²⁾	Pension Adjustment Contributions ⁽³⁾	Other ⁽⁴⁾	Percentage of Annual Covered Compensation ⁽⁵⁾	Transfer from Other Systems ⁽⁶⁾	Investment Income ⁽⁷⁾	Total
PUBLIC EMPLOYEES' RETIREMENT SYSTEM	2013	790,456,229	1,141,876,707	—	55,543,296	9.99	—	2,687,826,583	4,675,702,815 ⁽⁸⁾
	2014	797,818,225	917,689,000	—	55,641,713	8.02	—	4,103,472,982	5,874,621,920 ⁽⁸⁾
	2015	805,232,235	1,085,237,214	—	10,496,496	9.49	—	1,117,827,113	3,018,793,058
	2016	821,305,787	1,273,425,342	—	3,926,053	11.25	—	(237,215,643)	1,861,441,539
	2017	842,049,135	1,464,931,579	—	15,448,547	12.98	6,813,217	3,202,393,837	5,532,636,315
	2018	854,178,790	1,680,631,409	—	8,466,985	14.79	7,171,385	2,435,763,559	4,986,212,128
	2019	909,191,554	1,869,535,783	—	7,163,363	16.34	8,589,133	1,741,296,887	4,535,776,720
	2020	908,936,226	2,116,884,059	—	1,842,717	17.98	6,047,229	456,271,235	3,489,981,466
	2021	909,939,594	2,490,388,432	—	7,082,908	20.81	9,337,175	7,708,453,890	11,125,201,999
	2022	933,155,302	3,163,057,923	—	10,185,131	26.47	10,475,241	(2,594,503,769)	1,522,369,828
TEACHERS' PENSION AND ANNUITY FUND	2013	686,872,383	653,704,602	—	39,651,455	6.68	—	2,865,390,916	4,245,619,356 ⁽⁸⁾
	2014	716,183,306	427,700,146	—	40,469,573	4.26	—	4,100,453,466	5,284,806,491 ⁽⁸⁾
	2015	740,296,265	540,603,535	—	4,476,040	5.32	—	1,066,062,926	2,351,438,766
	2016	761,711,695	800,069,277	—	1,807,662	7.76	—	(267,684,353)	1,295,904,281
	2017	781,256,291	1,127,018,480	—	357,659	10.80	10,870,173	2,736,988,791	4,656,491,394
	2018	810,899,751	1,516,131,450	—	345,897	14.25	13,092,464	2,016,316,929	4,356,786,491
	2019	846,166,328	2,015,496,648	—	300,112	18.62	15,148,965	1,361,781,295	4,238,893,348
	2020	867,037,595	2,271,007,729	—	329,571	20.53	15,588,379	318,393,101	3,472,356,375
	2021	883,659,076	2,936,047,960	—	403,226	25.89	10,766,456	5,902,191,421	9,733,068,139
	2022	907,326,471	4,191,916,812	—	395,540	36.42	19,857,109	(2,166,014,956)	2,953,480,976
POLICE AND FIREMEN'S RETIREMENT SYSTEM	2013	387,775,184	898,531,390	—	—	24.58	—	2,191,780,555	3,478,087,129 ⁽⁸⁾
	2014	385,660,096	858,047,628	—	—	23.32	—	3,381,553,869	4,625,261,593 ⁽⁸⁾
	2015	386,991,641	959,814,917	—	26,963,211	26.06	—	922,598,676	2,296,368,445
	2016	388,681,408	961,499,567	—	6,848,771	26.02	—	(150,693,159)	1,206,336,587
	2017	393,078,137	1,088,510,734	—	12,817,692	29.21	3,090,206	2,791,104,860	4,288,601,629
	2018	395,604,883	1,236,474,884	—	3,834,741	32.51	3,605,472	2,139,481,226	3,778,988,436
	2019	410,943,242	1,336,737,544	—	7,868,386	34.53	3,765,634	1,549,138,833	3,308,453,639
	2020	416,433,179	1,506,807,105	—	6,997,374	38.26	2,857,249	425,543,356	2,358,638,263
	2021	419,458,195	1,620,847,056	—	6,161,341	39.12	2,912,909	6,952,727,005	9,002,106,506
	2022	430,285,900	1,954,710,844	—	6,897,992	46.52	3,210,733	(2,243,518,603)	151,586,866
STATE POLICE RETIREMENT SYSTEM	2013	21,875,233	—	—	—	9.81	—	191,873,254	241,530,381 ⁽⁸⁾
	2014	24,034,496	—	—	—	13.90	—	287,098,217	347,569,636 ⁽⁸⁾
	2015	22,315,431	—	—	222,557	14.68	—	75,532,779	136,598,064
	2016	22,818,295	—	—	54,000	13.59	—	(19,284,054)	41,023,782
	2017	23,560,509	53,006,614	—	—	19.08	165,201	207,401,590	284,133,914
	2018	22,416,571	74,603,780	—	—	26.20	248,479	154,029,009	251,297,839
	2019	24,183,990	98,182,956	—	—	35.60	110,843	105,696,140	228,173,929
	2020	24,292,258	117,911,260	—	—	39.81	331,647	24,733,948	167,269,113
	2021	27,268,772	141,212,825	—	—	47.35	688,000	477,604,855	646,774,452
	2022	27,081,021	206,165,510	—	—	62.09	592,961	(170,386,626)	63,452,866

Schedule of Revenues by Source
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Member Contributions ⁽¹⁾	Employer Contributions ⁽²⁾	Pension Adjustment Contributions ⁽³⁾	Other ⁽⁴⁾	Percentage of Annual Covered Compensation ⁽⁵⁾	Transfer from Other Systems ⁽⁶⁾	Investment Income ⁽⁷⁾	Total
JUDICIAL RETIREMENT SYSTEM	2013	3,402,807	12,308,419	–	–	18.24	–	25,932,027	41,643,253 ⁽⁸⁾
	2014	5,096,577	15,874,857	–	–	23.41	–	34,448,036	55,419,470 ⁽⁸⁾
	2015	6,310,124	17,031,026	–	2,081,523	25.79	–	8,475,641	33,898,314
	2016	9,271,869	14,794,774	–	726,284	22.05	–	(2,721,949)	22,070,978
	2017	7,758,193	20,341,379	–	–	29.89	3,711,095	20,031,152	51,841,819
	2018	9,177,453	24,023,637	–	–	34.71	2,859,841	14,809,869	50,870,800
	2019	9,688,270	29,702,700	–	–	38.20	1,310,118	9,230,701	49,931,789
	2020	9,239,505	37,496,113	–	–	48.93	1,025,802	1,972,315	49,733,735
	2021	9,426,354	52,508,011	–	–	68.22	–	37,225,810	99,160,175
	2022	9,608,031	72,954,420	–	–	95.49	2,026,661	(19,197,001)	65,392,111
CONSOLIDATED POLICE AND FIREMEN'S PENSION FUND	2013	–	911,150	2,477,987	–	–	–	217	3,389,354 ⁽⁸⁾
	2014	–	–	1,889,091	11,740	–	–	585	1,889,676 ⁽⁸⁾
	2015	–	–	1,568,185	9,566	–	–	198	1,577,949
	2016	–	148,000	1,196,017	–	–	–	10,856	1,354,873
	2017	–	575,000	964,280	–	–	–	10,099	1,549,379
	2018	–	325,000	806,330	–	–	–	21,542	1,152,872
	2019	–	–	631,757	–	–	–	28,518	660,275
	2020	–	–	963,601	–	–	–	32,354	995,955 ⁽¹¹⁾
	2021	–	248,000	441,879	–	–	–	5,956	695,835 ⁽¹¹⁾
	2022	–	76,000	368,072	–	–	–	6,654	450,726
PRISON OFFICERS' PENSION FUND	2013	–	–	889,542	–	–	–	9,070	898,612 ⁽⁸⁾
	2014	–	–	793,175	–	–	–	7,368	800,543 ⁽⁸⁾
	2015	–	–	698,360	–	–	–	6,355	704,715
	2016	–	–	634,217	–	–	–	18,067	652,284
	2017	–	–	552,131	–	–	–	30,847	582,978
	2018	–	–	484,565	–	–	–	70,215	554,780
	2019	–	–	412,250	–	–	–	111,413	523,663
	2020	–	–	784,279	–	–	–	90,145	874,424 ⁽¹¹⁾
	2021	–	–	330,028	–	–	–	5,903	335,931 ⁽¹¹⁾
	2022	–	–	313,575	–	–	–	13,892	327,467
CENTRAL PENSION FUND	2013	–	168,000	22,214	–	–	–	98	190,312
	2014	–	204,750	22,214	–	–	–	89	227,053
	2015	–	231,150	22,214	–	–	–	97	253,461
	2016	–	280,500	22,214	–	–	–	176	302,890
	2017	–	248,000	22,214	–	–	–	612	270,826
	2018	–	324,000	22,214	–	–	–	1,069	347,283
	2019	–	272,660	22,214	–	–	–	2,481	297,355
	2020	–	275,840	9,448	–	–	–	3,168	288,456
	2021	–	241,972	–	–	–	–	190	242,162 ⁽¹¹⁾
	2022	–	263,915	–	–	–	–	421	264,336

Schedule of Revenues by Source
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Member Contributions ⁽¹⁾	Employer Contributions ⁽²⁾	Pension Adjustment Contributions ⁽³⁾	Other ⁽⁴⁾	Percentage of Annual Covered Compensation ⁽⁵⁾	Transfer from Other Systems ⁽⁶⁾	Investment Income ⁽⁷⁾	Total
SUPPLEMENTAL ANNUITY COLLECTIVE TRUST	2013	6,635,320	-	-	-	-	-	30,989,256	37,624,576
	2014	5,907,412	-	-	-	-	-	42,222,601	48,130,013
	2015	6,003,908	-	-	-	-	-	16,456,041	22,459,949
	2016	5,814,213	-	-	-	-	-	5,329,922	11,144,135
	2017	5,882,431	-	-	-	-	-	35,425,977	41,308,408
	2018	6,074,603	-	-	-	-	-	24,247,640	30,322,243
	2019	6,025,497	-	-	-	-	-	12,045,593	18,071,090
	2020	6,424,837	-	-	-	-	-	12,251,699	18,676,536
	2021	6,455,552	-	-	-	-	-	102,539,556	108,995,108
	2022	6,988,916	-	-	-	-	-	(32,866,365)	(25,877,449)
	DEFERRED COMPENSATION PLAN	2013	177,296,365	-	-	-	-	-	302,069,484
2014		181,051,805	-	-	-	-	-	424,147,776	605,199,581
2015		186,999,797	-	-	-	-	-	133,142,031	320,141,828
2016		180,268,889	-	-	-	-	-	20,757,799	201,026,688
2017		194,488,684	-	-	-	-	-	399,453,403	593,942,087
2018		190,196,996	-	-	-	-	-	342,876,467	533,073,463
2019		199,862,898	-	-	-	-	-	225,144,674	425,007,572
2020		207,036,966	-	-	-	-	-	109,679,827	316,716,793
2021		214,036,694	-	-	-	-	-	1,180,874,331	1,394,911,025
2022		235,366,280	-	-	-	-	-	(643,921,766)	(408,555,486)
DEFINED CONTRIBUTION RETIREMENT PROGRAM⁽¹⁰⁾		2013	-	1,482,976	-	-	-	-	1,761
	2014	-	1,409,544	-	-	-	-	2,250	1,411,794
	2015	-	2,046,770	-	-	-	-	3,497	2,050,267
	2016	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-	-
	2022	-	-	-	-	-	-	-	-
ALTERNATE BENEFIT LONG-TERM DISABILITY FUND⁽¹⁰⁾	2013	-	3,037,116	-	-	-	-	2,875	3,039,991
	2014	-	1,382,696	-	-	-	-	1,622	1,384,318
	2015	-	1,550,000	-	-	-	-	1,631	1,551,631
	2016	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-	-
	2022	-	-	-	-	-	-	-	-

Schedule of Revenues by Source

(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Member Contributions ⁽¹⁾	Employer Contributions ⁽²⁾	Pension Adjustment Contributions ⁽³⁾	Other ⁽⁴⁾	Percentage of Annual Covered Compensation ⁽⁵⁾	Transfer from Other Systems ⁽⁶⁾	Investment Income ⁽⁷⁾	Total
STATE HEALTH BENEFIT PROGRAM FUNDS	2013	304,860,078	5,162,767,727	—	—	—	—	1,378,523	5,469,006,328
	2014	399,307,467	5,479,344,541	—	—	—	—	1,223,707	5,879,875,715
	2015	497,483,666	5,871,536,760	—	—	—	—	1,175,123	6,370,195,549
	2016	50,097,187	397,482,073	—	—	—	—	310,043	447,889,303 ⁽⁹⁾
	2017	53,585,505	434,877,635	—	—	—	—	791,049	489,254,189 ⁽⁹⁾
	2018	53,987,166	474,742,947	—	—	—	—	2,320,422	531,050,535
	2019	43,249,952	390,269,556	—	—	—	—	4,826,936	438,346,444
	2020	37,546,413	327,416,317	—	—	—	—	2,858,334	367,821,064
	2021	43,309,873	362,874,910	—	—	—	—	201,343	406,386,126
	2022	53,166,360	435,282,084	—	—	—	—	235,962	488,684,406
PENSION TRUST AND STATE HEALTH BENEFIT PROGRAM FUNDS TOTAL	2013	2,379,173,599	7,902,569,981	3,389,743	95,194,751	—	—	8,297,254,619	18,677,582,693 ⁽⁸⁾
	2014	2,515,059,384	7,738,090,085	2,704,480	96,123,026	—	—	12,374,632,568	22,726,609,543 ⁽⁸⁾
	2015	2,651,633,067	8,516,578,669	2,288,759	44,249,393	—	—	3,341,282,108	14,556,031,996
	2016	2,239,969,343	3,485,135,074	1,852,448	13,362,770	—	—	(651,172,295)	5,089,147,340 ⁽⁹⁾
	2017	2,301,658,885	4,190,509,421	1,538,625	28,623,898	—	24,649,892	9,393,632,217	15,940,612,938 ⁽⁹⁾
	2018	2,342,536,213	5,007,244,107	1,313,109	12,647,853	—	26,977,641	7,129,937,947	14,520,656,870
	2019	2,449,311,731	5,740,197,847	1,066,221	15,331,861	—	28,924,693	5,009,303,471	13,244,135,824
	2020	2,476,946,979	6,377,798,423	1,757,328	9,169,662	—	25,850,306	1,351,829,482	10,243,352,180 ⁽¹¹⁾
	2021	2,513,554,110	7,604,369,166	771,907	13,647,475	—	23,704,540	22,361,830,260	32,517,877,458 ⁽¹¹⁾
	2022	2,602,978,281	10,024,427,508	681,647	17,478,663	—	36,162,705	(7,870,152,157)	4,811,576,647

- (1) Indicates contributions from active members.
- (2) Includes contributions both from State and local employers (also both employer and non-employer contributions).
- (3) Indicates State contribution to POPF, CPFPF, and CPF as pension adjustment.
- (4) Previously, indicated Contributory Group Insurance (CGI) member contributions; however, now, indicates other employer contribution items, such as Delayed Enrollments/Appropriations, Retro billing, CPFPF Admin. fees, etc. Starting FY 2015, based on GASB No. 67, we are taking out CGI items from our financial statements.
- (5) Indicates percentage of Employer Contributions over Annual Covered Compensation.
- (6) Indicates transfers of member/employer contributions from other pension plans/systems.
- (7) Indicates net appreciation/depreciation of fair value, dividends, and interest.
- (8) GASB No. 67 became implemented in fiscal year 2014. Fiscal years before 2014 other than the restated 2013 were presented otherwise.
- (9) GASB No. 74 became implemented in fiscal year 2017, which is presenting State Health Benefit Program - Local - Retired only. Fiscal years before 2017 other than the restated 2016 were presented otherwise.
- (10) Both DCRP and ABPLTD moved from NJDP&B to NJ OMB (State) in fiscal year 2017. The 2016 was restated accordingly.
- (11) GASB No. 84 became implemented in fiscal year 2021. Fiscal years before 2021 other than the restated 2020 were presented otherwise. The Pension Adjustment Fund (cost-of-living adjustments), previously one of the Agency Funds, became allocated to Prison Officers' Pension Fund, Consolidated Police & Firemen's Pension Fund, and Central Pension Fund.

Schedule of Expenses by Type
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Retirement Benefits ⁽¹⁾	Cost-of-Living Adjustments ⁽²⁾	Death Benefits ⁽³⁾	Withdrawal ⁽⁴⁾	Other Refunds ⁽⁵⁾	Admin & Misc. ⁽⁶⁾	Transfer to Other Retirement Systems ⁽⁷⁾	Total
PUBLIC EMPLOYEES' RETIREMENT SYSTEM	2013	2,646,551,098	269,362,021	138,033,827	102,381,327	—	22,814,654	15,603,908	3,194,746,835 ⁽⁸⁾
	2014	2,806,343,114	256,307,998	127,100,559	111,909,794	—	21,756,019	13,778,475	3,337,195,959 ⁽⁸⁾
	2015	2,986,839,116	242,890,285	73,430,329	116,431,242	—	23,761,859	21,455,094	3,464,807,925
	2016	3,186,588,835	229,541,844	77,192,795	117,027,599	—	23,285,920	19,300,842	3,652,937,835
	2017	3,370,538,479	216,676,990	80,002,130	125,005,841	—	19,648,715	18,595,252	3,830,467,407
	2018	3,537,483,365	204,022,000	72,207,064	122,608,146	—	21,368,150	20,388,385	3,978,077,110
	2019	3,705,013,463	191,673,351	86,793,757	134,890,851	—	21,257,441	20,544,727	4,160,173,590
	2020	3,862,909,876	179,338,007	83,662,877	127,143,151	—	19,365,011	20,170,908	4,292,589,830
	2021	4,010,530,404	165,881,528	117,825,095	140,317,667	—	14,120,177	14,091,794	4,462,766,665
	2022	4,190,378,874	154,100,010	105,651,747	167,840,894	—	18,030,213	26,050,417	4,662,052,155
TEACHERS' PENSION AND ANNUITY FUND	2013	3,230,673,226	370,347,130	73,132,997	42,299,299	—	12,482,060	4,926,204	3,733,860,916 ⁽⁸⁾
	2014	3,397,559,391	357,451,129	74,929,067	43,101,723	—	12,170,972	5,467,788	3,890,680,070 ⁽⁸⁾
	2015	3,576,672,146	344,252,116	36,283,535	51,161,238	—	13,890,080	6,634,552	4,028,893,667
	2016	3,744,665,145	330,897,322	35,580,277	51,526,638	—	13,768,112	6,401,380	4,182,838,874
	2017	3,881,732,050	317,245,237	39,099,480	60,938,382	—	11,923,787	7,253,596	4,318,192,532
	2018	4,005,287,888	304,241,146	35,766,941	55,907,156	—	13,222,178	7,406,171	4,421,831,480
	2019	4,118,411,040	289,851,559	41,107,648	61,489,992	—	13,922,385	8,493,288	4,533,275,912
	2020	4,230,853,848	276,029,186	42,513,729	65,752,288	—	18,590,555	6,171,046	4,639,910,652
	2021	4,336,143,724	261,046,626	55,342,960	58,051,016	—	9,042,590	9,478,706	4,729,105,622
	2022	4,447,741,072	246,657,591	56,578,899	72,009,660	—	12,635,916	10,469,821	4,846,092,959
POLICE AND FIREMEN'S RETIREMENT SYSTEM	2013	1,706,252,607	229,131,950	34,084,179	6,735,054	—	3,881,457	148,902	1,980,234,149 ⁽⁸⁾
	2014	1,831,032,076	223,111,212	42,612,105	8,652,971	—	3,884,342	420,647	2,109,713,353 ⁽⁸⁾
	2015	1,945,006,485	216,641,361	35,424,340	7,789,561	—	4,531,012	602,550	2,209,995,309
	2016	2,067,836,471	209,926,511	38,372,031	7,712,880	—	4,292,891	328,060	2,328,468,844
	2017	2,171,405,313	203,553,759	38,969,665	7,340,359	—	4,124,457	216,341	2,425,609,894
	2018	2,273,247,266	196,849,281	43,309,987	10,055,932	—	4,505,685	182,584	2,528,150,735
	2019	2,373,888,854	189,805,322	35,769,359	7,400,176	—	7,199,218	525,865	2,614,588,794
	2020	2,488,037,176	182,902,311	45,645,395	8,980,837	—	12,859,324	506,320	2,738,931,363
	2021	2,607,628,489	175,114,443	58,204,999	11,135,743	—	18,293,096	604,094	2,870,980,864
	2022	2,730,314,557	167,939,477	59,802,758	12,166,977	—	15,261,328	701,846	2,986,186,943
STATE POLICE RETIREMENT SYSTEM	2013	156,528,482	23,695,185	2,195,047	38,884	—	294,886	—	182,752,484 ⁽⁸⁾
	2014	173,264,302	23,198,162	1,148,273	348,201	—	280,026	—	198,238,964 ⁽⁸⁾
	2015	182,540,341	22,700,036	1,169,297	83,950	—	351,724	—	206,845,348
	2016	189,392,434	22,058,752	1,855,541	129,423	—	334,630	—	213,770,780
	2017	193,774,056	21,469,397	1,968,614	91,879	—	294,745	—	217,598,691
	2018	198,710,925	20,906,944	2,499,780	255,650	—	377,193	—	222,750,492
	2019	203,065,592	20,251,885	2,182,956	181,797	—	596,137	150,677	226,429,044
	2020	208,841,559	19,673,473	1,991,260	131,740	—	632,762	26,341	231,297,135
	2021	217,155,620	18,999,300	1,719,825	85,096	—	494,765	157,527	238,612,133
	2022	227,592,184	18,399,602	4,844,510	280,470	—	701,981	222,176	252,040,923

Schedule of Expenses by Type

(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Retirement Benefits ⁽¹⁾	Cost-of-Living Adjustments ⁽²⁾	Death Benefits ⁽³⁾	Withdrawal ⁽⁴⁾	Other Refunds ⁽⁵⁾	Admin & Misc. ⁽⁶⁾	Transfer to Other Retirement Systems ⁽⁷⁾	Total
JUDICIAL RETIREMENT SYSTEM	2013	42,972,345	4,047,296	665,227	–	–	163,233	–	47,848,101 ⁽⁸⁾
	2014	45,079,634	3,930,547	540,681	53,218	–	162,372	–	49,766,452 ⁽⁸⁾
	2015	48,077,475	3,827,515	525,026	–	–	168,762	–	52,598,778
	2016	50,226,767	3,615,980	843,774	–	–	168,008	–	54,854,529
	2017	52,257,756	3,384,318	664,379	59,265	–	150,588	–	56,516,306
	2018	54,020,953	3,229,235	757,636	278,597	–	185,364	–	58,471,785
	2019	55,841,702	3,005,477	702,700	41,727	–	200,338	–	59,791,944
	2020	57,340,981	2,681,333	886,113	40,682	–	219,976	–	61,169,085
	2021	58,896,368	2,292,622	1,221,011	295,182	–	324,080	–	63,029,263
	2022	61,224,781	2,092,184	579,420	818,343	–	183,857	36,541	64,935,126
CONSOLIDATED POLICE AND FIREMEN'S PENSION FUND	2013	1,404,672	2,477,987	–	–	–	11,739	–	3,894,398 ⁽⁸⁾
	2014	1,052,944	1,889,091	–	–	–	9,566	–	2,951,601 ⁽⁸⁾
	2015	877,442	1,568,185	–	–	–	8,003	–	2,453,630
	2016	685,235	1,196,017	–	–	–	6,643	–	1,887,895
	2017	571,343	964,280	–	–	–	4,188	–	1,539,811
	2018	483,569	806,330	–	–	–	4,006	–	1,293,905
	2019	401,418	631,757	–	–	–	3,013	–	1,036,188
	2020	850,683	476,787	–	–	–	3,308	–	1,330,778 ⁽¹¹⁾
	2021	265,148	437,251	–	–	–	2,620	–	705,019 ⁽¹¹⁾
	2022	178,095	295,342	–	–	–	3,226	–	476,663
PRISON OFFICERS' PENSION FUND	2013	874,422	889,542	–	–	–	6,965	–	1,770,929 ⁽⁸⁾
	2014	790,234	793,174	–	–	–	5,853	–	1,589,261 ⁽⁸⁾
	2015	679,145	698,360	–	–	–	5,843	–	1,383,348
	2016	606,090	634,217	–	–	–	5,312	–	1,245,619
	2017	517,078	552,131	–	–	–	4,134	–	1,073,343
	2018	463,312	484,565	–	–	–	4,315	–	952,192
	2019	404,722	412,250	–	–	–	4,215	–	821,187
	2020	855,252	297,465	–	–	–	4,628	–	1,157,345 ⁽¹¹⁾
	2021	313,397	329,350	–	–	–	3,429	–	646,176 ⁽¹¹⁾
	2022	257,537	252,334	–	–	–	3,226	–	513,097
CENTRAL PENSION FUND	2013	167,326	22,214	–	–	772	–	–	190,312
	2014	189,826	22,214	–	–	15,013	–	–	227,053
	2015	211,076	22,214	–	–	20,171	–	–	253,461
	2016	274,633	22,214	–	–	6,043	–	–	302,890
	2017	236,076	22,214	–	–	12,536	–	–	270,826
	2018	319,826	22,214	–	–	5,243	–	–	347,283
	2019	279,490	22,214	–	–	(4,349)	–	–	297,355
	2020	224,629	9,448	–	–	54,379	–	–	288,456
	2021	212,505	10,430	–	–	19,227	–	–	242,162
	2022	224,465	9,561	–	–	30,310	–	–	264,336

Schedule of Expenses by Type

(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Retirement Benefits ⁽¹⁾	Cost-of-Living Adjustments ⁽²⁾	Death Benefits ⁽³⁾	Withdrawal ⁽⁴⁾	Other Refunds ⁽⁵⁾	Admin & Misc. ⁽⁶⁾	Transfer to Other Retirement Systems ⁽⁷⁾	Total
SUPPLEMENTAL ANNUITY COLLECTIVE TRUST	2013	12,238,930	-	-	-	-	-	-	12,238,930
	2014	17,638,584	-	-	-	-	-	-	17,638,584
	2015	20,710,344	-	-	-	-	-	-	20,710,344
	2016	20,342,949	-	-	-	-	-	-	20,342,949
	2017	16,520,123	-	-	-	-	-	-	16,520,123
	2018	22,615,594	-	-	-	-	-	-	22,615,594
	2019	20,973,004	-	-	-	-	-	-	20,973,004
	2020	21,502,168	-	-	-	-	-	-	21,502,168
	2021	21,927,170	-	-	-	-	-	-	21,927,170
	2022	30,053,885	-	-	-	-	-	1,230,082	-
DEFERRED COMPENSATION PLAN	2013	124,062,368	-	-	-	-	454,350	-	124,516,718
	2014	149,393,111	-	-	-	-	482,277	-	149,875,388
	2015	175,989,352	-	-	-	-	464,130	-	176,453,482
	2016	163,247,570	-	-	-	-	190,880	-	163,438,450
	2017	183,110,996	-	-	-	-	444,503	-	183,555,499
	2018	203,425,764	-	-	-	-	407,732	-	203,833,496
	2019	233,812,585	-	-	-	-	432,105	-	234,244,690
	2020	219,539,196	-	-	-	-	442,132	-	219,981,328
	2021	232,951,509	-	-	-	-	516,190	-	233,467,699
	2022	304,646,810	-	-	-	-	568,913	-	305,215,723
DEFINED CONTRIBUTION RETIREMENT PROGRAM⁽¹⁰⁾	2013	1,207,760	-	-	-	-	-	-	1,207,760
	2014	359,385	-	-	-	-	-	-	359,385
	2015	844,050	-	-	-	-	-	-	844,050
	2016	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-	-
	2022	-	-	-	-	-	-	-	-
ALTERNATE BENEFIT LONG-TERM DISABILITY FUND⁽¹⁰⁾	2013	2,949,360	-	-	-	-	-	-	2,949,360
	2014	1,400,000	-	-	-	-	-	-	1,400,000
	2015	1,550,000	-	-	-	-	-	-	1,550,000
	2016	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-	-
	2020	-	-	-	-	-	-	-	-
	2021	-	-	-	-	-	-	-	-
	2022	-	-	-	-	-	-	-	-

Schedule of Expenses by Type

(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Retirement Benefits ⁽¹⁾	Cost-of-Living Adjustments ⁽²⁾	Death Benefits ⁽³⁾	Withdrawal ⁽⁴⁾	Other Refunds ⁽⁵⁾	Admin & Misc. ⁽⁶⁾	Transfer to Other Retirement Systems ⁽⁷⁾	Total
STATE HEALTH BENEFIT PROGRAM FUNDS	2013	5,395,752,981	—	—	—	—	9,361,600	—	5,405,114,581
	2014	5,918,951,153	—	—	—	—	9,359,616	—	5,928,310,769
	2015	6,290,847,391	—	—	—	—	9,142,428	—	6,299,989,819
	2016	425,946,495	—	—	—	—	10,516,251	—	436,462,746 ⁽⁹⁾
	2017	417,488,848	—	—	—	—	8,894,576	—	426,383,424 ⁽⁹⁾
	2018	421,621,253	—	—	—	—	8,200,113	—	429,821,366
	2019	470,179,613	—	—	—	—	9,478,435	—	479,658,048
	2020	466,218,997	—	—	—	—	9,913,267	—	476,132,264
	2021	509,642,373	—	—	—	—	11,334,383	—	520,976,756
	2022	585,291,951	—	—	—	—	12,334,441	—	597,626,392
PENSION TRUST AND STATE HEALTH BENEFIT PROGRAM FUNDS TOTAL	2013	13,321,635,577	899,973,325	248,111,277	151,454,564	772	49,470,944	20,679,014	14,691,325,473 ⁽⁸⁾
	2014	14,343,053,754	866,703,527	246,330,685	164,065,907	15,013	48,111,043	19,666,910	15,687,946,839 ⁽⁸⁾
	2015	15,230,844,363	832,600,072	146,832,527	175,465,991	20,171	52,323,841	28,692,196	16,466,779,161
	2016	9,849,812,624	797,892,857	153,844,418	176,396,540	6,043	52,568,647	26,030,282	11,056,551,411 ⁽⁹⁾
	2017	10,288,152,118	763,868,326	160,704,268	193,435,726	12,536	45,489,693	26,065,189	11,477,727,856 ⁽⁹⁾
	2018	10,717,679,715	730,561,715	154,541,408	189,105,481	5,243	48,274,736	27,977,140	11,868,145,438
	2019	11,182,271,483	695,653,815	166,556,420	204,004,543	(4,349)	53,093,287	29,714,557	12,331,289,756
	2020	11,557,174,365	661,408,010	174,699,374	202,048,698	54,379	62,030,963	26,874,615	12,684,290,404 ⁽¹¹⁾
	2021	11,995,666,707	624,111,550	234,313,890	209,884,704	19,227	54,131,330	24,332,121	13,142,459,529 ⁽¹¹⁾
	2022	12,577,904,211	589,746,101	227,457,334	253,116,344	30,310	60,953,183	37,480,801	13,746,688,284

- (1) Indicates contributions from active members.
- (2) Includes contributions both from State and local employers (also both employer and non-employer contributions).
- (3) Indicates State contribution to POPF, CPFPF, and CPF as pension adjustment.
- (4) Previously, indicated Contributory Group Insurance (CGI) member contributions; however, now, indicates other employer contribution items, such as Delayed Enrollments/Appropriations, Retro billing, CPFPF Admin. fees, etc. Starting FY 2015, based on GASB No. 67, we are taking out CGI items from our financial statements.
- (5) Indicates percentage of Employer Contributions over Annual Covered Compensation.
- (6) Indicates transfers of member/employer contributions from other pension plans/systems.
- (7) Indicates net appreciation/depreciation of fair value, dividends, and interest.
- (8) GASB No. 67 became implemented in fiscal year 2014. Fiscal years before 2014 other than the restated 2013 were presented otherwise.
- (9) GASB No. 74 became implemented in fiscal year 2017, which is presenting State Health Benefit Program - Local - Retired only. Fiscal years before 2017 other than the restated 2016 were presented otherwise.
- (10) Both DCRP and ABPLTD moved from NJDP&B to NJ OMB (State) in fiscal year 2017. The 2016 was restated accordingly.
- (11) GASB No.84 became implemented in fiscal year 2021. Fiscal years before 2021 other than the restated 2020 were presented otherwise. The Pension Adjustment Fund (cost-of-living adjustments), previously one of the Agency Funds, became allocated to Prison Officers' Pension Fund, Consolidated Police & Firemen's Pension Fund, and Central Pension Fund.

Schedule of Changes in Net Position
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Additions ⁽¹⁾	Deductions ⁽²⁾	Total Change in Net Position	Net Position	
					Beginning of Year	End of Year
PUBLIC EMPLOYEES' RETIREMENT SYSTEM	2013	4,675,702,815	3,194,746,835	1,480,955,980	24,981,199,832	26,462,155,812 ⁽³⁾
	2014	5,874,621,920	3,337,195,959	2,537,425,961	26,462,155,812	28,999,581,773 ⁽³⁾
	2015	3,018,793,058	3,464,807,925	(446,014,867)	28,999,581,773	28,553,566,906
	2016	1,861,441,539	3,652,937,835	(1,791,496,296)	28,553,566,906	26,762,070,610
	2017	5,532,636,315	3,830,467,407	1,702,168,908	26,762,070,610	28,464,239,518
	2018	4,986,212,128	3,978,077,110	1,008,135,018	28,464,239,518	29,472,374,536
	2019	4,535,776,720	4,160,173,590	375,603,130	29,472,374,536	29,847,977,666
	2020	3,489,981,466	4,292,589,830	(802,608,364)	29,847,977,666	29,045,369,302
	2021	11,125,201,999	4,462,766,665	6,662,435,334	29,045,369,302	35,707,804,636
	2022	1,522,369,828	4,662,052,155	(3,139,682,327)	35,707,804,636	32,568,122,309
TEACHERS' PENSION AND ANNUITY FUND	2013	4,245,619,356	3,733,860,916	511,758,441	25,376,367,599	25,888,126,039 ⁽³⁾
	2014	5,284,806,491	3,890,680,070	1,394,126,421	25,888,126,039	27,282,252,461 ⁽³⁾
	2015	2,351,438,766	4,028,893,667	(1,677,454,901)	27,282,252,461	25,604,797,560
	2016	1,295,904,281	4,182,838,874	(2,886,934,593)	25,604,797,560	22,717,862,967
	2017	4,656,491,394	4,318,192,532	338,298,862	22,717,862,967	23,056,161,829
	2018	4,356,786,491	4,421,831,480	(65,044,989)	23,056,161,829	22,991,116,840
	2019	4,238,893,348	4,533,275,912	(294,382,564)	22,991,116,840	22,696,734,276
	2020	3,472,356,375	4,639,910,652	(1,167,554,277)	22,696,734,275	21,529,179,998
	2021	9,733,068,139	4,729,105,622	5,003,962,517	21,529,179,998	26,533,142,515
	2022	2,953,480,976	4,846,092,959	(1,892,611,983)	26,533,142,515	24,640,530,532
POLICE AND FIREMEN'S RETIREMENT SYSTEM	2013	3,478,087,129	1,980,234,149	1,497,852,980	21,007,084,565	22,504,937,545 ⁽³⁾
	2014	4,625,261,593	2,109,713,353	2,515,548,240	22,504,937,545	25,020,485,785 ⁽³⁾
	2015	2,296,368,445	2,209,995,309	86,373,136	25,020,485,785	25,106,858,921
	2016	1,206,336,587	2,328,468,844	(1,122,132,257)	25,106,858,921	23,984,726,664
	2017	4,288,601,629	2,425,609,894	1,862,991,735	23,984,726,664	25,847,718,399
	2018	3,778,988,436	2,528,150,735	1,250,837,701	25,847,718,399	27,098,556,100
	2019	3,308,453,639	2,614,588,794	693,864,845	27,098,556,100	27,792,420,945
	2020	2,358,638,263	2,738,931,363	(380,293,100)	27,792,420,945	27,412,127,845
	2021	9,002,106,506	2,870,980,864	6,131,125,642	27,412,127,845	33,543,253,487
	2022	151,586,866	2,986,186,943	(2,834,600,077)	33,543,253,487	30,708,653,410

Schedule of Changes in Net Position

(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Additions ⁽¹⁾	Deductions ⁽²⁾	Total Change in Net Position	Net Position	
					Beginning of Year	End of Year
STATE POLICE RETIREMENT SYSTEM	2013	241,530,381	182,752,484	58,777,897	1,729,847,825	1,788,625,722 ⁽³⁾
	2014	347,569,636	198,238,964	149,330,672	1,788,625,722	1,937,956,394 ⁽³⁾
	2015	136,598,064	206,845,348	(70,247,284)	1,937,956,394	1,867,709,110
	2016	41,023,782	213,770,780	(172,746,998)	1,867,709,110	1,694,962,112
	2017	284,133,914	217,598,691	66,535,223	1,694,962,112	1,761,497,335
	2018	251,297,839	222,750,492	28,547,347	1,761,497,335	1,790,044,682
	2019	228,173,929	226,429,044	1,744,885	1,790,044,682	1,791,789,567
	2020	167,269,113	231,297,135	(64,028,022)	1,791,789,567	1,727,761,545
	2021	646,774,452	238,612,133	408,162,319	1,727,761,545	2,135,923,864
	2022	63,452,866	252,040,923	(188,588,057)	2,135,923,864	1,947,335,807
JUDICIAL RETIREMENT SYSTEM	2013	41,643,253	47,848,101	(6,204,848)	232,035,665	225,830,817 ⁽³⁾
	2014	55,419,470	49,766,452	5,653,018	225,830,817	231,483,835 ⁽³⁾
	2015	33,898,314	52,598,778	(18,700,464)	231,483,835	212,783,371
	2016	22,070,978	54,854,529	(32,783,551)	212,783,371	179,999,820
	2017	51,841,819	56,516,306	(4,674,487)	179,999,820	175,325,333
	2018	50,870,800	58,471,785	(7,600,985)	175,325,333	167,724,348
	2019	49,931,789	59,791,944	(9,860,155)	167,724,348	157,864,193
	2020	49,733,735	61,169,085	(11,435,350)	157,864,193	146,428,843
	2021	99,160,175	63,029,263	36,130,912	146,428,843	182,559,755
	2022	65,392,111	64,935,126	456,985	182,559,755	183,016,740
CONSOLIDATED POLICE AND FIREMEN'S PENSION FUND	2013	3,389,354	3,894,398	(505,044)	4,858,860	4,353,816 ⁽³⁾
	2014	1,901,416	2,951,601	(1,050,185)	4,353,816	3,303,631 ⁽³⁾
	2015	1,577,949	2,453,630	(875,681)	3,303,631	2,427,950
	2016	1,354,873	1,887,895	(533,022)	2,427,950	1,894,928
	2017	1,549,379	1,539,811	9,568	1,894,928	1,904,496
	2018	1,152,872	1,293,905	(141,033)	1,904,496	1,763,463
	2019	660,275	1,036,188	(375,913)	1,763,463	1,387,550
	2020	995,955	1,330,778	(334,823)	1,387,550	1,052,727 ⁽³⁾
	2021	695,835	705,019	(9,184)	2,194,649	2,185,465 ⁽³⁾
	2022	450,726	476,663	(25,937)	2,185,465	2,159,528

Schedule of Changes in Net Position
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Additions ⁽¹⁾	Deductions ⁽²⁾	Total Change in Net Position	Net Position	
					Beginning of Year	End of Year
PRISON OFFICERS' PENSION FUND	2013	898,612	1,770,929	(872,317)	9,044,236	8,171,919 ⁽³⁾
	2014	800,543	1,589,261	(788,718)	8,171,919	7,383,201 ⁽³⁾
	2015	704,715	1,383,348	(678,633)	7,383,201	6,704,568
	2016	652,284	1,245,619	(593,335)	6,704,568	6,111,233
	2017	582,978	1,073,343	(490,365)	6,111,233	5,620,868
	2018	554,780	952,192	(397,412)	5,620,868	5,223,456
	2019	523,663	821,187	(297,524)	5,223,456	4,925,932
	2020	874,424	1,157,345	(282,921)	4,925,932	4,643,011 ⁽⁶⁾
	2021	335,931	646,176	(310,245)	5,446,289	5,136,044 ⁽⁶⁾
	2022	327,467	513,097	(185,630)	5,136,044	4,950,414
CENTRAL PENSION FUND	2013	190,312	190,312	—	—	—
	2014	227,053	227,053	—	—	—
	2015	253,461	253,461	—	—	—
	2016	302,890	302,890	—	—	—
	2017	270,826	270,826	—	—	—
	2018	347,283	347,283	—	—	—
	2019	297,355	297,355	—	—	—
	2020	288,456	288,456	—	—	—
	2021	242,162	242,162	—	—	— ⁽⁶⁾
	2022	264,336	264,336	—	—	—
SUPPLEMENTAL ANNUITY COLLECTIVE TRUST	2013	37,624,576	12,238,930	25,385,646	152,876,368	178,262,014
	2014	48,130,013	17,638,584	30,491,429	178,262,014	208,753,443
	2015	22,459,949	20,710,344	1,749,605	208,753,443	210,503,048
	2016	11,144,135	20,342,949	(9,198,814)	210,503,048	201,304,234
	2017	41,308,408	16,520,123	24,788,285	201,304,234	226,092,519
	2018	30,322,243	22,615,594	7,706,649	226,092,519	233,799,168
	2019	18,071,090	20,973,004	(2,901,914)	233,799,168	230,897,254
	2020	18,676,536	21,502,168	(2,825,632)	230,897,254	228,071,622
	2021	108,995,108	21,927,170	87,067,938	228,071,622	315,139,560
	2022	(25,877,449)	31,283,967	(57,161,416)	315,139,560	257,978,144

Schedule of Changes in Net Position

(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Additions ⁽¹⁾	Deductions ⁽²⁾	Total Change in Net Position	Net Position	
					Beginning of Year	End of Year
DEFERRED COMPENSATION PLAN	2013	479,365,849	124,516,718	354,849,131	2,586,043,883	2,940,893,014
	2014	605,199,581	149,875,388	455,324,193	2,940,893,014	3,396,217,207
	2015	320,141,828	176,453,482	143,688,346	3,396,217,207	3,539,905,553
	2016	201,026,688	163,438,450	37,588,238	3,539,905,553	3,577,493,791
	2017	593,942,087	183,555,499	410,386,588	3,577,493,791	3,987,880,379
	2018	533,073,463	203,833,496	329,239,967	3,987,880,379	4,317,120,346
	2019	425,007,572	234,244,690	190,762,882	4,317,120,346	4,507,883,228
	2020	316,716,793	219,981,328	96,735,465	4,507,883,228	4,604,618,693
	2021	1,394,911,025	233,467,699	1,161,443,326	4,604,618,693	5,766,062,019
	2022	(408,555,486)	305,215,723	(713,771,209)	5,766,062,019	5,052,290,810
DEFINED CONTRIBUTION RETIREMENT PROGRAM⁽³⁾	2013	1,484,737	1,207,760	276,977	692,637	969,614
	2014	1,411,794	359,385	1,052,409	969,614	2,022,023
	2015	2,050,267	844,050	1,206,217	2,022,023	3,228,240
	2016	—	—	—	3,228,240	3,228,240
	2017	—	—	—	—	—
	2018	—	—	—	—	—
	2019	—	—	—	—	—
	2020	—	—	—	—	—
	2021	—	—	—	—	—
	2022	—	—	—	—	—
ALTERNATE BENEFIT LONG-TERM DISABILITY FUND⁽⁶⁾	2013	3,039,991	2,949,360	90,631	1,556,065	1,646,696
	2014	1,384,318	1,400,000	(15,682)	1,646,696	1,631,014
	2015	1,551,631	1,550,000	1,631	1,631,014	1,632,645
	2016	—	—	—	1,632,645	1,632,645
	2017	—	—	—	—	—
	2018	—	—	—	—	—
	2019	—	—	—	—	—
	2020	—	—	—	—	—
	2021	—	—	—	—	—
	2022	—	—	—	—	—

Schedule of Changes in Net Position
(based on Annual Comprehensive Financial Reports for relevant years)

	Fiscal Year	Additions ⁽¹⁾	Deductions ⁽²⁾	Total Change in Net Position	Net Position	
					Beginning of Year	End of Year
STATE HEALTH BENEFIT PROGRAM FUNDS	2013	5,469,006,328	5,405,114,581	63,891,747	231,675,688	295,567,435
	2014	5,879,875,715	5,928,310,769	(48,435,054)	295,567,435	247,132,381
	2015	6,370,195,549	6,299,989,819	70,205,730	247,132,381	317,338,111
	2016	447,889,303	436,462,746	11,426,557	317,338,111	150,385,152 ⁽⁴⁾
	2017	489,254,189	426,383,424	62,870,765	150,385,152	213,255,917 ⁽⁴⁾
	2018	531,050,535	429,821,366	101,229,169	213,255,917	314,485,086
	2019	438,346,444	479,658,048	(41,311,604)	314,485,086	273,173,482
	2020	367,821,064	476,132,264	(108,311,200)	273,173,482	164,862,282
	2021	406,386,126	520,976,756	(114,590,630)	164,862,282	50,271,652
	2022	488,684,406	597,626,392	(108,941,986)	50,271,652	(58,670,334)
PENSION TRUST AND STATE HEALTH BENEFIT PROGRAM FUNDS TOTAL	2013	18,677,582,693	14,691,325,473	3,986,257,220	76,313,283,223	80,299,540,443 ⁽³⁾
	2014	22,726,609,543	15,687,946,839	7,038,662,704	80,299,540,443	87,338,203,147 ⁽³⁾
	2015	14,556,031,996	16,466,779,161	(1,910,747,165)	87,338,203,147	85,427,455,982
	2016	5,089,147,340	11,056,551,411	(5,967,404,071)	85,427,455,982	79,455,191,026 ⁽⁴⁾
	2017	15,940,612,938	11,477,727,856	4,462,885,082	79,276,811,510	83,739,696,592 ⁽⁴⁾
	2018	14,520,656,870	11,868,145,438	2,652,511,432	83,739,696,592	86,392,208,024
	2019	13,244,135,824	12,331,289,756	912,846,068	86,392,208,024	87,305,054,092
	2020	10,243,352,180	12,684,290,404	(2,440,938,224)	87,305,054,092	84,864,115,868 ⁽⁶⁾
	2021	32,517,877,458	13,142,459,529	19,375,417,929	84,866,061,068	104,241,478,997 ⁽⁶⁾
	2022	4,811,576,647	13,746,688,284	(8,935,111,637)	104,241,478,997	95,306,367,360

(1) See Schedule of Revenues by Source.

(2) See Schedule of Expenses by Type.

(3) GASB No. 67 became implemented in fiscal year 2014. Fiscal years before 2014 other than the restated 2013 were presented otherwise.

(4) GASB No. 74 became implemented in fiscal year 2017, which is presenting State Health Benefits Program - Local - Retired only. Fiscal years before 2017 other than the restated 2016 were presented otherwise.

(5) Both DCRP and ABPLTD moved from NJ DP&B to NJ OMB (State) in fiscal year 2017. The 2016 was restated accordingly.

(6) GASB No. 84 became implemented in fiscal year 2021. Fiscal years before 2021 other than the restated 2020 were presented otherwise. The Pension Adjustment Fund (cost-of-living adjustments), previously one of the Agency Funds, became allocated to Prison Officers' Pension Fund, Consolidated Police & Firemen's Pension Fund, and Central Pension Fund.

Participating County and Municipal Employers

Aberdeen Township	Brigantine City	Denville Township *	Frelinghuysen Twp *
Absecon City *	Brooklawn Borough	Deptford Township *	Frenchtown Borough *
Alexandria Township *	Buena Borough *	Dover Town	Galloway Township
Allamuchy Township *	Buena Vista Township *	Downe Township	Garfield City
Allendale Borough	Burlington Co Board of Social Services *	Dumont Borough *	Garwood Borough *
Allenhurst Borough *	Burlington County/Payroll Dept	Dunellen Borough *	Gibbsboro Borough
Allentown Borough	Burlington City *	Eagleswood Township *	Glassboro Borough
Alloway Township *	Burlington Township	East Amwell Township *	Glen Gardner Borough *
Alpha Borough *	Butler Borough	East Brunswick Township	Glen Ridge Borough *
Alpine Borough	Byram Township *	East Brunswick Township Fire Dist *	Glen Rock Borough *
Andover Borough	Caldwell Borough	East Greenwich Township	Gloucester City
Andover Township *	Califon Borough *	East Hanover Township *	Gloucester County
Asbury Park City	Camden City	East Newark Borough	Gloucester Co Board of Social Services
Atlantic City	Camden County*	East Orange City	Gloucester Township
Atlantic Highlands *	Camden Co Board of Chosen Freeholders	East Rutherford Borough *	Green Brook Township *
Atlantic County *	Camden Co Board of Social Services *	East Windsor Township	Green Township *
Atlantic County Welfare Board *	Camden County Library*	Eastampton Township *	Greenwich Township (Cumberland)
Audubon Borough *	Cape May City *	Eatontown Borough	Greenwich Township (Gloucester)
Audubon Park Borough *	Cape May County	Edgewater Borough	Greenwich Township (Warren) *
Avalon Borough	Cape May Co Board Social Services	Edgewater Park Township *	Guttenberg Town
Avon By The Sea	Cape May Point Borough *	Edison Township	Hackensack City
Barnegat Light Borough *	Carlstadt Borough	Egg Harbor City	Hackettstown Town *
Barnegat Township*	Carneys Point Township	Egg Harbor Township *	Haddon Heights Borough *
Barrington Borough	Carteret Borough	Elizabeth City *	Haddon Township
Bass River Twp Municipal Bldg	Casino Reinvestment Dev Auth/A	Elk Township *	Haddonfield Borough
Bay Head Borough *	Cedar Grove Township *	Elmer Borough	Hainesport Township *
Bayonne City *	Chatham Borough	Elmwood Park Borough *	Haledon Borough *
Beach Haven Borough *	Chatham Township	Elsinboro Township	Hamburg Borough *
Beachwood Borough	Cherry Hill Township *	Emerson Borough	Hamilton Township (Atlantic) *
Bedminster Township *	Cherry Hill Township Library *	Englewood City *	Hamilton Township (Mercer)
Belleville Township	Chesilhurst Borough	Englewood Cliffs Borough *	Hammononton Town *
Bellmawr Borough	Chester Borough *	Englishtown Borough	Hampton Borough *
Belmar Borough *	Chester Township *	Essex County	Hampton Township *
Belvidere Town *	Chesterfield Township *	Essex Fells Borough *	Hanover Township
Bergen County	Cinnaminson Township	Estell Manor City *	Harding Township
Bergen Co Board of Social Services	Clark Township *	Evesham Township	Hardwick Township *
Bergenfield Borough *	Clayton Borough *	Evesham Township Municipal Util Auth*	Hardyston Township
Berkeley Heights Township	Clementon Borough *	Ewing Township *	Harmony Township *
Berkeley Twp Municipal Bldg *	Cliffside Park Borough *	Fair Haven Borough *	Harrington Park Borough *
Berlin Borough *	Clifton City	Fair Lawn Borough	Harrison Township *
Berlin Township *	Clinton Town *	Fairfield Township (Cumberland)	Harrison Town (Hudson)
Bernards Township *	Clinton Township *	Fairfield Township (Essex)	Harrison Twp Fire Dist 1*
Bernardsville Boro *	Closter Borough *	Fairview Borough *	Harrison Township (Gloucester) *
Bethlehem Township *	Collingswood Borough *	Fanwood Borough	Harvey Cedars Borough *
Beverly City Municipal Bldg *	Colts Neck Township	Far Hills Borough *	Hasbrouck Heights Borough *
Blairstown Township *	Commercial Township *	Farmingdale Borough *	Haworth Borough *
Bloomfield Township	Comm Workers of America 1034	Fieldsboro Borough	Hawthorne Borough *
Bloomington Borough *	Comm Workers of America 1037	Flemington Borough *	Hazlet Township *
Bloomsbury Borough *	Comm Workers of America 1033	Florence Township *	Helmetta Borough *
Bogota Borough	Corbin City *	Florham Park Borough	High Bridge Borough
Boonton Town *	Cranbury Township *	Folsom Borough *	Highland Park Borough *
Boonton Township *	Cranford Township	Fort Lee Borough	Highlands Borough *
Bordentown City *	Cresskill Borough *	Frankford Township *	Hightstown Borough
Bordentown Township	Cumberland County	Franklin Borough *	Hillsborough Township *
Bound Brook Borough *	Cumberland Co Board Social Services *	Franklin Lakes Borough *	Hillsdale Borough
Bradley Beach Borough *	Deal Borough *	Franklin Township (Gloucester)	Hillside Township *
Branchburg Township	Deerfield Township *	Franklin Township (Hunterdon)	Hi-Nella Borough
Branchville Borough *	Delanco Township *	Franklin Township (Somerset)	Hoboken City
Brick Township	Delaware Township *	Franklin Township (Warren)	Ho-Ho-Kus Borough *
Bridgeton City	Delran Township	Fredon Township	Holland Township *
Bridgewater Township *	Demarest Borough *	Freehold Borough *	Holmdel Township *
Brielle Borough	Dennis Township *	Freehold Township	Hopatcong Borough *

* In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating County and Municipal Employers, *continued*

Hope Township *	Manalapan Township *	National Park Borough	Pequanock Township
Hopewell Borough *	Manasquan Borough	Neptune City Borough	Perth Amboy City
Hopewell Township (Cumberland)	Manchester Township	Neptune Township	Phillipsburg Town
Hopewell Township (Mercer)	Mannington Township *	Netcong Borough *	Pilesgrove Township *
Howell Township	Mansfield Township *	New Brunswick City	Pine Beach Borough *
Hudson County *	Mansfield Township Mansfield Township (Burlington)	New Jersey Association of Counties *	Pine Hill Borough
Hunterdon County	Mansfield Township (Warren)	New Jersey Infrastructure Bank *	Pine Hill Borough Fire Dist 1 *
Hunterdon Co Board Social Services	Mantoloking Borough *	New Jersey School Boards Association *	Pine Valley Borough *
Independence Township / Municipal. Bldg *	Mantua Township *	New Jersey State League of Municipalities *	Piscataway Township
Interlaken Borough *	Manville Borough *	New Hanover Township *	Pitman Borough
Irvington Township Dept Of Rev & Finance	Maple Shade Township	New Milford Borough	Pittsgrove Township *
Island Heights Borough *	Maplewood Township *	New Providence Borough *	Plainfield City *
Jackson Township *	Margate City	Newark City *	Plainsboro Township
Jamesburg Borough *	Marlboro Township *	Newfield Borough *	Pleasantville City *
Jefferson Township *	Matawan Borough	Newton Town *	Plumsted Township
Jersey City	Maurice River Township *	North Arlington Borough	Pohatcong Township
Keansburg Borough	Maywood Borough	North Bergen Township	Point Pleasant Beach Borough
Kearny Town *	Medford Lakes Borough *	North Brunswick Township *	Point Pleasant Borough
Kenilworth Borough *	Medford Township *	North Caldwell Borough *	Pompton Lakes Borough *
Keyport Borough	Mendham Borough *	North Haledon Borough *	Port Republic City *
Kingwood Township *	Mendham Township *	North Hanover Township *	Princeton Borough *
Kinnelon Borough	Merchantville Borough	North Hunterdon Municipal Court *	Princeton Township
Knowlton Township *	Mercer County *	North Plainfield Borough *	Prospect Park Borough *
Lacey Township *	Mercer Co Board of Social Service *	North Wildwood City	Quinton Township
Lafayette Township *	Metuchen Borough	Northfield City *	Rahway City *
Lake Como Borough *	Middle Township *	Northvale Borough *	Ramsey Borough
Lakehurst Borough *	Middlesex Borough *	Norwood Borough *	Randolph Township
Lakewood Township	Middlesex County	Nutley Township *	Raritan Borough *
Lakewood Twp Fire District 1 *	Middlesex Co Board of Social Services	Oakland Borough	Raritan Township
Lambertville City *	Middletown Township	Oaklyn Borough	Readington Township *
Laurel Springs Borough *	Midland Park Borough *	Ocean City *	Red Bank Borough
Lavallette Borough *	Milford Borough *	Ocean County *	Ridgefield Borough *
Lawnside Borough	Millburn Township *	Ocean County Board of Social Services *	Ridgefield Park Village
Lawrence Township (Cumberland) *	Millstone Borough	Ocean Gate Borough *	Ridgewood Village *
Lawrence Township (Mercer) *	Millstone Township *	Ocean Township (Monmouth) *	Ringwood Borough
Lebanon Borough *	Milltown Borough *	Ocean Township (Ocean)	River Edge Borough *
Lebanon Township *	Millville City	Oceanport Borough	River Vale Township *
Leonia Borough *	Mine Hill Township *	Ogdensburg Borough *	Riverdale Borough *
Liberty Township *	Monmouth Beach Borough *	Old Bridge Township	Riverside Township
Lincoln Park Borough	Monmouth County Division of Social Services	Old Bridge Twp Fire District 3 *	Riverton Borough *
Linden City *	Monmouth County/Hall of Records	Old Tappan Borough	Robbinsville Township
Lindenwold Borough *	Monroe Township (Gloucester)	Oldmans Township	Rochelle Park Public Library
Linwood City	Monroe Township (Middlesex)	Oradell Borough *	Rochelle Park Township *
Little Egg Harbor Township	Montague Township *	Orange City	Rockaway Borough *
Little Falls Township *	Montclair Township *	Oxford Township *	Rockaway Township *
Little Ferry Borough *	Montgomery Township *	Palisades Park Borough	Rockleigh Borough *
Little Silver Borough *	Montvale Borough	Palmyra Borough *	Rocky Hill Borough
Livingston Township *	Montville Township *	Paramus Borough *	Roosevelt Borough *
Loch Arbour Village	Moonachie Borough	Park Ridge Borough	Roseland Borough *
Lodi Borough	Moorestown Township	Parsippany Troy Hills Township	Roselle Borough *
Logan Township	Morris County	Passaic City *	Roselle Park Borough
Long Beach Township *	Morris Plains Borough *	Passaic County	Roxbury Township
Long Branch City	Morris Township *	Passaic County Board of Social Services	Rumson Borough *
Long Hill Township *	Morristown Town	Passaic Valley Water Comm	Runnemedede Borough
Longport Borough *	Mount Arlington Borough *	Paterson City *	Rutherford Borough
Lopatcong Township	Mount Ephraim Borough	Paulsboro Borough	Saddle Brook Township
Lower Alloways Creek Township	Mount Holly Township *	Peapack Gladstone Borough *	Saddle River Borough
Lower Township	Mount Laurel Township *	Pemberton Borough *	Salem City *
Lumberton Township *	Mount Olive Township	Pemberton Township	Salem County *
Lyndhurst Township	Mountain Lakes Borough *	Pennington Borough *	Salem County Board of Social Services *
Madison Borough	Mountainside Borough *	Penns Grove Borough	Sandyston Township *
Magnolia Borough	Mullica Township *	Pennsauken Township	Sayreville Borough
Mahwah Township		Pennsville Township	Scotch Plains Township *

* In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating County and Municipal Employers, *continued*

Sea Bright Boro *	Sussex County Social Services *	Washington Township (Gloucester)
Sea Girt Borough *	Swedesboro Borough	Washington Township (Morris)
Sea Isle City	Tabernacle Township *	Washington Township (Warren)
Seaside Heights Borough *	Tavistock Borough	Watchung Borough *
Seaside Park Borough *	Teaneck Township *	Waterford Township *
Secaucus Town	Tenafly Borough *	Wayne Township
Shamong Township *	Teterboro Borough *	Weehawken Township *
Shiloh Borough	Tewksbury Township *	Wenonah Borough
Ship Bottom Borough	Tinton Falls Borough	West Amwell Township *
Shrewsbury Borough	Toms River Township	West Caldwell Township
Shrewsbury Township	Totowa Borough *	West Cape May Borough *
Somerdale Borough *	Trenton City *	West Deptford Township
Somers Point City	Trenton City Library *	West Long Branch Borough
Somerset County Finance Office	Tuckerton Borough *	West Milford Township
Somerville Borough *	Union Beach Borough *	West New York Town *
South Amboy City	Union City	West Orange Township *
South Bergen JT Const. Code Office	Union County	West Paterson Borough
South Bound Brook Borough *	Union County Board of Social Services	West Wildwood Borough *
South Brunswick Township *	Union Township (Hunterdon) *	West Windsor Township
South Hackensack Township	Union Township (Union)	Westampton Township *
South Harrison Township *	Upper Deerfield Township *	Westfield Town
South Orange Village *	Upper Delaware Soil Conservation District *	Westville Borough
South Plainfield Borough	Upper Freehold Township *	Westwood Borough
South River Borough *	Upper Pittsgrove Township *	Weymouth Township *
South Toms River Borough *	Upper Saddle River Boro *	Wharton Borough *
Southampton Township *	Upper Township	White Township *
Sparta Township	Ventnor City	Wildwood City *
Spotswood Borough *	Vernon Township *	Wildwood Crest Borough *
Spring Lake Borough *	Verona Township *	Willingboro Township
Spring Lake Heights Borough *	Victory Gardens Borough	Winfield Township *
Springfield Township (Union)	Vineland City	Winslow Township
Springfield Twp (Burlington) *	Voorhees Township *	Woodbine Borough *
Stafford Township	Waldwick Borough *	Woodbridge Township
Stanhope Borough *	Wall Township	Woodbury City
Stillwater Township *	Wall Township Fire District 2 *	Woodbury Heights Borough *
Stockton Borough	Wall Township Fire District 3 *	Woodcliff Lake Borough *
Stone Harbor Borough	Wallington Borough	Woodland Township *
Stow Creek Township	Wallpack Township	Woodlyne Borough *
Stratford Borough *	Wanaque Borough	Wood-Ridge Borough
Summit City *	Wantage Township	Woodstown Borough *
Summit Housing Authority *	Warren County Bd of Chosen Freeholders	Woolwich Township
Surf City Borough	Warren Township *	Wrightstown Borough *
Sussex Borough *	Washington Borough *	Wyckoff Township *
Sussex County	Washington Township (Bergen) *	
Sussex County Health & Public *	Washington Township (Burlington)	

* In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating Education Employers

Absecon Board of Education	Brielle Boro Board of Education	Cumberland County Board of Voc Ed	Fort Lee Board of Education
Academy Charter High School	Brigantine City Board of Education *	Cumberland County College *	Frankford Township Board of Education
Academy For Urban Leadership	Brookdale Community College *	Cumberland Regional School Dist	Franklin Boro Board of Education *
Achieve Community Charter School	Brooklawn Boro Board of Education	Deal Boro Board of Education *	Franklin Lakes Board of Education
Achievers Early College Prep	Buena Regional School District	Deerfield Township Board of Education	Franklin Twp Board of Ed (Gloucester)
Adelaide Sanford Charter School	Burch Charter School For Excellence *	Delanco Twp Board of Education *	Franklin Twp Board of Ed (Somerset)
Alexandria Twp Board of Education	Burlington City Board of Education	Delaware Twp Board of Education *	Franklin Twp Board of Education (Warren)
Allamuchy Board of Education	Burlington Co Audio Visual Aids Comm	Delaware Valley Regional High School Dist.	Franklin Twp Board of Ed Hunterdon)
Allendale Boro Board of Education	Burlington Co Board Special Services *	Delsea Regional High School District	Freedom Academy Charter School
Allenhurst Board of Education *	Burlington Co College *	Demarest Boro Board of Education *	Freehold Boro Board of Education *
Alloway Twp Board of Education	Burlington Co Institute of Tech	Dennis Twp Board of Education	Freehold Regional High School District
Alpha Board of Education *	Burlington Township Board of Education	Denville Twp Board of Education	Freehold Twp Board of Education
Alpine Board of Education *	Butler Boro Board of Education	Deptford Twp Board of Education	Frelinghuysen Twp Board of Education
Andover Regional Board of Education *	Byram Twp Board of Education	Dover Board of Education	Frenchtown Borough Board of Education *
Asbury Park Board of Education *	Caldwell West Caldwell Board of Education *	Downe Twp Board of Education	Galloway Township Board of Education
Atlantic Cape Community College *	Carlifon Boro Board of Education *	Dr. Lena Edwards Academy Charter School	Garfield City Board of Education *
Atlantic City Board of Education *	Camden Academy Charter High School	Dumont Borough Board Of Education *	Garwood Borough Board of Education
Atlantic Co Audio Visual Aids Comm	Camden City Board of Education *	Dunellen Board of Education	Gateway Regional High School
Atlantic County Special Services *	Camden County College *	Eagleswood Twp Board of Education *	Gibbsboro Borough Board of Education
Atlantic Highlands Board of Education *	Camden County Ed Services Commission	East Amwell Township Board of Education	Glassboro Board of Education
Atlantic Co Vocational Schools *	Camden County Technical Schools *	East Brunswick Twp Board of Education	Glen Ridge Board of Education
Audubon Borough Board of Education	Camden Promise Charter School	East Hanover Twp Board of Education *	Green Rock Borough Board of Education *
Avalon Borough Board of Education	Camden's Pride Charter School	East Newark Borough Board of Education *	Gloucester City Board of Education *
Avon By The Sea Boro Board of Education *	Cape May City Board of Education *	East Orange City Board of Education *	Gloucester County Audio Visual Aid Comm *
Barack Obama Green Charter High School	Cape May County Special Services *	East Orange Community Charter School *	Gloucester County College *
Barneгат Boro Board of Education	Cape May County Technical School Dist	East Rutherford Boro Board of Education	Gloucester County Sp Services School District
Bass River Twp Board of Education	Cape May Pt Boro Board of Education	East Windsor Regional School Dist	Gloucester County Vo-Tech School Dist
Bay Head Board of Education *	Carlstadt Borough Board of Education	Eastampton Township Board of Education	Granville Charter Middle School
Bayonne Board of Education	Carlstadt East Rutherford Board of Education	Eastern Camden Co Regional School Dist	Gray Charter School *
Beach Haven Borough Board of Education *	Carteret Board of Education	Eastontown Board of Education *	Great Meadows Regional Board of Education *
Bedminster Twp Board of Education	Cedar Grove Twp Board of Education *	Eco Charter School	Great Oaks Charter School
Belleville Board of Education	Central Jersey Arts Charter School *	Edgewater Boro Board of Education	Greater Brunswick Charter School *
Bellmawr Borough Board of Education *	Central Jersey College Prep Charter	Edgewater Park Twp Board of Education *	Greater Egg Harbor Regional
Belmar Boro Board of Education	Central Regional High School District *	Edison Twp Board of Education	Green Brook Board of Education
Belvidere Town Board of Education	Charter Tech *	Egg Harbor City Board of Education *	Green Township Board of Education
Bergen Arts And Science Charter School	Chatham's School District	Egg Harbor Twp Board of Education	Greenwich Twp Bd of Ed (Cumberland) *
Bergen Co Board Of Special Services	Cherry Hill Twp Board of Education	Elizabeth Board of Education *	Greenwich Twp Board of Ed (Gloucester)
Bergen Community College *	Chesilhurst Boro Board of Education *	Elk Twp Board of Education	Greenwich Twp Board of Ed (Warren)
Bergen County Vocational School	Chester Twp Board of Education	Elmer Board of Education *	Guttenberg Boro Board of Education
Bergenfield Board of Education *	Chesterfield Twp Board of Education *	Elmwood Park Borough Board of Ed *	Hackensack City Board of Education *
Berkeley Heights Board of Education	Cinnaminson Twp Board of Education	Elsinboro Township Board of Education *	Hackettstown Board of Education
Berkeley Twp Board of Education *	Clark Twp Board of Education	Elysian Charter School of Hoboken *	Haddon Heights Board of Education
Berlin Borough Board of Education	Classical Academy Charter School *	Emerson Borough Board of Education *	Haddon Township Board of Education
Berlin Township Board of Education	Clayton Borough Board of Education	Englewood City Board of Education *	Haddonfield Board of Education
Bernards Twp Board of Education	Clearview Regional Board of Education	Englewood Cliffs Board of Education *	Hainesport Township Board of Education
Bethlehem Twp Board of Education	Clementon Board of Education	Englewood On The Palisades Charter School *	Haledon Borough Board of Education *
Beverly City Board of Education *	Cliffside Park Board of Education	Essex County College *	Hamburg Borough Board of Education
Black Horse Pike Regional School District	Clifton City Board of Education	Essex Co Educational Service Commission	Hamilton Twp Board of Education (Atlantic)
Blairstown Twp Board of Education	Clinton Town Board of Education	Essex Co Vocational School	Hamilton Twp Board of Education (Mercer)
Bloomfield Twp Board of Education	Clinton Twp Board of Education	Essex Fells Board of Education	Hammonon Town Board of Education
Bloomington Board of Education *	Closter Board of Education *	Estell Manor Board of Education *	Hampton Borough Board of Education *
Bloomsbury Borough Board of Education *	College Achieve Greater Asbury *	Ethical Comm Charter School Jersey City	Hampton Township Board of Education *
Bogota Boro Board of Education *	College Achieve Paterson C/S *	Evesham Twp Board of Education	Hanover Park Regional High School Dist *
Boonton Town Board of Education	Collingswood Borough Board of Education	Ewing Township Board of Education *	Hanover Township Board of Education
Boonton Twp Board of Education	Colts Neck Twp Board of Education	Fair Haven Borough Board of Education	Harding Township Board of Education
Bordentown Regional School District *	Commercial Twp Board of Education *	Fair Lawn Board of Education	Hardwick Twp Board of Education
Bound Brook Boro Board of Education	Communications Workers of America	Fairfield Twp Bd of Ed (Cumberland) *	Hardyston Township Board of Education
Bradley Beach Board of Education	Community Charter School of Paterson	Fairfield Twp Board of Education (Essex)	Harmony Township Board of Education *
Branchburg Twp Board of Education	Corbin City Board of Education *	Fairview Boro Board of Education *	Harrington Park Board of Education
Branchville Board of Education	Cranbury Township Board of Education	Farmingdale Board of Education *	Harrison Town Board of Education (Hudson)
Brick Twp Board of Education	Cranford Twp Board of Education *	Flemington Raritan Board of Education	Harrison Twp Board of Education (Gloucester)
Bridgeton Board of Education	Creativity Colaboratory Charter School	Florence Township Board of Education	Hasbrouck Heights Board of Education
Bridgeton Public Charter School	Cresskill Board of Education	Florham Park Board of Education	Haworth Borough Board of Education *
Bridgewater-Raritan Regional School Dist	Cresthaven Academy Charter School	Folsom Borough Board of Education *	Hawthorne Board of Education

* In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating Education Employers, *continued*

Hatikvah International Academy C S	Learning Comm. Charter School *	Midland Park Boro Board of Education *	North Plainfield Board of Education
Hazlet Twp Board of Education *	Lebanon Borough Board of Education *	Milford Borough Board of Education *	North Star Academy Charter School
Helmetta Boro Board of Education *	Lebanon Township Board of Education	Millburn Township Public Schools	North Warren Regional High School
Henry Hudson Regional School District	Lenape Regional High School District	Millstone Borough Board of Education	North Wildwood Board of Education *
High Bridge Borough Board of Education	Lenape Valley Regional High School Dist	Millstone Township Board of Education *	Northern Burlington Co Regional
High Point Regional High School	Leonia Borough Board of Education	Milltown Borough Board Of Education	Northern Highlands Reg High School *
Highland Park Board of Education	Lincoln Park Boro Board Of Education	Millville Board of Education	Northern Valley Regional High School District
Highlands Boro Board of Education	Linden City Board of Education	Millville Public Charter School	Northvale Board of Education
Hillsdale Borough Board of Education *	Lindenwold Borough Board of Education	Mine Hill Township Board of Education *	Northwood Board of Education *
Hillside Board of Education	Linwood Board of Education *	Monmouth Beach Board of Education *	Norwood County College *
Hoboken Board of Education	Little Egg Harbor Twp Board of Education *	Monmouth County Vocational Schools	Nutley Board of Education
Hoboken Charter School	Little Falls Board of Education	Monmouth Ocean Ed Service Commission	Oakland Board of Education
Hoboken Dual Language Charter School	Little Ferry Board of Education *	Monmouth Regional School	Oaklyn Borough Board of Education
Ho-Ho-Kus Board of Education *	Little Silver Board of Education	Monroe Township Board of Ed (Gloucester)	Ocean Academy Charter School *
Holland Township Board of Education *	Livingston Board of Education	Monroe Township Board of Ed (Middlesex)	Ocean City Board of Education
Holmdel Township Board of Education *	Lodi Board of Education	Montague Board of Education*	Ocean Gate Board of Education *
Hopatcong Board of Education *	Logan Township Board of Education	Montclair Board of Education	Ocean Co Audio Visual Aids Commission
Hope Academy Charter School	Long Beach Island Board of Education *	Montclair State University *	Ocean County College *
Hope Township Board of Education	Long Branch Board of Education	Montgomery Township Board of Education	Ocean Township Board of Ed (Monmouth)
Hopewell Township Board v Ed (Cumberland)	Long Hill Township Board of Education	Montvale Borough Board of Education *	Ocean Township Board of Education (Ocean) *
Hopewell Valley Regional School District	Longport Borough Board of Education *	Montville Township Board of Education	Oceanport Schools
Howell Township Board of Education	Lopatcong Township Board of Education	Moonachie Borough Board of Education	Old Bridge Board of Education
Hudson Arts & Sciences Charter School	Lower Alloways Creek Board of Education *	Moorestown Township Board of Education *	Old Tappan Board of Education
Hudson County Community College *	Lower Cape May Regional School District *	Morris County College *	Oldmans Township Board of Education
Hudson County Schools of Technology	Lower Township Board of Education *	Morris County Vocational School District *	Oradell Board of Education *
Hunterdon Central High School	Lumberton Township Board of Education	Morris Hills Regional District	Oxford Twp Board of Education
Hunterdon County Ed Services Commission	Lyndhurst Township Board of Education	Morris Plains Board of Education	Pace Charter School of Hamilton *
Hunterdon County Vocational *	Madison Borough Board of Education *	Morris Audio Visual Commission	Palisades Park Board of Education
Interlaken Borough Board of Education	Magnolia Borough Board of Education	Morris County Ed Services Commission	Palmyra Borough Board of Education
International Charter School	Mahwah Board of Education	Morris School District	Paramus Board of Education
Irvington Board of Education	Mahwah Township Board of Education*	Mount Arlington Board of Education	Parsippany Troy Hills Board of Education
Irvington Town Board of Education	Mainland Regional High School Dist *	Mount Ephraim Board of Education	Pascack Valley Regional High School District *
Island Heights Boro Board of Education *	Manalapan Englishtown Regional Schools *	Mount Holly Township Board of Education	Passaic Board of Education *
Jackson Township Board of Education	Manasquan Borough Board of Education	Mount Laurel Township Board of Education	Passaic County Community College *
Jamesburg Borough Board of Education *	Manchester Township Board of Education *	Mount Olive Township Board of Education	Passaic Co. Ed Services Commission *
Jefferson Township Board of Education	Mannington Township Board of Education	Mountain Lakes Boro Board of Ed *	Passaic Co Manchester Regional High *
Jersey City Board of Education	Mansfield Township Board of Ed (Burlington)	Mountainside Boro Board of Education *	Passaic Co Regional High School District 1 *
Jersey City Public Schools *	Mansfield Township Board of Ed (Warren)	Mullica Township Board of Education *	Passaic County Vocational School
Jersey City Comm Charter School *	Mantoloking Boro Board of Education	National Park Borough Board of Education	Paterson Board of Education *
Jersey City Golden Door Charter	Manville Borough Board of Education	Neptune City Board of Education *	Paterson Chart School - Science/Tech *
John P Holland Charter School	Maple Shade Board of Education	Neptune Township Board of Education	Paterson City Bd Of Ed
Kean University *	Margate City Board of Education *	Netcong Borough Board of Education	Paul Robeson Charter School
Keansburg Board of Education *	Maria L. Varisco-Rogers Charter *	New Brunswick Board of Education	Paulsboro Boro Board of Education
Kearny Town Board of Education	Marion P. Thomas Charter School *	Newfield Borough Board of Education *	Pemberton Borough Board of Education
Kenilworth Borough Board of Education	Marlboro Township Board of Education	New Hanover Township Board of Education *	Pemberton Township Board of Education
Keyport Borough Board of Education	Maurice River Township Board of Education	New Horizon Community Charter School *	Penns Grove Carneys Point Regional
Kingsway Regional School District	Maywood Board of Education	New Jersey City University *	Pennsauken Twp Board of Education
Kingwood Township Board of Education	Medford Lakes Boro Board of Education	New Jersey Institute Of Technology *	Pennsville Twp Board of Education
Kinnelon Borough Board of Education	Medford Township Board of Education	New Jersey State Federation of Teachers NJEA	Peoples Preparatory Chater School
Kittatinny Regional High School	Mendham Boro Board of Education *	New Milford Board of Education	Pequanock Twp Board of Education
Knowlton Twp Board of Education	Mendham Township Board of Education	New Providence Board of Education	Perth Amboy Board of Education
Lacey Township Board of Education *	Merchantville Boro Board of Education *	Newark Educators' Comm Charter School	Phillips Academy Chart. Schl of Paterson
Lafayette Twp Board of Education	Mercer County Community College *	Newark Legacy Charter School	Phillipsburg Town Board of Education
Lakehurst Borough Board of Education	Mercer County Special Ser School District	Newark Public Schools *	Pine Hill Borough Board of Education
Lakeland Regional High School District	Mercer County Vocational Schools	Newark Teachers' Union	Pinelands Regional School District
Lakewood Twp Board of Education *	Mets Chater School	New Lisbon Developmental Center	Piscataway Board of Education Admn Bldg
Lambertville City Board of Education *	Metuchen Boro Board of Education	Newton Board of Education	Piscataway Township Ed Association
Laurel Springs Borough Board of Education	Middle Township Board of Education *	North Arlington Board of Education	Pitman Board of Education
Lavallette Borough Board of Education	Middlesex Board of Education	North Bergen Board of Education *	Plainfield Board of Education
Lawnside Borough Board of Education	Middlesex County College	North Brunswick Board of Education	Pleasantville Board of Education
Lawrence Twp Board of Ed (Cumberland)	Middlesex County Ed Services Commission	North Caldwell Board of Education	Pleasantech Academy Charter School
Lawrence Twp Board of Education (Mercer)	Middlesex County Stem Charter School	North Haledon Boro Board of Education *	Plumsted Twp Board of Education
Lead Charter School *	Middlesex County Vocational School *	North Hanover Township Board of Education	Pohatcong Twp Board of Education
Leap Academy Charter School	Middletown Township Board of Education	North Hunterdon-Voorhees	Point Pleasant Beach Boro Board of Ed

* In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating Education Employers, continued

- Point Pleasant Boro Board of Education *
- Pompton Lakes Board of Education *
- Port Republic City Board of Education *
- Pride Academy Charter School
- Princeton Charter School
- Princeton Regional School
- Prospect Park Board of Education *
- Queen City Academy Charter School
- Quinton Township Board of Education
- Rahway City Board of Education *
- Ramapo College of New Jersey *
- Ramapo Indian Hills Reg High School Dist
- Ramsey Borough Board of Education
- Rancocas Valley Regional High School
- Randolph Township Board of Education
- Raritan Valley Community College *
- Readington Twp Board of Education
- Red Bank Board of Education *
- Red Bank Charter School
- Red Bank Regional High School District
- Richard Stockton College of New Jersey *
- Ridge And Valley Charter School
- Ridgefield Boro Board of Education *
- Ridgefield Park Board of Education *
- Ridgewood Twp Board of Education
- Ringwood Boro Board of Education *
- Riverbank Charter School of Excellence
- River Dell Regional School District *
- River Edge Boro Board of Education
- River Vale Twp Board of Education
- Riverdale Borough Board of Education *
- Riverside Township Board of Education
- Riverton Boro School Board
- Robert Treat Academy Charter School
- Robbinsville Twp Board of Education
- Rochelle Park Twp Board of Education *
- Rockaway Borough Board of Education
- Rockaway Township Board of Education
- Rockleigh Borough Board of Education
- Rocky Hill Board of Education
- Roosevelt Borough Board of Education *
- Roseland Board of Education
- Roselle Boro Board of Education
- Roselle Park Boro Board of Education
- Roseville Community Charter School
- Rowan University *
- Rowan University-Rutgers Camden
- Roxbury Twp Board of Education
- Rumson Boro Board of Education
- Rumson Fair Haven Regional High School
- Runnemedede Borough Board of Education
- Rutgers University *
- Rutherford Boro Board of Education
- Saddle Brook Board of Education *
- Saddle River Board of Education *
- Salem City Board of Education
- Salem Community College *
- Sussex County Comm. College *
- Salem Co Special Services School District *
- Salem County Vocational School
- Sandyston Walpack School District
- Sayreville Board of Education Selover Elm
- Scotch Plains Fanwood Board of Education
- Sea Bright Boro Board of Education *
- Sea Girt Board of Education *
- Sea Isle City Board of Education *
- Seaside Heights Board of Education
- Seaside Park Board of Education *
- Secaucus Town Board of Education
- Shamong Twp Board of Education
- Shiloh Borough Board of Education
- Shore Regional High School District
- Shrewsbury Borough Board of Education
- Soaring Heights Charter School *
- Somerdale Boro Board of Education
- Somers Point City Board of Education
- Somerset County Ed Services Commission *
- Somerset County Vocational School
- Somerset Hills Board of Education
- Somerville Board of Education
- South Amboy Board of Education
- South Belmar Board of Education
- South Bound Brook Board of Education
- South Brunswick Board of Education *
- South Hackensack Board of Education *
- South Harrison Twp Board of Education
- South Hunterdon Regional Bd of Ed *
- South Orange-Maplewood Board of Ed *
- South Plainfield Board of Education
- South River Boro Board of Education
- Southampton Twp Board of Education
- Southern Regional High School District
- Sparta Board of Education
- Spotswood Board of Education
- Spring Lake Boro Board of Education
- Spring Lake Heights Board of Education
- Springfield Twp Board of Ed (Union)
- Springfield Twp Board of Ed (Burlington)
- Stafford Township Board of Education
- Stanhope Borough Board of Education
- State Library Affiliated W/TESC *
- Sterling High School District
- Stillwater Township Board of Education *
- Stockton Affiliated Services Inc
- Stockton Borough Board of Education *
- Stone Harbor Board of Education *
- Stow Creek Township Board of Education
- Stratford Board of Education
- Summit Board of Education
- Sussex County Charter School
- Sussex Co Ed Services Comm Board of Ed *
- Sussex County Vocational
- Sussex-Wantage Regional School District *
- Swedesboro Woolwich Board of Education
- Team Academy Charter School
- Tabernacle Twp Board of Education
- Teaneck Board of Education *
- Teaneck Community Charter School *
- Tenafly Board of Education *
- Tewksbury Twp Board of Education
- The College of New Jersey *
- Thomas Edison State University *
- Tinton Falls Board of Education *
- Toms River School District
- Totowa Borough Board of Education *
- Trenton City Board of Education
- Trenton Community Charter School *
- Trenton Education Association
- Union Beach Boro Board of Education
- Union City Board of Education
- Union County College *
- Union County Ed Services Commission *
- Union County Teams Charter School
- Ocean County Vocational Schools *
- Union Township of Ed (Hunterdon)
- Unity Charter School
- University Academy Charter High School
- University Heights Charter School *
- Univ. Of Med & Dentistry New Brunswick *
- Univ. Of Medicine & Dentistry - Newark *
- Univ. Of Medicine & Dentistry - Stratford *
- Upper Deerfield Twp Board of Education
- Upper Freehold Regional
- Upper Pittsgrove Twp Board of Education *
- Upper Saddle River Board of Education *
- Upper Township Board of Education
- Ventnor City Board of Education
- Vernon Township Board of Education *
- Verona Board of Education
- Victory Gardens Boro Board of Education *
- Village Charter School *
- Vineland City Board of Education
- Vineland Developmental Center
- Vineland Public Charter School
- Visions Academy Charter High School
- Voorhees Twp Board of Education
- Waldwick Boro Board of Education *
- Wall Township Board of Education
- Wallington Borough Board of Education *
- Wallkill Valley Regional High School
- Wanaque Board of Education
- Warren Co Audio Visual Aids
- Warren County Community College *
- Warren Co Sp Services School District *
- Warren Hills Regional Schools *
- Warren Township Board of Education
- Washington Boro Board of Education
- Washington Twp Board of Ed (Morris)
- Washington Twp Board of Ed (Warren)
- Washington Twp Board of Ed (Gloucester)
- Watchung Borough Board of Education
- Watchung Hills Regional High School
- Waterford Twp Board of Education
- Wayne Board of Education
- Weehawken Twp Board of Education *
- Wenonah Borough Board of Education
- West Amwell Twp Board of Education *
- West Cape May Boro Board of Education *
- West Essex Regional School District *
- West Long Branch Board of Education
- West Milford Township Board of Education
- West Morris Regional High School District *
- West New York Board of Education *
- West Orange Township Board of Education
- West Paterson Boro Board of Education *
- West Windsor-Plainsboro Reg. School Dist
- Westampton Township Board of Education
- Westfield Town Board of Education
- Westville Board of Education *
- Westwood Regional School District *
- Weymouth Township Board of Education *
- Wharton Borough Board of Education *
- White Township Board of Education
- Wildwood Crest Board of Education *
- William Paterson University of NJ *
- Willingboro Twp Board of Education *
- Winfield Township Board of Education *
- Winslow Township Board of Education
- Woodbine Borough Board of Education
- Woodbine Developmental Center
- Woodbridge Township Board of Education
- Woodbridge Township Ed Association
- Woodbury City Board of Education
- Woodbury Heights Board of Education *
- Woodcliff Lake Board of Education *
- Woodland Twp Board of Education
- Woodlynne Board of Education *
- Wood-Ridge Board of Education *
- Woodstown-Piles Grove Regional School
- Wyckoff Township Board of Education *

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Participating Agencies and Authorities

Aberdeen Twp Fire Dist 2*	Carteret Port Authority	General Assembly*	Jersey City Parking Authority*
Aberdeen Twp Fire District 1*	Carteret Redevelopment Agency*	Glassboro Borough Housing Authority*	Jersey City Redevelopment Agency*
Asbury Park Housing Authority*	Casino Reinvestment Development Authority*	Gloucester County Housing Authority*	Joint Dispatch Authority For Spring Lake
Atlantic City Convention Center*	Chatham Joint Free Public Library*	Gloucester County Improvement Authority	Keansburg Boro Housing Authority*
Atlantic City Housing Authority*	Cherry Hill Fire District 13	Gloucester County Soil Conservation District*	Kearny Municipal Utilities Authority*
Atlantic City Municipal Utilities Authority*	Chester Boro/Twp Public Library*	Gloucester County Utilities Authority	Lacey Municipal Utilities Authority*
Atlantic County Improvement Authority	Chesterfield-Ham. Fire District 1*	Gloucester Twp Fire District 2	Lake Hopatcong Commission
Atlantic County Utilities Authority*	Cinnaminson Sewerage Authority	Gloucester Twp Fire District 3*	Lakewood Twp Fire District 1
Atlantic Highlands-Highlands Reg. Sew. Auth.	Cinnaminson Twp Fire Dist 1	Gloucester Twp Fire District 4	Lakewood Twp Fire District 1
Bayonne City Parking Authority	Clementon Housing Authority	Gloucester Twp Fire District 5*	Lakewood Twp Municipal Utilities Authority*
Bayonne Municipal Utilities Authority*	Cliffside Park Housing*	Gloucester Twp Fire District 6*	Lambertville City Fire District 1
Bayonne Housing Authority*	Clinton Twp Sewerage Authority*	Gloucester Twp Housing Authority*	Lambertville Sewerage Authority*
Bayonne Local Redevelopment Agency*	Collingswood Boro Housing Authority*	Gloucester Twp Municipal Utilities Authority*	Landis Sewerage Authority
Bayshore Jointure Commission*	Compensation Rating & Ins Bureau*	Greater Wildwood Tourism Imp & Da*	Lebanon Boro Sew Authority*
Bayshore Regional Sewerage Authority*	Cumberland County Improvement Authority*	Guttenberg Housing Authority*	Linden City Free Public Library
Beach Haven Sewerage Authority*	Cumberland County Utilities Authority*	Hackensack Housing Authority*	Linden City Housing Authority*
Beachwood Sewerage Authority	Cumberland-Salem Conservation District*	Hackettstown Municipal Utilities Authority*	Linden Roselle Sewerage Authority*
Bedminster & Far Hills Pub Library*	Delanco Sewerage Authority*	Haddon Twp Fire District 1*	Lindenwold Twp Fire District 1*
Belmar Housing Authority	Delaware River Basin Commission*	Haddon Township Housing Authority*	Little Egg Harbor Mun. Utilities Authority*
Bergen County Housing Authority	Delaware River Joint Toll Bridge Comm	Hamilton Twp Fire District 2	Lodi Housing Authority*
Bergen County Improvement Authority*	Delaware River Port Authority	Hamilton Twp Fire District 3	Logan Twp Municipal Utilities Authority*
Bergen County Soil Conservation District*	Delaware Twp Municipal Utilities Authority	Hamilton Twp Fire District 4	Long Branch City Housing Authority*
Bergen County Utilities Authority	Delran Sewerage Authority*	Hamilton Twp Fire District 5	Long Branch Parking Authority*
Berkeley Twp Housing Authority*	Deptford Twp Municipal Utilities Authority*	Hamilton Twp Fire District 6	Long Branch Sewerage Authority*
Berkeley Twp Municipal Utilities Authority*	Delran Twp Fire District 1*	Hamilton Twp Fire District 7	Lower Twp Municipal Utilities Authority*
Berkeley Twp Sewerage Authority *	Deptford Twp Fire District*	Hamilton Twp Fire District 8	Madison Boro Housing Authority
Bernards Twp Sewerage Authority*	Dover Town Housing Authority	Hamilton Twp Fire District 9	Madison-Chatham Joint Meeting*
Beverly City Housing Authority*	Dover Twp Fire District 2	Hamilton Twp Municipal Utilities Authority*	Manalapan Fire District 2
Beverly Sewerage Authority*	Dover Twp Parking Authority	Hanover Sewerage Authority*	Manalapan Twp Fire District 1
Bloomfield Parking Authority*	Dunellen Parking Authority*	Hanover Twp Fire District 2	Manasquan Boro Fire District 1
Boonton Housing Authority*	East Brunswick Twp Fire District 1*	Hanover Twp Fire District 3	Manasquan River Reg Sewerage Authority
Bordentown Fire District 1*	East Orange Housing Authority*	Harrison Township Fire District 1	Manville Borough Public Library
Bordentown Sewerage Authority*	East Orange Parking Authority*	Harrison Town Housing Authority	Manchester Utilities Authority
Bordentown Twp Fire District 2*	East Windsor Municipal Utilities Authority*	Hazlet Township Fire District 1	Mantua Twp Municipal Utilities Authority*
Brick Township Fire Dist 2	Eatontown Sewerage Authority	Hazlet Twp Sewerage Authority*	Marlboro Twp Fire District 1
Brick Twp Fire District 1	Ed Information & Resource Center	Highland Park Housing Authority*	Marlboro Twp Fire District 3
Brick Twp Housing Authority*	Edgewater Housing Authority*	Highlands Housing Authority*	Marlboro Twp Municipal Utilities Authority*
Brick Twp Joint Board of Fire Commission*	Edgewater Park Sewerage Authority	Hightstown Boro Housing Authority*	Matawan Aberdeen Public Library*
Brick Twp Municipal Utilities Authority*	Edison Twp Housing Authority*	Hillsborough Twp Mun. Utilities Authority*	Meadowlands Conservation Trust
Bridgeton City Housing Authority*	Egg Harbor Twp Municipal Utilities Authority*	Hillside Public Library	Mercer County Improvement Authority*
Bridgeton Zone Development Authority	Elizabeth City Housing Authority*	Hoboken City Parking Authority	Mercer County Park Commission*
Buena Boro Housing Authority*	Elizabeth City Parking Authority*	Hoboken Housing Authority*	Mercer County Soil Conservation District*
Buena Boro Municipal Utilities Authority*	Elizabeth Public Library*	Hopewell Twp Fire District 1*	Merchantville Pennsauken Water Commission
Burlington City Housing Authority*	Elk Township Municipal Utilities Authority	Howell Twp Fire District 1	Metuchen Parking Authority
Burlington County Bridge Commission	Englewood Housing Authority*	Howell Twp Fire District 2	Mid Bergen Regional Health Commission*
Burlington County Soil Conservation District*	Essex County Improvement Authority*	Howell Twp Fire District 3*	Middle Brook Regional Health Comm*
Camden City Housing Authority*	Essex Regional Health Commission*	Howell Twp Fire District 4	Middlesex County Improvement Authority
Camden City Park Authority*	Essex & Union Joint Meeting*	Hudson County Economic Development Corp	Middlesex County Joint Health Insurance Fund
Camden City Redevelopment Agency	Evesham Municipal Utilities Authority*	Hudson County Improvement Authority*	Middlesex County Mosquito Extern Comm
Camden County Health Services Center	Evesham Township Fire District 1	Hudson-Essex Passaic*	Middlesex County Municipal Joint Ins Fund*
Camden County Improvement Authority	Ewing Lawrence Sewerage Authority*	Hudson Regional Health Commission*	Middlesex County Utilities Authority
Camden County Municipal Utilities Authority	Florence Twp Housing Authority	Hunterdon County Soil Conservation District *	Middletown Twp Housing Authority*
Camden County Park Police	Florence Twp. Fire District 1	Irvington Housing Authority*	Middletown Twp Sewerage Authority*
Camden County Pollution Control Fin	Florham Park Sewage Authority	Interstate Environmental Commission*	Middle Township Fire District 1*
Camden County Soil Conservation District*	Fort Lee Housing Authority*	Jackson Bd Fire District 2*	Millstone Township Fire District 1*
Cape Atlantic Soil Conservation District*	Fort Lee Parking Authority Hackettstown	Jackson Twp Fire District 3*	Millville Housing Authority
Cape May City Housing Authority*	Fort Monmouth Planning Authority	Jackson Twp Fire District 4	Monmouth County Bayshore Outfill Authority*
Cape May County Bridge Commission*	Franklin Twp Housing Authority	Jackson Twp Municipal Utilities Authority*	Monmouth County Health Department *
Cape May County Municipal Utilities Authority	Franklin Twp Sewerage Authority*	Jersey City Fire Department	Monmouth County Mosquito Extern Comm*
Carlstadt Sewerage Authority	Freehold Boro Housing Authority*	Jersey City Housing Authority*	Monmouth County Regional Health Comm 1
Cameys Point Twp Sewerage Authority	Freehold Soil Conservation District*	Jersey City Incinerator Authority	Monroe Twp Fire District 1*
Carteret Housing Authority*	Garfield Housing Authority*	Jersey City Municipal Utilities Authority	Monroe Twp Fire District 2*

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Participating Agencies and Authorities, continued

Monroe Twp Fire District 3*	Ocean County Soil Conservation District*	Runnemede Sewerage Authority	West New York Parking Authority
Monroe Twp Mun. Ut Authority (Gloucester)*	Ocean County Utilities Authority*	Salem City Housing Authority*	West Orange Library*
Montclair Library*	Ocean Grove Board Of Fire Commission	Salem City Municipal Port Authority*	Westville Fire District 1
Montclair Parking Authority*	Ocean Grove Sewerage Authority	Salem Co Improvement Authority*	West Milford Twp Municipal Utilities Auth.
Montclair Township Redev Agency	Ocean Twp Fire District 1*	Salem Co Mosquito Commission*	Western Monmouth Utilities Authority*
Montville Twp Fire District 1*	Ocean Twp Fire District 2*	Sayreville Economic & Redev Agency*	West Windsor Parking Authority*
Montville Twp Fire District 3*	Ocean Twp Municipal Utility Authority	Sayreville Housing Authority*	Weymouth Twp Municipal Utilities Authority
Montville Twp Municipal Utilities Authority	Ocean Twp Sewerage Authority*	Secaucus Housing Authority	Wildwood City Housing Authority*
Morris County Park Commission	Old Bridge Housing Authority	Secaucus Municipal Utilities Authority	Wildwoods Joint Construction
Morris County Soil Conservation District*	Old Bridge Municipal Utility Authority	Second River Joint Meeting	Willingboro Municipal Utilities Authority*
Morristown/Morris Joint Library*	Old Bridge Twp District 1	Senate*	Winslow Twp Fire District 1*
Morristown Parking Authority	Old Bridge Twp Fire District 2	Somerset Co Park Commission	Woodbine Municipal Utilities Authority
Moorestown Twp Fire District 1*	Old Bridge Twp Fire District 3*	Somers Point Sewerage Authority	Woodbridge Bd Of Fire Commission 9
Moorestown Twp Fire District 2	Old Bridge Twp Fire District 4	Somerset Raritan Valley Sewerage Authority*	Woodbridge Housing Authority*
Mount Laurel Fire District 1*	Orange City Housing Authority*	Somerset Regional Animal Shelter*	Woodbridge Twp Fire District 1*
Millville Housing Authority	Orange City Library	South Amboy Housing Authority*	Woodbridge Twp Fire District 2*
Morris County Housing Authority	Palisades Interstate Park Commission*	South Bergen Jointure Commission	Woodbridge Twp Fire District 5
Morristown Housing Authority*	Parking Authority	South Jersey Economic Development Dist*	Woodbridge Twp Fire District 7*
Morris County Housing Authority	Passaic City Housing Authority*	South Jersey Port Corporation	Woodbridge Twp Fire District 8
Morristown Housing Authority*	Passaic County Improvement Authority	South Jersey Transportation Authority	Woodbridge Twp Fire District 11
Morris-Union Jointure Commission	Passaic County Utility Authority	South Monmouth Reg Sewerage Authority*	Woodbridge Twp Fire District 12
Mount Holly Municipal Utilities Authority	Passaic Valley Sewerage Commission	South Orange Twp Parking Authority*	Woodstown Sewerage Authority
Mount Laurel Twp Municipal Utilities Authority	Passaic Valley Water Commission	South River Parking Authority	
Musconetcong Sewerage Authority*	Paterson Housing Authority*	Southeast Morris Co Muni Utilities Authority*	
NJ Building Authority*	Paterson Parking Authority*	South Toms River Sewerage Authority*	
NJ Commerce & Economic Growth Comm*	Pemberton Twp Municipal Utilities Authority	Stafford Municipal Utilities Authority	
NJ Economic Development Authority*	Penns Grove Housing Authority*	Statewide Insurance Fund	
NJ Educational Facilities Authority*	Penns Grove Sewerage Authority	Stony Brook Regional Sewerage Authority*	
NJ Firemens Home*	Pennsauken Sewerage Authority *	Sussex County Municipal Utilities Authority*	
NJ Health Care Facilities*	Pennsville Sewerage Authority	Sussex County Soil Conservation*	
NJ Housing & Mortgage Finance Agency*	Pequanock, Lincoln Park &Fairfield *	Toms River Twp Fire District 1	
NJ Meadowland Commission*	Perth Amboy City Parking Authority	Toms River Twp Municipal Utilities Authority*	
NJ Public Broadcasting Authority	Perth Amboy Housing Authority	Towaco Fire District 2	
NJ Redevelopment Authority*	Perth Amboy Port Authority	Trenton Downtown Association	
NJ School Board Association Ins Group*	Phillipsburg Housing Authority	Trenton Housing Authority*	
NJ Schools Development Authority*	Pine Hill Boro Municipal Utilities Authority	Trenton Parking Authority*	
NJ Sports & Exposition Authority	Pine Hill Fire District 1	Two Rivers Water Reclamation Authority*	
NJ Transit Corporation	Pinelands Commission*	Union City Housing Authority*	
NJ Turnpike Authority	Plainfield Area Regional Sewer Authority*	Union City Parking Authority	
NJ Water Supply Authority*	Plainfield Housing Authority*	Union County Pollution Control Authority	
Neptune City Housing Authority	Plainfield Municipal Utilities Authority	Union County Utilities Authority	
Neptune Fire District 1*	Plainsboro Twp Fire District 1*	Union Township Library	
Neptune Twp Housing Authority*	Pleasantville Housing Authority*	Vineland Housing Authority	
Neptune Twp Sewerage Authority*	Plumsted Fire District 1*	Vineland-Millville Urban Enterprise Zone*	
New Brunswick Housing Authority*	Pompton Lakes Municipal Utilities Authority*	Voorhees Fire District*	
New Brunswick Parking Authority*	Princeton Housing Authority*	Wall Township Fire District 2	
Newark Housing Authority*	Princeton Joint Public Library*	Wall Township Fire District 3	
Newark Parking Authority	Rahway City Housing Authority*	Wanaque Borough Sewerage Authority*	
Newton Town Housing Authority*	Rahway City Redevelopment Agency	Wanaque Valley Reg Sewerage Authority*	
North Bergen Housing Authority*	Rahway Parking Authority	Warren County Mosquito Extern Commission	
North Bergen Municipal Utilities Authority	Rahway Public Library	Warren County Municipal Utilities Authority*	
North Bergen Parking Authority	Rahway Valley Sewerage Authority*	Warren County Pollution Control*	
North Hudson Regional Fire & Rescue	Raritan Twp Municipal Utilities Authority*	Warren County Soil Conservation District*	
North Hudson Sewerage Authority*	Readington-Lebanon Sewerage Authority*	Washington Twp Board of Fire Commission	
North Jersey Water Supply Commission	Red Bank Boro Housing Authority*	Washington Twp Fire District 1	
North Plainfield Parking Authority	Ridgewood Public Library*	Washington Twp Mun. Ut. Auth. (Mercer)	
Northwest Bergen Central Dispatch*	Riverside Sewage Authority	Washington Twp Mun. Ut. Auth. (Gloucester)*	
Northwest Bergen Co Utility Authority*	Riverside Twp Fire District 1	Washington Twp Mun. Ut. Auth. (Morris)*	
Northwest Bergen Health Commission*	Rockaway Valley Regional Sewer Authority*	Waterford Twp Municipal Utilities Authority	
Ocean City Housing Authority *	Rockleigh Boro Sewerage Authority	Waterfront Commission Of Ny Harbor*	
Ocean County Board of Health	Roselle Borough	Weehawken Twp Housing Authority*	
Ocean County Mosquito Commission*	Rowan University Foundation	West New York Housing Authority	

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Participating State Departments and Pension Funds

All New Jersey State Government Departments and their Associated Divisions

The following locations participate in the State Health Benefits Program only:

Essex County Pension Fund; Hudson County Pension Fund; Jersey City Pension Fund; UMDNJ Pension Fund