COMPREHENSIVE ANNUAL FINANCIAL REPORT

for the Fiscal Year Ended June 30, 2016



OUR MISSION...

To provide quality 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 client 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 continuous 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.

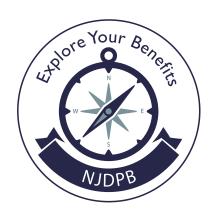
Oversight and Compliance —

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

NEW JERSEY DIVISION OF PENSIONS & BENEFITS

61st COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR THE FISCAL YEAR ENDED JUNE 30, 2016



CHRIS CHRISTIE

Governor

FORD M. SCUDDER

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 AND 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 Defined Contribution Retirement Program ABP Alternate Benefit Program POPF** Police 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 Additional Contributions Tax-Sheltered Program CPF Central Pension Fund PAF Pension Adjustment Fund UCTDSE Unemployment Compensation and Temporary Disability for State Employees** SHBP **State Health Benefits Program SEHBP** School Employees' Health Benefits Program **PDP Prescription Drug Plans EDP Employee Dental Plans** Tax\$ave New Jersey State Employees' Tax Savings Program: Premium Option Plan, Unreimbursed Medical Flexible Spending Account. and Dependent Care Flexible Spending Account Commuter Tax\$ave New Jersey State Employees' Commuter Tax Savings Program LTC **Long Term Care Insurance Plan** KPMG LLP — 51 John F. Kennedy Parkway, Short Hills, NJ 07078-2702

INDEPENDENT AUDITOR

ACTUARIAL REPORTS Conduent – 500 Plaza Drive, Secaucus, NJ 07096-1533

Milliman — 1550 Liberty Ridge Drive, Suite 200, Wayne, PA 19087-5572

AON Hewitt — 400 Atrium Drive, Somerset, NJ 08873

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INTRODUCTORY SECTION

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Chris Christie Governor



Ford M. Scudder State Treasurer



John Megariotis Acting Director, **Division of Pensions** and Benefits



Mailing Address: PO Box 295 Trenton, NJ 08625-0295 Location: 50 West State Street Trenton, New Jersey

State of New Hersey DEPARTMENT OF THE TREASURY DIVISION OF PENSIONS AND BENEFITS (609) 292-7524 TRS 711 (609) 292-6683 www.nj.gov/treasury/pensions

Letter of Transmittal

June 2017

To the Honorable

Chris Christie, Governor Ford M. Scudder, State Treasurer Members of the Legislature Members of the Boards of Trustees

On behalf of the Division of Pensions and Benefits, I am pleased to submit the 60th Comprehensive Annual Financial Report (CAFR) of the New Jersey State-administered retirement systems and related benefit programs for the fiscal year ended June 30, 2016. The management of the Division of Pensions and Benefits (the Division) 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 Division's operations.

The Reporting Entity

The Division was established in 1955 as the Division of Pensions to provide all administration of the State pension funds except investments. The Division changed its name to the Division of Pensions and Benefits in 1992 to more accurately reflect its roles and responsibilities beyond the realm of pensions. Currently, the Division 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

Division staff working with the pension systems' actuaries and external auditor fully implemented the requirements of the Government Accounting Standards Boards (GASB) statement numbers 67 and 68 on financial reporting for pension plans and employers. Additionally, staff began preliminary work on developing the information necessary for the health benefit plans to comply with the requirements of GASB statement number 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (OPEB).

In the spring of 2015, the State Health Benefits Program (SHBP) and School Employees' Health Benefits Program (SEHBP) plan design committees established a pilot program for a Direct Primary Care Medical Home (DPCMH) to be implemented in plan year 2016. The concept of a DPCMH is to provide primary care services in a different way than a typical primary care practice which provides opportunities for downstream savings. Services include preventive, urgent and sick care, health and wellness coaching, chronic disease management, and care coordination. Patients get direct access to their physician with same-day or next-day appointments, evening and weekend hours, reduced waiting-room time, and unhurried consultations with their physician. The first participating offices were opened in the fall of 2016.

In November 2016, the NJ Legislature passed P.L. 2016, c. 67, requiring the Division of Purchase and Property to solicit a proposal for Pharmacy Benefit Manager (PBM) services for the SHBP and SEHBP in an expedited manner. The Bid Solicitation was issued in May 2017 with an award in June 2017. It is estimated that the award will result in approximately \$1.6 billion savings to the plan over the three year life of the contract.

The Division continued its efforts to provide additional automated and self-service processing opportunities to both the members and employers of the State-administered retirement systems. This year, the Division implemented the Return to Employment Application (EPIC). This application is required for individuals who retired from a New Jersey State-administered retirement system and are seeking public re-employment. It will allow certifying officers to submit pertinent information to the Division for review, which is vital in determining eligibility for post-retirement employment.

Design meetings were held for the Intra-fund Transfer Application (EPIC). This application will implement an automated method allowing governmental entities to report the movement of their employees from one governmental entity to another. It will eliminate manual work on behalf of the Division, thus allowing a quicker turnaround for the processing of the transactions.

The Chapter 52 Training Application (EPIC) was in the analysis phase. As part of the Chapter 52 legislation, certifying officers at locations participating in the various pension funds are required to complete training on the pension enrollment process. There is a current solution in place that requires manual intervention at several points during the process. This manual intervention creates unnecessary delays in the processing time, sometimes up to two weeks. This application will allow full automation of the process; therefore, once the certifying officers complete the required training, they will immediately be able to start enrolling new employees in the pension funds.

Financial Information

The Financial reports of the Fiduciary Funds of the Division 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 the Financial Statements found in the Financial Section.

The Fiduciary Funds include 12 separate pension trust funds, three health benefit program funds, and three agency funds. A summary of the condition of the funds administered by the Division of Pensions and Benefits is located in the 'Management Discussion and Analysis' that begins on page 34 of the CAFR. 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 Division as of June 30, 2016. KPMG LLP independently audited the funds.

Investments

The Division of Investment has the responsibility for investing the assets of the programs administered by the Division. This is done under the jurisdiction of the State Investment Council. Investments are guided by the 'prudent person rule.' During FY 2016 investment returns on pension funds were -.93 percent. When combined with the returns for previous years, the annualized returns over the past three- and five-year periods were +6.40 percent and +6.64 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 Division recognizes that further reform is necessary. The Division has and will continue to devote its resources to support this important objective.

Professional Services

The Division 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 101 of the CAFR. The Office of the Attorney General provides all legal services required by the Division of Pensions and Benefits, the retirement systems Boards of Trustees, and the Health Benefits Commissions and Committees.

Acknowledgements

The preparation of the CAFR required the combined efforts of many employees from different operational units within the Division. The CAFR 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

J. D. Mey

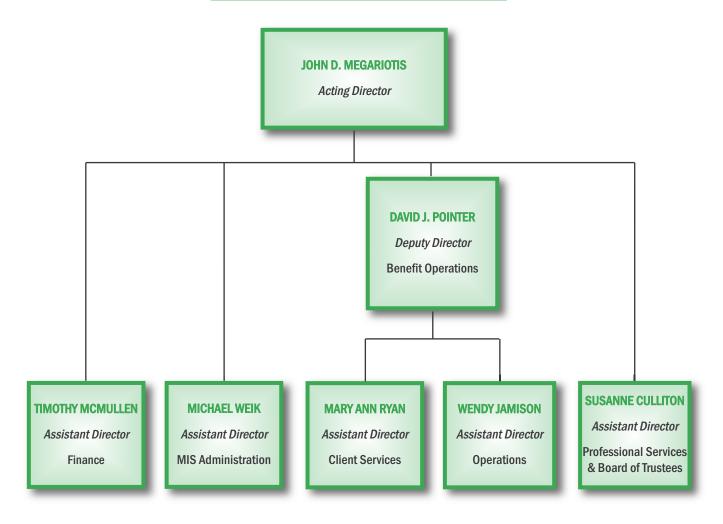
All in a Year's Work...

- There are 524,622 active members in the defined benefit and defined contribution retirement systems.
- A total of 322,488 retirees and beneficiaries received monthly pensions totaling in excess of **\$8.5** billion annually.
- There are 2,133 participating employers in the combined retirement systems; **10 new employers** began participating this year.
- Over 9,395 beneficiary claims were processed. Premiums in excess of \$154 million were paid to the insurance carrier on behalf of active and retired members.
- Over 863,000 inbound calls were received by the Division. Over 489,000 callers selected a phone representative and over 374,166 were handled by the Interactive Voice Response system (IVR) during business hours.
- **13,627 personal interviews** were conducted by pension counselors.
- **327 seminars** and **webinars** were conducted for over **12,857 members**.
- **11,133 service purchase requests** were processed.
- 35,325 new enrollments or transfers were processed in our retirement systems.
- There were **8,453 paid withdrawals** from the retirement systems.
- 17,257 members retired.
- Over **100,731 pension loans** totaling **\$652,486,732** were processed.
- State and local membership in the State Health Benefits Program and School Employees' Health Benefits Program was 397,818 members with 841,943 lives covered.
- A total of over \$5.9 billion in premiums was collected from State and local State Health Benefits Program employers, School Employees' Health Benefits Program employers, and combined employees. 1,108 local employers elected to participate in the SHBP or SEHBP this year.

ORGANIZATION

State of New Jersey • Department of the Treasury

Division of Pensions and Benefits



Director

The Director is responsible for the coordination of the functions of the Division, the development of the Division 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 Division of Pensions and Benefits.

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

Office of Health Benefits

This office, overseen by a Deputy 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 and School Employees' Health Benefits Program. 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.

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 \$79.2 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

This office, overseen by an Assistant Director, consists of three units: Telecommunications; Counseling, Education, and Support; and Communications. Client Services disseminates pension, life insurance, and health benefits information to employees, retirees, and employers covered by the various New Jersey State-administered retirement systems and benefit programs.

The Telecommunications Unit counsels employees, retirees, and employers by providing information about pension, life insurance, health benefits, and general procedures. The Counseling, Education, and Support Unit responds to written requests for information, conducts personal interviews with employees and retirees who visit the Division of Pensions and Benefits, and provides seminars, employer group meetings, employer instructions, and various presentations concerning pension, life insurance, and health benefits to employees, employers, and retirees. This unit is also responsible for providing receptionist services for the entire Division. The Communications Unit exercises overall responsibility for creating, editing, updating, and printing of written materials disseminated by the Division, including manuals, reports, forms, benefits statements, and booklets. This unit also manages the Division's Internet site.

Office of Operations

The work of this office, overseen by an Assistant Director, is divided among three bureaus: Enrollment and Purchase; Claims; and Retirement.

The Enrollment and Purchase Bureau processes all enrollments, transfers, and purchases of service credit for all of the State retirement systems. The Claims Bureau processes all death claims, withdrawals, and loan requests. In addition, this bureau oversees beneficiary designations filed by active and retired members and issues group life insurance policies, riders, and special endorsements. The Retirement Bureau processes retirement applications for all of the State retirement systems.

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 information systems for the Division. 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.

The Support Services section has responsibility for the building and equipment, mail room, warehouse operations, and forms inventory.

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 assisting in providing a structured and consistent planning function for the Division, assists in analyzing proposed legislation, providing the regulatory function for the Division, managing the development of contracts with external service providers, conducting research in support of Division 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.

ORGANIZATION

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 and Benefits.

ORGANIZATION — BOARDS OF TRUSTEES

(Reflects Board Members who served as of June 30, 2016)

Public Thomas Bruno, Chairperson;

Employees' Retirement

William O'Brien; Carey H. Brown;

System

Tracy Smith;

Brian Currie; Edward Thompson: Ronald Winthers; Benjamin Hurst;

Susanne Culliton, Treasurer's Representative; Robert Kelly, Deputy Attorney General; Jacqueline Bussanich, Board Secretary;

Sharon Barnes, Assistant Board Secretary

Teachers'

Fund

James Joyner, Chairperson;

Pension and Annuity

Irene Savicky; **Edward McCarthy:**

Howard Lipoff;

Paul Orihel:

Jeff Ignatowitz, Deputy Attorney General; Susanne Culliton, Treasurer's Representative;

Angelina Scales, Board Secretary;

William Tedder, Assistant Board Secretary

Police and

Timothy Colacci, Chairperson;

Firemen's Retirement **System**

Mike Kaniuk;

Marty Barrett: Keith Bennett:

Richard Loccke;

Brady Middlesworth; Frank Leake: **Laurel Brennanl:**

Danielle Schimmel, Deputy Attorney General; Susanne Culliton, Treasurer's Representative;

Mary Ellen Rathbun, Board Secretary: **Lisa Pointer,** Assitant Board Secretary

State

Patrick Callahan, Chairperson;

Police

Paulette Knutowicz;

Retirement

John Sayers;

System

Robert Garrison, Deputy Attorney General;

Susanne Culliton, *Treasurer's Representative;*

Mary Ellen Rathbun, Board Secretary; Lisa Pointer, Assitant Board Secretary

ORGANIZATION — BOARDS OF TRUSTEES

Supplemental John Megariotis, Chairperson, Representing Ford M. Scudder, Treasurer, State of New Jersey;

Annuity Leslie Notor, Representing David Ridolfino, Acting Director, Office of Management & Budget;

Collective Trust Felix Schirripa, Representing Richard Badolato, Commissioner, Department of Banking & Insurance;

Deferred Steven Harris, Chairperson, Representing Ford M. Scudder, Treasurer, State of New Jersey;

Compensation Leslie Notor, Representing Charlene Holzbaur, Director, Office of Management & Budget;

Board Felix Schirripa, Representing Kenneth E. Kobylowski, Commissioner, Department of Banking & Insurance;

Defined Edward Wade, Chairperson, Representing Florence J. Sheppard, Acting Director, Division of Pensions & Benefits;

Contribution Sonia Rivera-Perez, Representing David Ridolfino, Acting Director, Office of Management & Budget;

Retirement Felix Schirripa, Representing Richard Badolato, Commissioner, Department of Banking & Insurance;

Program Board Corey Amon, Representing Christopher McDonough, Director, Division of Investment;

> State Ford M. Scudder, State Treasurer, Chairperson;

Health Richard J. Badolato, Commissioner, Department of Banking & Insurance;

Benefits Robert M. Czech, Chairperson, Civil Service Commission;

Commission Florence J. Sheppard, Secretary;

Debra Davis, State Employees' Representative of the AFL-CIO;

Dudley Burge, Local Employees' Representative of the AFL-CIO;

School (Vacant), Chairperson;

Employees' Ford M. Scudder, Treasurer, State of New Jersey;

Health Richard J. Badolato, Commissioner, Department of Banking & Insurance;

Benefits Cynthia Jahn, Representing the N.J. School Boards Association;

Commission

Florence J. Sheppard, Secretary:

Kevin Kelleher, *Representing the NJEA*;

Wendell Steinhauer, Representing the NJEA;

Serena DiMaso, Governor's Appointee;

(Vacant), Representing the AFL-CIO

SIGNIFICANT LEGISLATION

Chapter 180, P.L. 2015

Effective Date: January 11, 2016.

Division's Section(s) Affected by this Law: Beneficiary Services.

Description: This law requires the Division of Pensions and Benefits to provide for the notification of any member or retiree of a State-administered retirement system if there is on file for that member or retiree a judgment, court order, decree, or other legal document, such as a court-approved domestic relations order, that specifies the beneficiary of group life insurance. The notification would occur if the member or retiree submits a change to the designation of beneficiary for contributory and noncontributory group life insurance.

Chapter 206, P.L. 2015

Effective Date: This act takes effect 180 days following its enactment. Division's Section(s) Affected by this Law: SHBP/SEHBP.

Description: This law requires health insurers, the State Health Benefits Program and the School Employees' Health Benefits Program, in any health insurance policies or contracts, or health benefits plans, which provide benefits for pharmacy services, prescription drugs, or for participation in a prescription drug plan, to, on at least one occasion per year for each covered person:

- 1. apply a prorated daily cost-sharing rate to prescriptions that are dispensed by a network pharmacy for less than a 30-days' supply if the prescriber or pharmacist indicates the fill or refill is in the best interest of the covered person or is for the purpose of synchronizing the covered person's chronic medications;
- 2. provide coverage for a drug prescribed for the treatment of a chronic illness dispensed in accordance with a plan among the covered person, the prescriber and the pharmacist to synchronize the refilling of multiple prescriptions for the covered person; and
- 3. determine dispensing fees based exclusively on the total number of prescriptions dispensed and not on a prorated basis.

The law is intended to eliminate barriers to medication synchronization and reduce the waste of medications that results when prescriptions are changed midway during a 30-day supply.

By eliminating these barriers, the law will provide patients with the ability to synchronize their prescriptions in consultation with their pharmacists without having to pay a full month's cost-sharing when less than a month's supply of medications is dispensed during the synchronization process until all medications are on the same 30 (or more) day refill schedule. This ability to synchronize medications will especially benefit patients when they are initially prescribed a new medication that has significant side effects, is frequently poorly tolerated, may pose drug-drug interactions with their current regimen, or when less than a month's supply of the prescription drug is clinically appropriate.

The law also is intended to protect pharmacists, when providing a partial fill, from being compensated on a prorated basis for any dispensing fee. A dispensing fee is a fee received by the pharmacy and associated with the costs of operating the pharmacy, including packaging and other overhead costs, and does not relate to the amount of medication dispensed.

This law does not apply to prescriptions for opioid analgesics.

Chapter 4, P.L. 2016

Effective Date: May 27, 2016.

Division's Section(s) Affected by this Law: Retirements.

Description: This law, designated as the Atlantic City "Municipal Stabilization and Recovery Act," requires a municipality deemed in need of stabilization and recovery to adopt a comprehensive recovery plan, and authorizes the State to stabilize such a municipality experiencing severe fiscal distress if it fails to adopt an acceptable recovery plan within 150 days.

Among its several provisions, Section 13 of the law allows a municipality in need of stabilization and recovery, as determined by the commissioner of the Department of Community Affairs, to offer and implement an incentive program for retirement or termination of employment after approval of such incentive program by the director of the Division of Local Government Services. The program shall be limited to full-time employees in any department, office, section, or other organizational component of the municipality in need of stabilization and recovery to achieve financial stability. The incentive program may include one or more of the following:

- (1) cash payments or the purchase of annuities;
- (2) employer contributions to an approved employee deferred compensation program to the extent permitted by federal law;
- (3) payment by the municipality for continuation of health benefits coverage after retirement for not more than five years or until the employee attains the age of eligibility for Medicare, whichever occurs first;
- (4) payment by the municipality for health benefits coverage after retirement under the New Jersey State Health Benefits Program or under group insurance contracts pursuant to N.J.S.40A:10 23, for employees and dependents in accordance with the law and rules governing the State Health Benefits Program or the law governing such group insurance contracts, as the case may be, for employees who fail to meet the service requirement for payment for such coverage after retirement by no more than five years, but who are otherwise eligible for employer payment for health benefits coverage after retirement; or
- (5) Up to 5 years of additional service credit for employees who are members of the Public Employees' Retirement System or the Police and Firemen's Retirement System, or a municipal retirement system created under P.L.1954, c.218 (C.43:13-22.3 etseq.) or P.L.1964, c.275 (C.43:13-22.50 et seq.).

SCOPE OF OPERATIONS

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.

Alternative 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); MassMutual 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.

SCOPE OF OPERATIONS

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 and 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 Alternate Benefit Program.

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 Division in accordance with the governing statute and the rules and regulations of the State House Commission.

Pension Adjustment Fund (PAF)

This fund was established pursuant to Chapter 143, P.L. 1958, and covers all eligible pensions of State-administered retirement systems. It was altered by Chapter 169, P.L. 1969, which provided a cost-of-living adjustment and by Chapter 139, P.L. 1971, which extended its provisions to eligible survivors.

Statutes can be found in the New Jersey Statutes Annotated, Title 52, Chapter 18A. Rules governing the operation and administration of the fund may be found in Title 17, Chapter 1, of the New Jersey Administrative Code

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

The Division of Pensions and Benefits coordinates work related to the payment of charges involving 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.

SCOPE OF OPERATIONS

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 and 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.**

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 pretax 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, Subchapter 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 before-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, Chapter 14, Article 17.33. Rules governing Commuter Tax\$ave can be found in Title 17, Chapter 1, Subchapter 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 | 2015 | 2016 |
|--|----------|----------|
| Public Employees' Retirement System | 259,161* | 261,171* |
| Teachers' Pension and Annuity Fund | 153,452* | 155,882* |
| Police and Firemen's Retirement System | 40,359* | 42,036* |
| State Police Retirement System | 2,676* | 2,746* |
| Judicial Retirement System | 404 | 409 |
| Alternate Benefit Program | 24,731 | 25,029 |
| Defined Contribution Retirement Program | 36,808 | 37,349 |
| Prison Officers' Pension Fund | 0 | 0 |
| Consolidated Police and Firemen's Pension Fund | 0 | 0 |
| Central Pension Fund | NA | NA |
| Total | 517,591 | 524,622 |

^{*} Both the 2015 and 2016 figures represent the total number of Active and Inactive accounts.

The 2016 Inactive (noncontributing) accounts are as follows: PERS Inactive — 48,430, TPAF Inactive — 14,315, PFRS Inactive — 2,521, SPRS Inactive — 0.

Retired Membership & Beneficiaries

| Retirement System | 2015 | 2016 |
|--|----------|----------|
| Public Employees' Retirement System | 166,182 | 171,422 |
| Teachers' Pension and Annuity Fund | 98,209 | 101,263 |
| Police and Firemen's Retirement System | 44,079 | 45,423 |
| State Police Retirement System | 3,484 | 3,553 |
| Judicial Retirement System | 617 | 638 |
| Alternate Benefit Program | NA | NA |
| Prison Officers' Pension Fund | 95 | 88 |
| Consolidated Police and Firemen's Pension Fund | 119 | 89 |
| Central Pension Fund | 12 | 12 |
| Total | 312,797* | 322,488* |

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

Participation in Health Benefits Program

| 2015 | 2016 |
|---------|--------------------|
| | |
| 403,912 | 397,818 |
| 341,903 | 343,120 |
| 189,018 | 193,593 |
| | 403,912 341,903 |

MEMBERSHIP

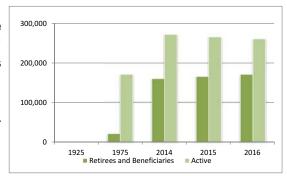
Public Employees' Retirement System

As of June 30, 2016, the active membership of the system totaled 261,171. There were 171,422 retirees and beneficiaries receiving annual pensions totaling \$3,416,130,679.*

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$77,192,795.

The system's assets totaled \$27,645,075,133 at the close of fiscal year 2016.

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



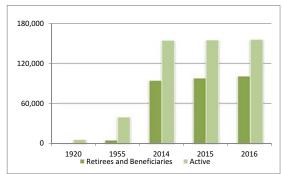
Teachers' Pension and Annuity Fund

As of June 30, 2016, the active membership of the fund totaled 155,882. There were 101,263 retirees and beneficiaries receiving annual pensions totaling \$4,075,562,467.*

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$35,580,277.

The fund's assets totaled \$23,565,169,454 at the close of fiscal year 2016.

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



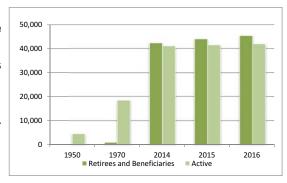
Police and Firemen's Retirement System

As of June 30, 2016, the active membership of the system totaled 42,036. There were 45,423 retirees and beneficiaries receiving annual pensions totaling \$2,277,762,982.*

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$38,372,031.

The system's assets totaled \$24,583,181,205 at the close of fiscal year 2016.

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



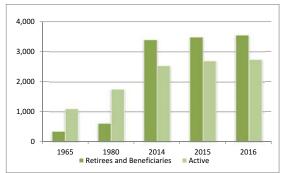
State Police Retirement System

As of June 30, 2016, the active membership of the system totaled 2,746. There were 3,553 retirees and beneficiaries receiving annual pensions totaling \$211,451,186.*

Beneficiaries of deceased active and retired members received lump sum death benefits in the amount of \$1,855,541.

The system's assets totaled \$1,743,343,143 at the close of fiscal year 2016.

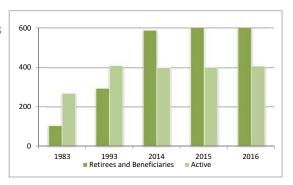
* Includes cost-of-living adjustments paid under the provisions of the Pension Adjustment Act.



Judicial Retirement System

As of June 30, 2016, the active membership of the system totaled 409. There were 638 retirees and beneficiaries receiving annual pensions totaling \$53,842,747.

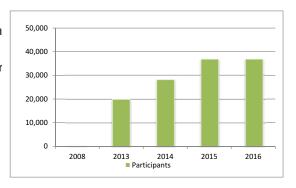
The system's assets totaled \$188,017,260 at the close of fiscal year 2016.



Defined Contribution Retirement Plan

As of June 30, 2016, the active membership of the Defined Contribution Retirement Plan totaled 37,349.

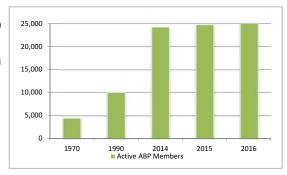
The plan's net assets (participants' balances) were \$5,104,165 at the close of fiscal year 2016.



Alternate Benefit Program

As of June 30, 2016, the State paid \$165,558,854 on behalf of 25,029 participants to the carriers underwriting this program.

Beneficiaries of deceased active and retired members received \$17,559,499 in lump sum death benefits.



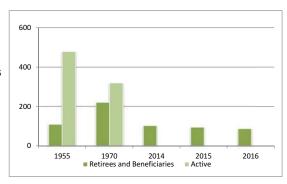
Prison Officers' Pension Fund

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

The fund was closed to new membership in January 1960.

As of June 30, 2016, the active membership of the fund totaled zero. There were 88 retirees and beneficiaries receiving annual pensions totaling \$1,240,307.

The fund's assets totaled \$6,215,298 at the close of fiscal year 2016.



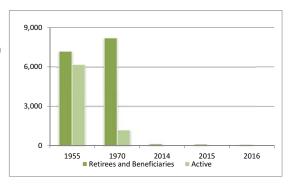
MEMBERSHIP

Consolidated Police and Firemen's Pension Fund

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

As of June 30, 2016, the active membership of the fund totaled zero. There were 89 retirees and beneficiaries receiving annual pensions totaling \$1,881,252.

The fund's assets totaled \$2,069,358 at the close of fiscal year 2016.

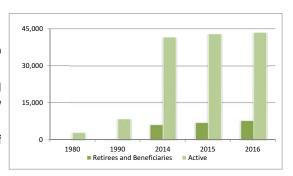


N.J. State Employees Deferred Compensation Plan

Fiscal year 2016 continues to show a marked increase in active participation due to membership campaigns conducted by the Division of Pensions and Benefits.

As of June 30, 2016, the active membership of the New Jersey State Employees Deferred Compensation Plan totaled 43,519. There were 7,835 members receiving monthly installment payments.

The plan's net assets (participants' balances) were \$3,577,493,791 at the close of fiscal year 2016.

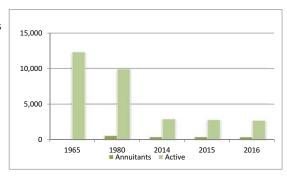


Supplemental Annuity Collective Trust

As of June 30, 2016, the active membership of the trust totaled 2,689. The unit value was \$89.3883, a decrease of \$0.6657 from the June 30, 2015, value of \$90.0540.

There were 392 annuitants.

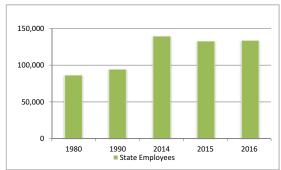
The trust's assets totaled \$201,850,921 at the close of fiscal year 2016.



Unemployment Compensation and Temporary Disability Insurance

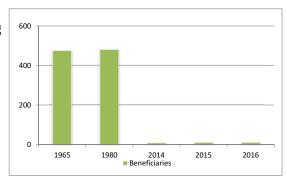
As of June 30, 2016, the Unemployment Compensation Program for State employees covered as many as 118,497 persons, and the Division remitted \$4,292,499.97 on behalf of the State. There were 5,821 requests for unemployment benefits filed, and \$19,531,031 was paid to the employees found eligible.

During the same time period, the Temporary Disability Insurance Program covered 133,738 employees, and the Division remitted \$33,827,154 on behalf of the State. Claims paid totaled \$30,329,395.



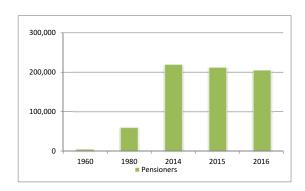
Central Pension Fund

As of June 30, 2016, there were 12 beneficiaries receiving annual pensions totaling \$296,847.



Pension Adjustment Expense

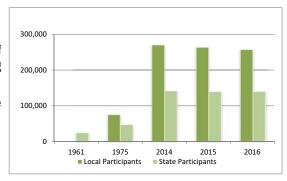
There were 205,592 pensioners who were paid \$797,892,857 during fiscal year 2016.



State Health Benefits Program and School Employees' Health Benefits Program

As of June 30, 2016, there were 397,818 participants (active and retired) consisting of 140,896 State participants and 256,922 participants of 1,108 local participating employers.

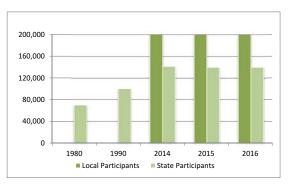
The State and state employee contributions were \$1,719,084,427, while payment made by local (including education) employers and employees was \$3,301,292,140.



Prescription Drug Plans

The Prescription Drug plan covered as many as 140,072 State participants and 203,048 local participants during the fiscal year 2016.

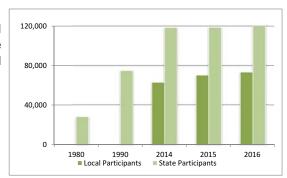
The State's contribution was \$611,695,921 while payment made by local (including education) employers was \$903,787,253.



MEMBERSHIP

Dental Expense Program

The Dental Expense Program covered as many as 120,147 eligible State participants and 73,446 local participants during fiscal year 2016. The State of New Jersey as the employer expended \$32,344,320 for active participants while payment made by local (including education) employers was \$5,148,606.



FINANCIAL SECTION

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FINANCIAL INFORMATION

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KPMG LLP 345 Park Avenue New York, NY 10154-0102

Independent Auditors' Report

The Treasurer State of New Jersey:

We have audited the accompanying financial statements of the fiduciary activities of the State of New Jersey, Division of Pensions and Benefits (the Division), as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the fiduciary activities of the State of New Jersey, Division of Pensions and Benefits, as of June 30, 2016, and the respective changes in financial position for the year then ended in accordance with U.S. generally accepted accounting principles.

Emphasis of Matter

Adoption of New Accounting Pronouncement

As discussed in note 2(k) to the basic financial statements, as of July 1, 2015, the Division adopted Governmental Accounting Standards Board Statement No. 72, Fair Value Measurement and Application. Our opinion is not modified with respect to this matter.

Reporting Entity

As discussed in note 2(a) to the financial statements, the financial statements referred to above are intended to present the financial position and the changes in financial position of the fiduciary funds administered by the Division. As a result, these financial statements do not purport to, and do not, present fairly the financial position of the State of New Jersey as of June 30, 2016, and the changes in its financial position, or, where applicable, its cash flows thereof for the year then ended in conformity with U.S. generally accepted accounting principles. Our opinion is not modified with respect to this matter.

FINANCIAL INFORMATION

Other Matters

Required Supplementary Information

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

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Division's basic financial statements. The schedules included under Supplementary Information in the accompanying table of contents (the Schedules) are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

KPMG LLP

Short Hills, New Jersey March 14, 2017

Management's Discussion and Analysis (Unaudited) June 30, 2016

Our discussion and analysis of the financial performance of the fiduciary funds (the Funds) administered by the Division of Pensions and Benefits (the Division) provides an overview of the Funds' financial activities for the State fiscal year ended June 30, 2016. Please read it in conjunction with the basic financial statements and financial statement footnotes, which follow this discussion.

Financial Highlights

Fiduciary Funds - Pension Trust and Other Postemployment Benefit Plans

- Fiduciary net position decreased by \$6.2 billion as a result of this year's operations, from \$85.4 billion to \$79.2 billion.
- Additions for the year are \$11.3 billion, which are comprised of member, employer, nonemployer and employer specific pension contributions of \$12.0 billion and investment loss of \$0.7 billion.
- Deductions for the year are \$17.5 billion, which are comprised of benefit and refund payments of \$17.4 billion and administrative expenses of \$52.6 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. Agency funds are custodial in nature and do not involve measurement of results of operations.

The Division administers eighteen fiduciary funds: twelve pension trust funds, three other postemployment benefit plans, and three agency funds.

The statement of fiduciary net position for the pension trust, other postemployment benefit plans, and agency funds presents the Division's assets and liabilities by major categories and may serve over time as a useful indicator of the Division's financial position. The difference between assets and liabilities represents the net position held in trust for pension and other postemployment benefit plans.

The statement of changes in fiduciary net position for the pension trust and other postemployment benefit plans 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 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 information regarding the changes in net pension liability and related ratios, employer contributions and investment returns for the pension trust plans as well as the funding status and employer contributions for the other postemployment benefit plans.

Management's Discussion and Analysis (Unaudited) - June 30, 2016, continued

Financial Analysis

Summary of Fiduciary Net Position Pension Trust and Other Postemployment Benefit Plans

| | 2016 | 2015 | Increase/ (Decrease) |
|---|-------------------|----------------|-------------------------|
| Assets: | | | |
| Cash and cash equivalents | \$ 10,351,800 | 9,388,816 | 962,984 |
| Receivables | 2,465,714,126 | 2,428,479,945 | 37,234,181 |
| Investments | 76,392,664,285 | 82,738,194,058 | (6,345,529,773) |
| Securities lending collateral | 1,298,508,410 | 1,060,832,090 | 237,676,320 |
| Members' loans and mortgages | 2,242,910,998 | 2,026,450,681 | 216,460,317 |
| Total assets | 82,410,149,619 | 88,263,345,590 | (5,853,195,971) |
| Liabilities: | | | |
| Accounts payable and accrued expenses | 970,445,524 | 899,264,872 | 71,180,652 |
| Retirement benefits payable | 866,831,486 | 828,772,890 | 38,058,596 |
| Noncontributory group life insurance premiums payable | 29,272,362 | 27,443,236 | 1,829,126 |
| Administrative expense payable | 18,127,373 | 20,504,604 | (2,377,231) |
| Cash overdraft | _ | 424,213 | (424,213) |
| Securities lending collateral and rebates payable | 1,296,943,638 | 1,059,479,792 | 237,463,846 |
| Total liabilities | 3,181,620,383 | 2,835,889,607 | 345,730,776 |
| Net position | \$ 79,228,529,236 | 85,427,455,983 | (6,198,926,747) |

Assets of the pension trust and other postemployment benefit plans consist of cash and cash equivalents, investments, contributions due from members, participating employers and nonemployers, accrued interest and dividends on investments, other receivables, securities lending collateral, and members' loans. Between State fiscal years 2015 and 2016, total assets decreased by \$5.9 billion or 6.6%. This is attributable to a decrease of \$6.3 billion in investments primarily attributable to the withdrawal of funds to cover benefit payments in excess of contributions received.

Liabilities of the pension trust and other postemployment benefit plans 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 other postemployment benefit plans. 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 \$345.7 million or 12.2%. This is due to an increase in securities lending collateral and rebates payable of \$237.5 million and an increase of \$108.2 million in all other payables.

Net position of the pension trust and other postemployment benefit plans decreased by \$6.2 billion or 7.3%.

Management's Discussion and Analysis (Unaudited) — June 30, 2016, continued

Summary of Fiduciary Net Position Agency Funds

| | 2016 | 2015 | Decrease |
|--------------|------------------|------------|-----------|
| Assets | \$ 80,470,543 | 81,363,133 | (892,590) |
| Liabilities | 80,470,543 | 81,363,133 | (892,590) |
| Net Position | \$ _ | _ | _ |

Assets of the agency funds consist of cash and cash equivalents, investments and contributions due from the State and local employers. Between State fiscal years 2015 and 2016, total assets decreased by \$0.9 million or 1.1%. This is attributable to the decreased amount invested in the Cash Management Fund (CMF) of \$2.6 million, offset by an increase of \$1.7 million in cash and cash equivalents.

Liabilities in the agency funds vary according to each plan. In the Alternate Benefit Program (ABP), they include reimbursements to state and county colleges, reimbursement to the State of New Jersey general fund of any unused appropriations, and NCGI benefits payable. In the Dental Expense Program (DEP), they include claims payable, and in the Pension Adjustment Fund (PAF), they include liabilities for payroll and amounts due to the State of New Jersey general fund and other pension trust funds. Between State fiscal years 2015 and 2016, total liabilities decreased by \$0.9 million or 1.1%. This was comprised of a \$0.3 million decrease in liabilities in PAF, a \$1.4 million decrease in liabilities in DEP, and a \$0.8 million increase in ABP liabilities.

Summary of Changes in Fiduciary Net Position Pension Trust and Other Postemployment Benefit Plans

| | | | Increase/ |
|---------------------------------|-----------------------|-----------------|-----------------|
| | 2016 | 2015 | (Decrease) |
| Additions: | | | |
| Member contributions | \$ 2,728,399,275 | 2,651,633,067 | 76,766,208 |
| Employer contributions | 8,371,079,575 | 7,900,744,380 | 470,335,195 |
| Nonemployer contributions | 860,429,467 | 615,834,289 | 244,595,178 |
| Employer specific contributions | 15,215,218 | 46,538,152 | (31,322,934) |
| Net investment (loss)/income | (648,664,619) | 3,341,282,108 | (3,989,946,727) |
| Total additions | 11,326,458,916 | 14,556,031,996 | (3,229,573,080) |
| Deductions: | | | |
| Benefits | 17,270,398,926 | 16,210,276,964 | 1,060,121,962 |
| Refunds of contributions | 202,432,865 | 204,178,357 | (1,745,492) |
| Administrative expenses | 52,553,872 | 52,323,840 | 230,032 |
| Total deductions | 17,525,385,663 | 16,466,779,161 | 1,058,606,502 |
| Change in net position | \$ (6,198,926,747) | (1,910,747,165) | (4,288,179,582) |

Additions of the pension trust and other postemployment benefit plans consist of member, employer, nonemployer and employer specific contributions and earnings from investment activities. There was a decrease of \$3.2 billion or 22.2% in total additions attributable to a decrease in net investment income of \$4.0 billion and a net increase of \$0.8 billion in member, employer, nonemployer and employer specific contributions in State fiscal year 2016 as compared to State fiscal year 2015.

Management's Discussion and Analysis (Unaudited) - June 30, 2016, continued

Member contributions increased by \$76.8 million overall, of which a \$41.0 million increase was attributable to the other postemployment benefit funds and a \$35.8 million increase was attributable to the pension trust funds. In the State Health Benefit Program (SHBP) - State, the member contributions increased by \$39.2 million or 10.0%, in SHBP - Local, the member contributions increased by \$0.1 million or 0.3%, and in SHBP - Education, the member contributions increased by \$1.7 million or 3.2%. Active employee contributions in SHBP - State, Local, and Education increased as a result of Chapter 78, P.L. 2011, premium share requirements and rate increases in plan year 2016. In plan year 2016, the active employee group rate for SHBP - State increased by 4.5%, in SHBP - Local the increase was 6.0%, and in SHBP - Education the increase was 7.6%.

For the pension trust funds, the increase in member contributions is attributable to the higher member contribution rates for the Teachers' Pension and Annuity Fund (TPAF), Public Employees' Retirement System (PERS) and the Judicial Retirement System (JRS) pension trust funds as required in Chapter 78, P.L. 2011.

The State contributed \$1,307.1 million to the pension trust funds in State fiscal year 2016. It was composed of \$207.1 million of normal cost and \$1,100.0 million of accrued liability. The contributions were as follows: \$764.5 million to TPAF, \$354.6 million to PERS, \$138.3 million to the Police and Firemen's Retirement System (PFRS), \$14.0 million to JRS, \$35.6 million to the State Police Retirement System (SPRS), and \$148 thousand to the Consolidated Police and Firemen's Pension Fund (CPFPF).

State NCGI contributions for the State fiscal year totaling \$75.3 million were as follows: \$35.6 million for TPAF, \$29.1 million for PERS, \$7.9 million for PFRS, \$0.8 million for JRS, and \$1.9 million for SPRS. Between State fiscal years 2015 and 2016, the State's contribution toward noncontributory group life insurance increased by \$68.0 thousand due to higher claims activity. State noncontributory life insurance benefits are funded on a pay-asyou-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, 2014. For PERS, the amount accrued in State fiscal year 2015 for normal contribution, accrued liability, and NCGI was \$859.7 million and was due on April 1, 2016. For State fiscal year 2016, the total amount accrued was \$888.3 million and is due April 1, 2017. For PFRS, the total amount accrued in State fiscal year 2015 for normal contributions, accrued liability, and NCGI was \$813.0 million and was due April 1, 2016. For State fiscal year 2016, the total amount accrued was \$815.2 million and is due April 1, 2017.

SHBP - State employer contributions increased by \$73.4 million. For SHBP - Local, employer contributions increased by \$36.2 million. For SHBP -Education, employer contributions increased by \$158.2 million. These increases are primarily attributable to rate increases effective January 1, 2015 and 2016.

The pension trust funds and other postemployment benefit plans experienced a net investment loss of \$649 million in fiscal year 2016 as compared to a net investment gain of \$3.3 billion for fiscal year 2015. Fiscal year 2016 was a challenging investment year as global equity markets realized negative returns. Non-U.S. equity markets underperformed as tepid economic growth persisted with emerging market equities adversely impacted by commodity price weakness and a slowdown in China. Negative returns for stocks were somewhat offset by a more constructive fixed income market as global monetary easing and a flight to safety in the midst of market uncertainty contributed to positive bond returns and, in some cases, led to negative yields. Real estate and other alternative asset classes outperformed global stocks and fixed income, somewhat offset by disappointing returns in certain hedge fund strategies. Within real estate, returns were favorable across all property types and regions, supported by strong demand from both offshore and domestic investors, overall low levels of construction keeping supply balanced in many markets, renewed interest in income producing assets in a low growth economy, and attractive yields relative to other asset classes. Private equity exhibited positive performance as strong valuations and low borrowing costs buoyed returns.

In reference to Schedule of Investment Returns - Annual Money-Weighted Rate of Return, Net of Investment Expense (see Required Supplementary Information Schedule 3), the fiscal year 2016 rate was (1.15%) compared to 4.08% of the prior year. It was based on Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Pension Plans - an Amendment of GASB Statement No. 25.

Deductions of the pension trust funds and other postemployment benefit plans are mainly comprised of pension benefit payments to retirees and beneficiaries, refunds of contributions to former members, and administrative costs incurred by the Funds to operate the pension trust funds and other postemployment benefit plans. Also included are claim charges for the self-insured health and prescription drug benefit programs. Between State fiscal years 2015 and 2016, benefit payments increased by \$1,060.1 million or 6.5% due to an increase in the number of retirees receiving retirement and other benefits. The number of refunds processed decreased by \$1.7 million or 0.9% compared to last year. Administrative expenses increased by \$0.2 million or 0.4%.

The change in net position of \$4.3 billion was mainly attributable to the decrease in investment income and increase in benefit payments when comparing State fiscal year 2016 to State fiscal year 2015.

Management's Discussion and Analysis (Unaudited) — June 30, 2016, continued

Investment Performance

The rates of return (i.e. investment performance, which includes income and changes in the fair value of investments) for TPAF, PERS, PFRS, JRS, SPRS, CPFPF and Prison Officers' Pension Funds, collectively, the Pension Funds, and various market indices are as follows:

| | Year en | ded June 30 |
|---|---------|-------------|
| | 2016 | 2015 |
| Total rate of return (%): | | |
| Total Pension Funds | (0.93)% | 4.09% |
| Absolute Return Hedge Funds | (1.20) | 3.79 |
| Risk Mitigation | (1.20) | 3.79 |
| Cash Equivalents | 1.26 | 0.84 |
| Short-Term Cash Equivalents | 0.74 | 0.18 |
| TIPS | 3.62 | (2.35) |
| U.S. Treasuries | 6.00 | 1.61 |
| Total Liquidity | 2.69 | (0.27) |
| Investment Grade Credit | 6.57 | 2.23 |
| High Yield Fixed Income | 2.96 | 2.74 |
| Credit Oriented Hedge Funds | (1.04) | 0.78 |
| Debt Related Private Equity | 2.00 | 10.49 |
| Debt Related Real Estate | 1.05 | 8.24 |
| Total Income | 3.67 | 2.85 |
| Commodities | (7.82) | (20.86) |
| Private Real Assets | (1.65) | 1.22 |
| Real Estate | 11.97 | 14.89 |
| Total Real Return | 6.30 | 5.02 |
| U.S. Equity | (1.58) | 7.48 |
| Non-U.S. Developed Markets Equity | (9.60) | (3.81) |
| Emerging Markets Equity | (10.81) | (7.53) |
| Equity Oriented Hedge Funds | (13.07) | 7.41 |
| Buyout/Venture Capital Funds | 6.73 | 18.66 |
| Total Global Growth | (3.62) | 4.91 |
| Opportunistic Private Equity ⁽¹⁾ | (0.92) | N/A |
| Returns of Various Market Indices (%): | | |
| S&P Composite 1500 Index | 3.64 | 7.31 |
| S&P 500 Index | 3.98 | 7.42 |
| Dow Jones Industrial Average | 4.50 | 7.21 |
| Barclays U.S. Government/Credit Index | 6.70 | 1.69 |
| Barclays Long Government/Credit Index | 15.72 | 1.94 |
| MSCI EAFE — Net (Developed Non-U.S.) | (10.16) | (4.22) |
| MSCI Emerging Market Free — Net | (12.05) | (5.12) |
| HFRI Fund of Funds Index (3) | (5.97) | 6.10 |
| NCREIF Property Index (2) | 12.62 | 12.98 |
| Cambridge Private Equity Index (2) | 3.23 | 10.55 |
| U.S. Treasury bills (3 month) | 0.19 | 0.02 |

⁽¹⁾ Category commenced during fiscal year 2016.

⁽²⁾ Reported with one quarter lag.

⁽³⁾ Reported with one month lag.

Management's Discussion and Analysis (Unaudited) — June 30, 2016, continued

Overall Financial Condition of the Funds

Based on the GASB Statement No. 67, Financial Reporting for Pension Plans - an amendment of GASB No. 25 (GASB Statement No. 67) and actuaries' GASB 67 disclosures for State fiscal years as of June 30, 2015 and 2016, 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 30.93%, and the net pension liability as a percentage of covered payroll was 655.6%. For the prior year, the combined state and local ratios of plan fiduciary net position as a percentage of the total pension liability was 37.5%, and the net pension liability as a percentage of covered payroll was 529.7%.

For SHBP - Local, total expenses incurred exceeded total revenues recognized by \$27.2 million, decreasing the surplus at the beginning of the year from \$294.1 million to \$266.9 million at year end. Similarly, for SHBP - Education, total expenses incurred exceeded total revenues recognized by \$72.1 million, decreasing the surplus at the beginning of the year from \$144.9 million to \$72.8 million at year end. For SHBP - State, total expenses incurred exceeded total revenues recognized by \$123.0 million, further increasing the deficit at the beginning of the year from \$121.6 million to \$244.6 million at year end.

For the other postemployment benefit plans for State fiscal year 2016, based on the current actuarial valuation dated July 1, 2015, the State had a \$25.9 billion unfunded actuarial accrued liability (UAAL) under GASB Statement No. 43, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, for SHBP - State active and retired members and a \$41.6 billion UAAL for SHBP - Education employees and retirees that become the obligation of the State of New Jersey upon retirement. In comparison, based on the prior year actuarial valuation, the State had a \$24.5 billion UAAL for SHBP - State active and retired members and a \$40.6 billion UAAL for SHBP - Education employees and retirees. Major factors that contributed to the increase in the UAAL include the following: (1) the State continues to fund post-retirement medical benefits on a pay-as-you-go basis as opposed to funding on an actuarial reserve basis; (2) new mortality assumption tables were utilized in the July 1, 2015 valuation, which assume longer life expectancies as compared to the prior mortality assumptions; and (3) trend rates used to project retiree prescription drug costs were increased based on recent poor experience and projected future increases in retiree prescription drug costs. SHBP - Local fiscal year 2016 UAAL for OPEB based on the same actuarial valuation was \$16.8 billion and, for the prior year actuarial valuation, the liability was \$16.4 billion.

During the year, the ABP and the PAF received sufficient funding to meet their benefit obligations.

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.nj.gov/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, 2016

| | Pension Trust and Other | | |
|--|---------------------------------|-----------------|--|
| | Postemployment Benefit Plans | Agency Funds | |
| Assets: | | | |
| Cash and cash equivalents | \$ 10,351,800 | 2,822,895 | |
| Receivables: | | | |
| Contributions: | | | |
| Members | 198,961,915 | _ | |
| Employers | 2,241,025,786 | 316,085 | |
| Accrued interest and dividends | 4,255,408 | _ | |
| Other | 21,471,017 | 35,918,240 | |
| Total receivables | 2,465,714,126 | 36,234,325 | |
| Investments, at fair value: | | | |
| Cash Management Fund | 1,729,169,845 | 41,413,323 | |
| Common Pension Fund D | 45,840,206,401 | _ | |
| Common Pension Fund E | 25,062,510,418 | _ | |
| Domestic equities | 678,024,900 | _ | |
| Fixed income mutual funds | 394,909,679 | _ | |
| Equity mutual funds | 2,687,843,042 | _ | |
| Total investments | 76,392,664,285 | 41,413,323 | |
| Securities lending collateral | 1,298,508,410 | _ | |
| Members' loans and mortgages | 2,242,910,998 | _ | |
| Total assets | 82,410,149,619 | 80,470,543 | |
| Liabilities: | | | |
| Accounts payable and accrued expenses | 970,445,524 | 77,884,650 | |
| Retirement benefits payable | 866,831,486 | _ | |
| Noncontributory group life insurance premiums payable | 29,272,362 | _ | |
| Administrative expense payable | 18,127,373 | _ | |
| Assets held for local contributing employers | _ | 2,226,939 | |
| Pension adjustment payroll payable | _ | 140,204 | |
| Due to State of New Jersey | _ | 30,090 | |
| Due to other funds | _ | 188,660 | |
| Securities lending collateral and rebates payable | 1,296,943,638 | | |
| Total liabilities | 3,181,620,383 | 80,470,543 | |
| Net position: | | | |
| Restricted for pension and other postemployment benefits | \$ 79,228,529,236 | _ | |

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS

FINANCIAL INFORMATION

Combining Statement of Fiduciary Net Position — Fiduciary Funds — Pension Trust and Other Postemployment Benefit Plans June 30, 2016

| | Defined Benefit Pension Plans | | | | | | Defined Contribution Pension Plans | | | | Other Postemployment Benefit Plans | | | | | | |
|---|-------------------------------|-------------------|----------------------------------|-----------------------------------|---|------------------------------------|---|-------------------------------------|-------------------------|---|---|---|---------------------------------------|---|---|---|--------------------------|
| | Judicial Retirement S | ystem | Prison Officers' Pension Fund | State Police Retirement System | Consolidated Police and Firemen's Retirement System | Teachers' Pension and Annuity Fund | Police and Firemen's Retirement System | Public Employees' Retirement System | Central Pension Fund | Alternate Benefit Long-term Disability Fund | New Jersey State Employees Deferred Compensation Plan | Defined Contribution Retirement Plan | Supplemental Annuity Collective Trust | State Health Benefit Program Fund State | State Health Benefit Program Fund Local | State Health Benefit Program Fund Education | Total |
| Assets: | | | | | | | | | | | | | | | | | |
| Cash and cash equivalents | \$ | 223,043 | 206,780 | 1,587,746 | 97,183 | 2,414,775 | 1,609,548 | 2,143,605 | 16,834 | _ | 14,031 | 28,189 | 103,078 | 817,433 | 315,923 | 773,632 | 10,351,800 |
| Receivables: | | | | | | | | | | | | | | | | | |
| Contributions: | | | | | | | | | | | | | | | | | |
| Members | | 350,324 | _ | 1,236,348 | _ | 82,176,124 | 49,897,205 | 61,755,437 | _ | _ | - | - | 394,026 | 1,213,182 | 931,947 | 1,007,322 | 198,961,915 |
| Employers | | 149,725 | _ | 158,804 | _ | 33,077,039 | 992,349,260 | 1,023,306,306 | _ | _ | - | 26,200 | _ | 27,858,211 | 109,073,332 | 55,026,909 | 2,241,025,786 |
| Accrued interest and dividends | | 390 | 10 | 2,128 | 16 | 33,129 | 3,304,248 | 28,203 | 3 | _ | 635,110 | - | 252,171 | _ | - | _ | 4,255,408 |
| Other | | 888,102 | 49,875 | 271,237 | 288,358 | 2,551,217 | 3,478,523 | 8,899,751 | 1,281 | 1,738,668 | - | - | _ | 498,879 | 1,903,484 | 901,642 | 21,471,017 |
| Total receivables | 1, | ,388,541 | 49,885 | 1,668,517 | 288,374 | 117,837,509 | 1,049,029,236 | 1,093,989,697 | 1,284 | 1,738,668 | 635,110 | 26,200 | 646,197 | 29,570,272 | 111,908,763 | 56,935,873 | 2,465,714,126 |
| Investments, at fair value: | | | | | | | | | | | | | | | | | |
| Cash Management Fund | 8 | ,327,661 | 5,958,633 | 31,939,826 | 1,683,801 | 394,124,066 | 244,143,777 | 330,384,293 | 6,686 | 136,110 | 17,510,020 | 5,139,626 | 879,755 | 11,889,276 | 321,057,191 | 355,989,124 | 1,729,169,845 |
| Common Pension Fund D | 115 | 5,510,746 | _ | 1,075,987,507 | _ | 14,568,762,228 | 13,864,778,564 | 16,215,167,356 | _ | _ | _ | _ | _ | _ | _ | _ | 45,840,206,401 |
| Common Pension Fund E | 58 | ,519,326 | _ | 585,745,952 | _ | 7,797,708,833 | 7,693,273,548 | 8,927,262,759 | _ | _ | _ | _ | _ | _ | _ | _ | 25,062,510,418 |
| Domestic equities | | _ | _ | - | _ | - | - | _ | _ | - | 477,803,009 | - | 200,221,891 | - | - | _ | 678,024,900 |
| Fixed income mutual funds | | _ | _ | - | _ | - | - | _ | _ | - | 394,909,679 | - | - | - | - | _ | 394,909,679 |
| Equity mutual funds | | - | _ | _ | _ | _ | _ | _ | _ | _ | 2,687,843,042 | - | _ | _ | - | _ | 2,687,843,042 |
| Total investments | 182 | ,357,733 | 5,958,633 | 1,693,673,285 | 1,683,801 | 22,760,595,127 | 21,802,195,889 | 25,472,814,408 | 6,686 | 136,110 | 3,578,065,750 | 5,139,626 | 201,101,646 | 11,889,276 | 321,057,191 | 355,989,124 | 76,392,664,285 |
| Securities lending collateral | 3, | ,272,055 | _ | 30,479,331 | _ | 412,687,066 | 392,745,430 | 459,324,528 | _ | - | - | - | - | - | - | _ | 1,298,508,410 |
| Members' loans and mortgages | | 775,888 | - | 16,096,136 | _ | 271,634,977 | 1,337,601,102 | 616,802,895 | _ | _ | - | - | - | - | - | _ | 2,242,910,998 |
| Total assets | 188 | ,017,260 | 6,215,298 | 1,743,505,015 | 2,069,358 | 23,565,169,454 | 24,583,181,205 | 27,645,075,133 | 24,804 | 1,874,778 | 3,578,714,891 | 5,194,015 | 201,850,921 | 42,276,981 | 433,281,877 | 413,698,629 | 82,410,149,619 |
| Liabilities: | | | | | | | | | | | | | | | | | |
| Accounts payable and accrued expenses | | - | 683 | 75,978 | - | 72,431,070 | 5,450,197 | 99,421,414 | - | - | 1,221,100 | 1,611 | 292,294 | 285,919,991 | 165,908,869 | 339,722,317 | 970,445,524 |
| Retirement benefits payable | 4. | ,551,435 | 101,483 | 17,741,886 | 172,051 | 349,959,596 | 193,136,024 | 300,889,814 | 24,804 | - | - | - | 254,393 | - | - | _ | 866,831,486 |
| Noncontributory group life insurance premiums | | | | | | | | | | | | | | | | | |
| payable Administrative expense payable | | 149,725 48,168 | _ 1,899 | 158,804 123,633 | | 7,663,781 5,062,284 | 5,884,168 1,712,001 | 15,327,645 8,594,633 | | _ | _ | 88,239 — | | 968,391 | | | 29,272,362 18,127,373 |
| | | , | ,,,,, | ., | ,, | ,,,,,, | , , , , , , | .,, | | | | | | , | ,, | , , , | ., , |
| Securities lending collateral and rebates payable | 3, | ,268,112 | _ | 30,442,602 | - | 412,189,756 | 392,272,151 | 458,771,017 | - | - | _ | - | _ | - | _ | _ | 1,296,943,638 |
| Total liabilities | 8 | ,017,440 | 104,065 | 48,542,903 | 174,430 | 847,306,487 | 598,454,541 | 883,004,523 | 24,804 | - | 1,221,100 | 89,850 | 546,687 | 286,888,382 | 166,381,444 | 340,863,727 | 3,181,620,383 |
| Net position: Restricted for pension and other postemployment | | | | | | | | | | | | | | | | | |
| benefits | \$ 179, | ,999,820 | 6,111,233 | 1,694,962,112 | 1,894,928 | 22,717,862,967 | 23,984,726,664 | 26,762,070,610 | _ | 1,874,778 | 3,577,493,791 | 5,104,165 | 201,304,234 | (244,611,401 |) 266,900,433 | 72,834,902 | 79,228,529,236 |
| | | | | | | | | | | | | | | | | | |

Statement of Changes in Fiduciary Net Position — Fiduciary Funds Year ended June 30, 2016

and Other Postemnlovment

Pension Trust

| | Postemployment Benefit Plans |
|--|---------------------------------|
| Additions: | |
| Contributions: | |
| Members | \$ 2,728,399,275 |
| Employers | 8,371,079,575 |
| Nonemployer | 860,429,467 |
| Employer specific | 15,215,218 |
| Total contributions | 11,975,123,535 |
| Investment (loss) income: | |
| Net decrease in fair value of investments | (2,244,262,789) |
| Interest | 1,597,614,488 |
| Dividends | 14,889,882 |
| | (631,758,419) |
| Less investment expense | 16,906,200 |
| Net investment loss | (648,664,619) |
| Total additions | 11,326,458,916 |
| Deductions: | |
| Benefits | 17,270,398,926 |
| Refunds of contributions | 202,432,865 |
| Administrative and miscellaneous expenses | 52,553,872 |
| Total deductions | 17,525,385,663 |
| Change in net position | (6,198,926,747) |
| Net position restricted for pension and other postemployment benefits: | |
| Beginning of year | 85,427,455,983 |
| End of year | \$ 79,228,529,236 |

Combining Statement of Changes in Fiduciary Net Position — Fiduciary Funds — Pension Trust and Other Postemployment Benefit Plans Year ended June 30, 2016

| | Defined Benefit Pension Plans | | | | | | Defined Contribution Pension Plans | | | | Other Postemployment Benefit Plans | | | | | |
|--|-------------------------------|----------------------------------|-----------------------------------|---|--|---|-------------------------------------|-------------------------|---|---|---|---------------------------------------|---|---|---|-----------------|
| | Judicial Retirement System | Prison Officers' Pension Fund | State Police Retirement System | Consolidated Police and Firemen's Retirement System | Teachers' Pension and Annuity Fund | Police and Firemen's Retirement System | Public Employees' Retirement System | Central Pension Fund | Alternate Benefit Long-term Disability Fund | New Jersey State Employees Deferred Compensation Plan | Defined Contribution Retirement Plan | Supplemental Annuity Collective Trust | State Health Benefit Program Fund State | State Health Benefit Program Fund Local | State Health Benefit Program Fund Education | Total |
| Additions: | | | | | | | | | | | | | | | | |
| Contributions: | | | | | | | | | | | | | | | | |
| Members | \$ 9,271,86 | 9 – | 22,818,295 | - | 761,711,695 | 388,681,408 | 821,305,787 | - | - | 180,268,889 | - | 5,814,213 | 431,274,290 | 52,682,811 | 54,570,018 | 2,728,399,275 |
| Employers | 14,794,77 | - | 37,435,541 | 148,000 | 1,105,810 | 900,033,567 | 1,273,425,342 | 280,500 | 1,738,668 | - | 2,750,910 | - | 1,998,551,825 | 1,316,195,962 | 2,824,618,676 | 8,371,079,575 |
| Non-employers | | | - | - | 798,963,467 | 61,466,000 | - | _ | - | - | - | - | - | - | - | 860,429,467 |
| Employer specific | 726,28 | 4 634,217 | 54,000 | 1,196,017 | 1,807,662 | 6,848,771 | 3,926,053 | 22,214 | - | - | _ | _ | - | _ | - | 15,215,218 |
| Total contributions | 24,792,92 | 7 634,217 | 60,307,836 | 1,344,017 | 1,563,588,634 | 1,357,029,746 | 2,098,657,182 | 302,714 | 1,738,668 | 180,268,889 | 2,750,910 | 5,814,213 | 2,429,826,115 | 1,368,878,773 | 2,879,188,694 | 11,975,123,535 |
| Investment (loss) income: | | | | | | | | | | | | | | | | |
| Net (decrease) increase in fair value of investments | r (6,342,41 | 3) 1,295 | (53,947,388) | 346 | (747,095,626) | (648,865,408) | (799,550,199) | _ | 34 | 10,620,196 | 1,275 | 772,851 | (6,956) | 71,005 | 78,199 | (2,244,262,789) |
| Interest | 3,642,33 | 18,804 | 34,796,068 | 13,059 | 484,845,840 | 500,010,147 | 571,561,244 | 176 | 3,431 | 50,156 | 12,829 | 2,496 | 327,133 | 1,162,131 | 1,168,638 | 1,597,614,488 |
| Dividends | | | - | - | - | - | - | - | - | 10,335,307 | _ | 4,554,575 | - | - | - | 14,889,882 |
| | (2,700,07 | 7) 20,099 | (19,151,320) | 13,405 | (262,249,786) | (148,855,261) | (227,988,955) | 176 | 3,465 | 21,005,659 | 14,104 | 5,329,922 | 320,177 | 1,233,136 | 1,246,837 | (631,758,419) |
| Less investment expense | 21,87 | 2,032 | 132,734 | 2,549 | 5,434,567 | 1,837,898 | 9,226,688 | _ | - | 247,860 | - | - | - | _ | _ | 16,906,200 |
| Net investment (loss) income | (2,721,94 | 9) 18,067 | (19,284,054) | 10.856 | (267,684,353) | (150,693,159) | (237,215,643) | 176 | 3,465 | 20,757,799 | 14,104 | 5,329,922 | 320,177 | 1,233,136 | 1,246,837 | (648,664,619) |
| Total additions | 22,070,97 | 652,284 | 41,023,782 | 1,354,873 | 1,295,904,281 | 1,206,336,587 | 1,861,441,539 | 302,890 | 1,742,133 | 201,026,688 | 2,765,014 | 11,144,135 | 2,430,146,292 | 1,370,111,909 | 2,880,435,531 | 11,326,458,916 |
| Deductions: | | | | | | | | | | | | | | | | |
| Benefits | 54,686,52 | 1,240,307 | 213,306,727 | 1,881,252 | 4,111,142,744 | 2,316,135,014 | 3,493,323,473 | 296,847 | 1,500,000 | 163,247,570 | 889,089 | 20,342,949 | 2,549,202,032 | 1,395,376,640 | 2,947,827,761 | 17,270,398,926 |
| Refunds of contributions | | | 129,423 | _ | 57,928,018 | 8,040,939 | 136,328,442 | 6,043 | _ | _ | _ | _ | _ | - | _ | 202,432,865 |
| Administrative and miscellaneous expenses | 168,00 | 5,312 | 334,630 | 6,643 | 13,768,112 | 4,292,891 | 23,285,920 | - | _ | 190,880 | - | _ | 3,938,054 | 1,921,770 | 4,641,652 | 52,553,872 |
| Total deductions | 54,854,52 | 1,245,619 | 213,770,780 | 1,887,895 | 4,182,838,874 | 2,328,468,844 | 3,652,937,835 | 302,890 | 1,500,000 | 163,438,450 | 889,089 | 20,342,949 | 2,553,140,086 | 1,397,298,410 | 2,952,469,413 | 17,525,385,663 |
| Change in net position | (32,783,55 | 1) (593,335) | (172,746,998) | (533,022) | (2,886,934,593) | (1,122,132,257) | (1,791,496,296) | _ | 242,133 | 37,588,238 | 1,875,925 | (9,198,814) | (122,993,794) | (27,186,501) | (72,033,882) | (6,198,926,747) |
| Net position restricted for pension and other postemployment benefits: | | . , | | . , , | | | | | , | . , | | , , | , | , , | | |
| Beginning of year | 212,783,37 | 6,704,568 | 1,867,709,110 | 2,427,950 | 25,604,797,560 | 25,106,858,921 | 28,553,566,906 | - | 1,632,645 | 3,539,905,553 | 3,228,240 | 210,503,048 | (121,617,607) | 294,086,934 | 144,868,784 | 85,427,455,983 |
| End of year | \$ 179,999,82 | 6,111,233 | 1,694,962,112 | 1,894,928 | 22,717,862,967 | 23,984,726,664 | 26,762,070,610 | - | 1,874,778 | 3,577,493,791 | 5,104,165 | 201,304,234 | (244,611,401) | 266,900,433 | 72,834,902 | 79,228,529,236 |

Notes to Financial Statements June 30, 2016

(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 trust and other postemployment benefit plans 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 |
|--------------|---------------|
| riali Naille | iype di Fiali |

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 (CPFPF) 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

Central Pension Fund (CPF) Single-employer

Defined contribution pension plans:

Alternate Benefit Long-term Disability Fund (ABPLTD) Single-employer New Jersey State Employees Deferred Compensation Plan (NJSEDCP) Single-employer **Defined Contribution Retirement Plan (DCRP)** Multiple-employer Supplemental Annuity Collective Trust (SACT) Multiple-employer

Defined benefit other postemployment benefit plans:

State Health Benefit Program Fund — State (SHBP—State) Single-employer

State Health Benefit Program Fund — Local (SHBP—Local) Cost-sharing multiple-employer

State Health Benefit Program Fund — Education (SHBP—Education) Cost-sharing multiple-employer with special funding situation

The Division oversees the following agency funds:

Agency Fund

Pension Adjustment Fund (PAF)

Alternate Benefit Program (ABP)

Dental Expense Program Fund — State (DEP—State)

Dental Expense Program Fund — Local (DEP-Local)

(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 | <u>N.J.S.A.</u> 43:6A | All members of the State Judiciary. |
| POPF* | January 1, 1941 | <u>N.J.S.A</u> . 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 the 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 new legislation passed by the State of New Jersey. Pension reforms enacted pursuant to Chapter 78, P.L. 2011 included provisions creating special Pension Plan Design Committees for JRS, SPRS, TPAF, PFRS, and PERS, once a Target Funded Ratio (TFR) is met. The 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.

Plan Membership and Contributing Employers

Membership and contributing employers of the defined benefit pension plans consisted of the following at June 30, 2016:

| | JRS | POPF | SPRS | CPFPF | TPAF* | PFRS | PERS | CPF |
|---|-------|------|-------|-------|---------|--------|---------|-----|
| Inactive plan members or beneficiaries currently receiving benefits | 638 | 88 | 3,553 | 89 | 101,263 | 45,423 | 171,422 | 12 |
| Inactive plan members entitled to but not yet receiving benefits | 4 | _ | _ | _ | 210 | 51 | 703 | _ |
| Active plan members | 409 | _ | 2,746 | _ | 155,882 | 42,036 | 261,171 | _ |
| Total | 1,051 | 88 | 6,299 | 89 | 257,355 | 87,510 | 433,296 | 12 |
| Contributing employers | 1 | 1 | 1 | 45 | 24 | 586 | 1,713 | 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.

Pension Plans' Boards and Composition

The table below represents the composition and source of selection for the Plan's boards:

| | SPRS | TPAF | PFRS | PERS |
|------------------------------------|------|------|------|------|
| Appointments by: | | | | |
| Governor | 2 | 2 | 5 | 2 |
| Treasurer | 1 | 1 | 1 | 1 |
| Superintendent of the State Police | 2 | _ | _ | _ |
| Elected by Board or Members | _ | 4 | 5 | 6 |
| Total | 5 | 7 | 11 | 9 |

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

Contribution Requirements and Benefit Provisions

Significant Legislation

Chapter 19, P.L. 2009, 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 will be paid by the employer in level annual payments over a period of 15 years beginning with the payments due in the 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 Chapter 78, P.L. 2011, COLA increases were suspended for all current and future retirees of all retirement sys-

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

IRS

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 Chapter 78, P.L. 2011, the active member contribution rate is being increased from 3% to 12%, phased-in over seven years for members hired or reappointed after June 28, 2011. In October 2011, the member contribution rate for new members increased. The phase-in of the additional incremental member contribution rate takes place in July of each subsequent State fiscal year. The member contribution rate was 9.40% in State fiscal year 2016. 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 or more years of judicial service; members between ages 65-69 with 15 or more years of judicial service or between ages 60-64 with 20 or more years 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 were 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 or more years 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 or more years in aggregate public service. The amount of benefits is actuarially reduced for the number of months remaining until the member reaches age 60.

There are no active members in POPF. Additionally, based on the recent actuarial valuation, there was no normal cost or accrued liability contribution required by the State for the fiscal year ended June 30, 2016. The vesting and benefit provisions were set by N.J.S.A. 43:7.

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 Chapter 78, P.L. 2011, the active member contribution rate increased from 7.5% to 9% in October 2011. 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 10 years of service, as defined, 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. 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 or more years 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 \$148,000 contribution towards the unfunded accrued liability during the fiscal year ended June 30, 2016. The vesting and benefit provisions were set by N.J.S.A. 43:16.

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 Chapter 78, P.L. 2011, the active member contribution rate increased from 5.5% of annual compensation to 6.5% plus an additional 1% phased-in over seven years beginning in July 2012. The member contribution rate was 7.06% in State fiscal year 2016. The phasein of the additional incremental member contribution rate takes place in July of each subsequent State fiscal year. 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, except for medical benefits, which vest after 25 years of service or under the disability provisions of TPAF. 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 before reaching age 60, tiers 3 and 4 with 25 or more years of service credit before age 62, and tier 5 before age 65 with 30 or more years of service credit. Benefits are reduced by a 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 Chapter 78, P.L. 2011, the active member contribution rate increased from 8.5% to 10% in October 2011. 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 10 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, as defined, 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 Chapter 78, P.L. 2011, the active member contribution rate increased from 5.5% of annual compensation to 6.5% plus an additional 1% phased-in over 7 years beginning in July 2012. The member contribution rate was 7.06% in State fiscal year 2016. The phase-in of the additional incremental member contribution rate takes place in July of each subsequent State fiscal year. The rate for members who are eligible for the Prosecutors Part of PERS (Chapter 366, P.L. 2001) increased from 8.5% of base salary to 10%. 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, except for medical benefits, which vest after 25 years of service or under the disability provisions of PERS.

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 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 before reaching age 60, tiers 3 and 4 with 25 or more years of service credit before age 62, and tier 5 with 30 or more years 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.

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) Defined Contribution Pension Plans

The Division administers four defined contribution plans to certain members as further discussed below:

| Plan | Established as of | Legislation | Membership |
|---------|-------------------|---|---|
| ABPLTD | 1965 through 1968 | N.J.A.C. 17:7 | Substantially all full-time employees of the State of New Jersey after completing twelve months of continuous full-time employment in an Alternate Benefit Plan eligible position. |
| NJSEDCP | June 19, 1978 | Chapter 39, P.L. 1978, amended by Chapter 449, P.L. 1985, effective Janu- ary 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. |
| DCRP | July 1, 2007 | Chapter 92, P.L. 2007 and Chapter 103, P.L. 2007, expanded under the provi- sions of Chapter 89, P.L. 2008 and Chapter 1, P.L. 2010 | State or local officials, elected or appointed on or after July 1, 2007; employees enrolled in TPAF or PERS on or after July 1, 2007, who earn salary in excess of established "maximum compensation" limits; employees enrolled in SPRS or PFRS after May 21, 2010, who earn salary in excess of established "maximum compensation" limits; employees otherwise eligible to enroll in TPAF or PERS on or after November 2, 2008, who do not earn the minimum annual salary for tier 3 enrollment but who earn salary of at least \$5,000 annually; and employees otherwise eligible to enroll in TPAF or PERS after May 21, 2010, who do not work the minimum number of hours per week required for tier 4 or tier 5 enrollment, but who earn salary of at least \$5,000 annually. |
| 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, 2016, membership in the defined contribution pension plans consisted of the following based on the information within the Division's database:

| Plan | Members |
|---------|---------|
| ABPLTD | 169 |
| NJSEDCP | 51,354 |
| DCRP | 46,557 |
| SACT | 3,081 |

Contribution Requirements and Benefit Provisions

ABPLTD

The State of New Jersey makes an annual contribution to the ABPLTD, as required, toward the cost of long-term disability benefits, which extend beyond the calendar year following the year in which the disability benefits commence for those with a benefit commencement date on or after October 1, 1986.

Members, who are totally disabled due to an occupational or non-occupational condition, are eligible to receive a regular monthly benefit equal to 60% of the base salary earned over the twelve-month period preceding the onset of the disability. The long-term disability benefits continue until such time as the member retires or attains the age of 70, whichever comes first.

NJSEDCP

Participants may defer between 1% and 100% of their salary, less any Internal Revenue Code (IRC) Section 414(h) reductions, or \$18,000 annually. Under the limited "catch-up" provision, a participant may be eligible to defer up to a maximum of twice the annual maximum in the three years immediately preceding the retirement age at which no reduction in benefits would be applicable.

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 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.

DCRP

State and local government employers contribute 3% of the employees' base salary. Active members contribute 5.5% of base salary.

Eligible members are provided with a defined contribution retirement plan intended to qualify for favorable Federal income tax treatment under IRC Section 401(a), a noncontributory group life insurance plan and a noncontributory group disability benefit plan. A participant's interest in that portion of his or her defined contribution retirement plan account attributable to employee contributions shall immediately become and shall at all times remain fully vested and nonforfeitable. A participant's interest in that portion of his or her defined contribution retirement plan account attributable to employer contributions shall be vested and nonforfeitable on the date the participant commences the second year of employment or upon his or her attainment of age 65, while employed by an employer, whichever occurs first.

SACT

Participants contribute through payroll deductions and may contribute from 1% to 100% of their base salary, as defined. 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

| Plan | Established as of | Legislation | Membership |
|--------------------------|-------------------|--------------------------------------|--|
| SHBP—State SHBP—Local | 1961 | Title 52, Article 14-17.25 et seq | Offers medical and prescription drug coverage to qualified State and local government public employees, retirees, and eligible dependents. Local employers must adopt a resolution to participate in the SHBP. |
| SHBP— Education | 2007 | Title 52, Article 14-17.46 et seq | Offers medical and prescription drug coverage to qualified local education public employees, retirees, and eligible dependents. Local education employers must adopt a resolution to participate in the SEHBP. |

Plan Membership and Contributing Employers

Membership, based on the current actuarial valuation dated July 1, 2015, and contributing employers, based on the Division's database, of the defined benefit OPEB plans consisted of the following at June 30, 2016:

| | Active | Retired | Total | Contributing Employers |
|----------------|---------|---------|---------|---------------------------|
| SHBP—State | 107,349 | 66,383 | 173,732 | 1 |
| SHBP-Local | 43,094 | 38,765 | 81,859 | 583 |
| SHBP-Education | 207,854 | 139,158 | 347,012 | 1 |

Contribution Requirements and Benefit Provisions

Contributions to pay for the health benefit premiums of participating employees in SHBP - State, Local and Education (including the prescription drug programs (PDP)) are collected from the State of New Jersey, participating local employers, active and retired members, and former active and retired members who have elected to participate under the rules of the Consolidated Omnibus Budget Reconciliation Act (COBRA). The State of New Jersey provides contributions for State employees through State appropriations. These appropriations are generally distributed to SHBP - State on a monthly basis. Local and Education employers remit employer contributions on a monthly basis. Active and retired member contributions are generally received on a monthly basis.

The State, employers participating in SHBP - Local and employers participating in SHBP - Education made contributions of \$2.0 billion, \$1.3 billion and \$2.8 billion for State fiscal year 2016, respectively.

Chapter 78, P.L. 2011, effective June 28, 2011, established new employee contribution requirements towards the cost of employer provided health benefit coverage. Employees are required to contribute a certain percentage of the cost of coverage. The rate of contribution is determined based on the employee's annual salary and the selected level of coverage. The increased employee contributions are being phased in over a four-year period for those employed prior to June 28, 2011 with a minimum contribution required to be at least 1.5% of salary. For those employed on or after June 28, 2011, the four-year phase-in does not apply, and contributions based on the full percentage rate of contribution are required. Under Chapter 78, certain future retirees eligible for state-paid health care coverage at retirement are also required to pay a percentage of the cost of their medical coverage determined on the basis of their annual retirement benefit.

SHBP - State provides medical coverage to qualified active and retired participants. Under Chapter 136, P.L. 1977, the State of New Jersey pays for the health insurance coverage of all enrolled retired State employees (regardless of age) whose pensions are based upon 25 years or more of credited service or a disability retirement regardless of years of service. Retirees who are not eligible for state-paid health coverage at retirement can continue in the program by paying the cost of the insurance for themselves and their covered dependents. The PDP was established in December 1974, under N.J.S.A. 52:14 17.29 to provide coverage to employees and their eligible dependents for drugs, which under federal or State law may be dispensed only upon a prescription written by a physician. State employees are eligible for PDP coverage after 60 days of employment.

SHBP - Local provides medical coverage to qualified local active and retired participants. Partially funded benefits are also provided to 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 Chapter 330, P.L. 1997. Also, local employees are eligible for the PDP coverage after 60 days of employment.

SHBP - Education provides medical coverage to qualified local education active and retired participants. Members of TPAF who retire from a board of education or county college with 25 years of service or on a disability retirement receive state-paid post-retirement medical coverage. Under the provisions of Chapter 126, P.L. 1992, the program also provides state-paid coverage to members of PERS and ABP who retire from a board of education or county college with 25 years of service or on a disability retirement if the member's employer does not provide this coverage. Certain local participating employers also provide post-retirement medical coverage to their employees. Retirees who are not eligible for state-paid health coverage at retirement can continue in the program if their employer participates in this program or if they are participating in the health benefits plan of their former employer and are enrolled in Medicare Parts A and B by paying the cost of the insurance for themselves and their covered dependents. Also, education employees are eligible for the PDP coverage after 60 days of employment.

(e) Agency Funds

The Division oversees PAF, ABP and DEP (State and Local) as agency funds. For PAF, the Division utilizes the annual appropriation payment from the State to pay the cost of living adjustment (COLA) benefits to retirees and beneficiaries of POPF, CPFPF, and CPF. For ABP, the Division collects, from the State, the contributions related to the employer portion of the plan and remits it to the pension providers (insurance and mutual fund companies) on behalf of the participating employees at the State and county colleges. For DEP, the Division receives employer contributions from the State and local employers and from active and retired employees to pay premiums to the plan.

(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 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 the Governmental Accounting Standards Board (GASB).

The accrual basis of accounting is used for measuring financial position and changes in net position of the pension trust and other postemployment benefit plans. 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 trust and other postemployment benefit plans – Account for monies received for, expenses incurred by and the net position available for plan benefits of the various public employee retirement systems and health benefit programs. The pension trust funds include JRS, POPF, SPRS, CPFPF, TPAF, PFRS, CPF, ABPLTD, NJSEDCP, DCRP, and SACT.

Agency funds – Agency funds are used to account for the assets that the Division holds on behalf of others as their agent. Agency funds are custodial in nature and do not involve measurement of results of operations.

(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.

(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, CPFPF, TPAF, PFRS and PERS) and two defined contribution pension plans (SACT and certain accounts in NJSEDCP). The Division of Investment accounts included in the Division of Pensions and Benefits report are: Common Pension Fund D and Common Pension Fund E (collectively known as the Common Pension Funds), and other investments owned directly by the seven defined benefit pension plans. Common Pension Fund D invests primarily in global equity and fixed income securities. Common Pension Fund E invests primarily in global diversified credit funds and alternative investments, which includes private equity, real estate, real asset, and absolute return strategy.

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. CMF values participant shares on a fair value basis. For additional information about CMF, refer to the audited financial statements, which can be obtained at http://www.nj.gov/treasury/doinvest/cmf/ FinancialStatementsFiscal2016.pdf.

Prudential Retirement is the third-party administrator for the NJSEDCP. Prudential Retirement provides recordkeeping, administration services and access to 22 investments 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 or decrease 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 2016, the interest rate was 6.0%. There was an \$8 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. These miscellaneous items are not part of the supplementary information included in the Schedule of Administrative Expenses (Schedule 6). Additionally, State Health Benefit Program Funds – State, Local, and Education administrative expenses are included in administrative expenses in the accompanying financial statements, but are not included in the supplementary information in Schedule 6.

(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). The ABP and DCRP received a determination letter that they comply with the qualification requirements of the IRC in September 2012 and January 2013, respectively.

NJSEDCP and SACT are eligible plans as described in Section 457 and Section 401(a) of the IRC, respectively.

(i) Commitments

Common Pension Fund E is 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, 2016, Common Pension Fund E had unfunded commitments totaling approximately \$9.9 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) New Accounting Standards Adopted

In State fiscal year 2016, the Division adopted GASB Statement No. 72, Fair Value Measurement and Application (GASB 72). The statement addresses accounting and financial reporting issues related to fair value measurements of assets and liabilities. GASB 72 identifies various approaches to measuring fair value and levels of inputs based on the objectivity of the data used to measure fair value. It provides additional fair value application guidance and requires enhanced disclosures about fair value measurements. As a result of the adoption of GASB 72, the Division determined that the mortgages issued through the Police and Fire Mortgage Program did not meet the definition of an investment, therefore, reclassified those mortgages to members' loans and mortgages. Additionally, GASB 72 required the addition of note 7 to the financial statements.

(I) Accounting Pronouncements Applicable to the Division

In June 2016, the GASB issued Statement No 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74). GASB 74 provides new requirements for the stand-alone reporting of other postemployment benefit plans or trusts. As compared to current requirements, the requirements in GASB 74 generally would incorporate changes in actuarial provisions, as well as enhanced note disclosures and required supplementary information in the stand-alone OPEB plan financial statements. GASB 74 will be effective for periods beginning after June 15, 2016. The Division is currently evaluating the impact of GASB 74 for its 2017 financial statements.

(3) Employers' Net Pension Liability — Defined Benefit Plans

Components of Net Pension Liability

The components of the net pension liability of the participating employers for the defined benefit plans at June 30, 2016, are as follows:

| | JRS | POPF | SPRS | CPFPF | TPAF | PFRS | PERS |
|--|-------------------|-----------|---------------|-----------|-----------------|----------------|----------------|
| Total pension liability | \$ 980,742,106 | 7,505,870 | 5,673,706,321 | 9,892,635 | 101,746,770,000 | 49,402,169,913 | 85,769,888,074 |
| Plan fiduciary net position | 179,999,820 | 6,111,233 | 1,694,962,112 | 1,894,928 | 22,717,862,967 | 23,984,726,664 | 26,762,070,610 |
| Net pension liability | \$ 800,742,286 | 1,394,637 | 3,978,744,209 | 7,997,707 | 79,028,907,033 | 25,417,443,249 | 59,007,817,464 |
| Plan fiduciary net position as a percentage of the total pension liability | 18.35% | 81.42% | 29.87% | 19.15% | 22.33% | 48.55% | 31.20% |

The total pension liability was determined by actuarial valuations as of July 1, 2015, which was rolled forward to June 30, 2016, using the following actuarial assumptions, applied to all periods in the measurement:

| | JRS | POPF | SPRS | CPFPF | TPAF | PFRS | PERS |
|--|--------------------------------|-------|--------------------------------|-------|--------------------------------|--------------------------------|--------------------------------|
| Inflation rate | 3.08% | 3.08% | 3.08% | 3.08% | 2.50% | 3.08% | 3.08% |
| Salary increases: Initial fiscal year applied | | | | | | | |
| through | 2025 | N/A | 2025 | N/A | N/A* | 2026 | 2026 |
| Rate | 2.00% | N/A | 2.95% | N/A | N/A* | 2.10 - 8.98% based on age | 1.65 to 4.15% based on age |
| Thereafter | 3.00% | N/A | 3.95% | N/A | N/A* | 3.10 - 9.98% based on age | 2.65 - 5.15% based on age |
| Investment rate of return | 7.65% | 2.85% | 7.65% | 2.85% | 7.65% | 7.65% | 7.65% |
| Period of actuarial experience study upon which actuarial assumptions were based | July 1, 2011– June 30, 2014 | N/A | July 1, 2011– June 30, 2014 | N/A | July 1, 2012— June 30, 2015 | July 1, 2010— June 30, 2013 | July 1, 2011— June 30, 2014 |

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

N/A * -Salary increases are various based on experience and the valuation year.

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

| Plan | Pre-retirement mortality | Post-retirement mortality | Disability |
|-------|--|--|---|
| JRS | RP-2000 Combined Healthy Male and RP-2000 Combined Healthy Female Mortality Tables (unadjusted for males and set forward 3 years for females) projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the plan actuary's modified MP-2014 projection scale. | RP-2000 Combined Healthy Mortality Tables (unadjusted for males and set forward 3 years for females) for service retirement and beneficiaries of former members projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the plan actuary's modifies MP-2014 projection scale. | RP-2000 Disability Mortality Tables (set forward 2 years for males and females) are used to value disabled retirees. |
| POPF | Not applicable as there are no active members. | RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and the tables will be further projected beyond the valuation date using the plan actuary's modified 2014 projection scale. | RP-2000 disabled retiree table is used for the period after disability retirement for disability retirements. |
| SPRS | RP-2000 Combined Healthy Male (set back 3 years) and RP-2000 Combined Healthy Female Mortality Tables projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are further projected using the plan actuary's modified MP-2014 projection scale. | For healthy inactive members and beneficiaries of deceased members the RP-2000 Combined Healthy Male (set back 3 years) and RP-2000 Combined Healthy Female Mortality tables projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB. These base tables will be further projected beyond the valuation date using the plan actuary's modified MP-2014 projection scale. | RP-2000 Combined Healthy Males (set forward 5 years) and RP-2000 Combined Healthy Female Mortality (set forward 5 years) tables. |
| CPFPF | Not applicable as there are no active members. | RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables. | Special mortality tables are used for the period after disability retirement with no provisions made for mortality improvement after the valuation date for disability retirements. |

| Plan | Pre-retirement mortality | Post-retirement mortality | Disability |
|------|--|---|--|
| TPAF | Based on experience of TPAF members reflecting mortality improvement on a generational basis based on a 60-year average of Social Security data from 1953 to 2013. | Based on experience of TPAF members reflecting mortality improvement on a generational basis based on a 60-year average of Social Security data from 1953 to 2013. | Based on experience of TPAF members reflecting mortality improvement on a generational basis based on a 60-year average of Social Security data from 1953 to 2013. |
| PFRS | RP-2000 Employee Pre-Retirement mortality tables projected thirteen-years using Projection Scale BB and then projected on a generational basis using the plan actuary's modified 2014 projection scales. | RP-2000 Combined Healthy Mortality Tables projected one year using Projection Scale AA and two years using the plan acutuary's modified 2014 Projection Scales is the base table for male service retirements and will be further projected on a generational basis using the plan actuary's modified 2014 Projection Scales. RP-2000 Combined Healthy Mortality Tables projected thirteen-years using Projection Scale BB and then two years projected using the plan actuary's modified 2014 Projection Scales is the base table for female service retirements and beneficiaries and will be further projected on a generational basis using the plan actuary's modified 2014 projection scales. | Special mortality tables are used for the period after disability retirement. |
| PERS | RP-2000 Employee Preretirement Mortality Table for male and female active participants. For State, mortality tables are set back 4 years for males and 4 years for females. For Employees of Local employers, mortality tables are set back 2 years for males and 7 years for females. In addiction, the tables provide for future improvements in mortality from the base year of 2013 using a generational approach based on the plan actuary's modified MP-2014 projection scale. | RP-2000 Combined Healthy Male and Female Mortality Tables (set back 1 year for males and females) for service retirement and beneficiaries of former members and a one year static projection based on mortality improvement Scale AA. In addition, the tables for service retirement and beneficiaries of former members provide for future improvements in mortality from base year of 2013 using a generational approach based on the plan actuary's modified MP-2014 projection scale. | RP-2000 Disabled Mortality Tables (set back 3 years for males and set forward 1 year for females) are used to value disabled retirees. |

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 plans 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 plans' target asset allocation as of June 30, 2016, are summarized in the following table:

| Asset Class | JRS | POPF | SPRS | CPFPF | TPAF | PFRS | PERS |
|-------------------------------|--------|-------|--------|-------|-------|--------|--------|
| Cash | 0.87% | 0.87% | 0.87% | 0.87% | 0.39% | 0.87% | 0.87% |
| U.S. Treasuries 1.74% | | 1.74% | - | 1.74% | _ | - | 1.74% |
| U.S. government bonds | _ | _ | _ | _ | 1.28% | _ | _ |
| U.S. credit bonds | _ | _ | _ | _ | 2.76% | _ | _ |
| Investment grade credit | 1.79% | _ | 1.79% | _ | _ | 1.79% | 1.79% |
| Mortgages | 1.67% | _ | 1.67% | _ | 2.38% | 1.67% | 1.67% |
| High yield bonds | 4.56% | _ | 4.56% | _ | 4.70% | 4.56% | 4.56% |
| Inflation-indexed bonds | 3.44% | _ | 3.44% | _ | 1.41% | 3.44% | 3.44% |
| Broad U.S. equities | 8.53% | _ | 8.53% | _ | 5.14% | 8.53% | 8.53% |
| Developed foreign equities | 6.83% | _ | 6.83% | _ | 5.91% | 6.83% | 6.83% |
| Emerging market equities | 9.95% | _ | 9.95% | _ | 8.16% | 9.95% | 9.95% |
| Private equity | 12.40% | _ | 12.40% | _ | 8.97% | 12.40% | 12.40% |
| Hedge funds/Absolute return | 4.68% | _ | 4.68% | _ | _ | 4.68% | 4.68% |
| MultiStrategy | _ | _ | _ | _ | 3.70% | _ | _ |
| Equity hedge | _ | _ | _ | _ | 4.72% | _ | _ |
| Distressed | _ | _ | _ | _ | 3.49% | _ | _ |
| Real estate (property) | 6.91% | _ | 6.91% | _ | 3.64% | 6.91% | 6.91% |
| Commodities | 5.45% | _ | 5.45% | _ | 2.87% | 5.45% | 5.45% |
| Timber | _ | _ | _ | _ | 3.86% | _ | _ |
| Farmland | _ | _ | _ | _ | 4.39% | _ | _ |
| Global Debt excluding U.S. | -0.25% | _ | -0.25% | _ | _ | -0.25% | -0.25% |
| Real estate investment trusts | 5.63% | _ | 5.63% | _ | _ | 5.63% | 5.63% |

Discount Rate

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

| Plan | Discount Rate |
|-------|---------------|
| JRS | 3.11% |
| POPF | 2.85% |
| SPRS | 3.55% |
| CPFPF | 2.85% |
| TPAF | 3.22% |
| PFRS | 5.55% |
| PERS | 3.98% |

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 | Through June 30, 2022 | Not applicable | Through June 30, 2033 | Not applicable | Through June 30, 2029 | Through June 30, 2050 | Through June 30, 2034 |
| Municipal Bond rate* | From July 1, 2022 and thereafter | All periods | From July 1, 2033 and thereafter | All periods | From July 1, 2029 and thereafter | From July 1, 2050 and thereafter | From July 1, 2034 and thereafter |

^{*} The municipal bond return rate used is 2.85%. 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.

Sensitivity of Net Pension Liability

The following presents the net pension liability of each plan calculated using the discount rates as disclosed above as well as what each plan's net pension liability 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:

| | At 1% | At current | At 1% |
|-----------------------------|----------------|----------------|----------------|
| Plan (rates used) | decrease | discount rate | increase |
| JRS (2.11%, 3.11%, 4.11%) | \$ 912,241,750 | 800,742,286 | 706,550,300 |
| POPF (1.85%, 2.85%, 3.85%) | 1,810,906 | 1,394,637 | 1,020,534 |
| SPRS (2.55%, 3.55%, 4.55%) | 4,948,165,769 | 3,978,744,209 | 3,213,322,784 |
| CPFPF (1.85%, 2.85%, 3.85%) | 8,455,736 | 7,997,707 | 7,582,792 |
| TPAF (2.22%, 3.22%, 4.22%) | 94,378,176,033 | 79,028,907,033 | 66,494,248,033 |
| PFRS (4.55%, 5.55%, 6.55%) | 32,312,095,296 | 25,417,443,249 | 19,797,527,320 |
| PERS (2.98%, 3.98%, 4.98%) | 70,715,189,252 | 59,007,817,464 | 49,352,744,647 |

(4) Investments

The Plans' investments (including investments held directly by the Common Pension Funds) as of June 30, 2016, are as follows:

| Common | Pension | Fund | D- |
|--------|---------|------|----|
| | | | |

| \$ 2,697,533,103 | |
|----------------------|--|
| 20,154,433,664 | |
| 12,174,418,177 | |
| 7,793,117,841 | |
| 2,751,731,774 | |
| 668,750 | |
| 268,303,092 | |
| 45,840,206,401 | |
| | |
| 577,707,684 | |
| 4,878,870 | |
| 8,551,381,299 | |
| 7,382,974,347 | |
| 3,368,163,795 | |
| 2,589,107,238 | |
| 1,728,009,536 | |
| 335,359,923 | |
| 524,927,726 | |
| 25,062,510,418 | |
| | |
| 1,770,583,168 | |
| 678,024,900 | |
| 394,909,679 | |
| 2,687,843,042 | |
| 5,531,360,789 | |
| \$ 76,434,077,608 | |
| | 20,154,433,664 12,174,418,177 7,793,117,841 2,751,731,774 668,750 268,303,092 45,840,206,401 577,707,684 4,878,870 8,551,381,299 7,382,974,347 3,368,163,795 2,589,107,238 1,728,009,536 335,359,923 524,927,726 25,062,510,418 1,770,583,168 678,024,900 394,909,679 2,687,843,042 5,531,360,789 |

⁽¹⁾ Includes assets (other than investments) and liabilities included in the net position of the Common Pension Funds.

New Jersey State statute provides for a State Investment Council (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, nonconvertible 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.

The asset allocation policy as of June 30, 2016, for JRS, POPF, CPFPF, SPRS, TPAF, PFRS, and PERS, collectively known as the Pension Funds, is as follows:

| Asset Class | Target |
|--|---------|
| Absolute return/risk mitigation | 5.00% |
| Total risk mitigation | 5.00% |
| Cash equivalents | 5.00% |
| U.S. Treasury TIPS | 1.50% |
| U.S. Treasuries | 1.50% |
| Total liquidity | 8.00% |
| Investment grade credit | 8.00% |
| Public high yield | 2.00% |
| Global diversified credit | 5.00% |
| Credit oriented hedge funds | 3.75% |
| Debt related private equity | 1.00% |
| Debt related real estate | 0.80% |
| Police and Firemen's Mortgage Program ⁽¹⁾ | 1.20% |
| Total income | 21.75% |
| Commodities | 0.50% |
| Private real asset | 2.00% |
| Equity related real estate | 5.25% |
| Total real return | 7.75% |
| U.S. equity | 26.00% |
| Non-U.S. developed markets equity | 13.25% |
| Emerging markets equity | 6.50% |
| Equity oriented hedge funds | 3.75% |
| Buyouts/venture capital | 8.00% |
| Total global growth | 57.50% |
| Total | 100.00% |

⁽¹⁾ For financial reporting purposes, these mortgages are classified as a members' loans and mortgages in the Statement of Net Position under GASB 72.

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

Rate of Return

The annual money-weighted rate of return for the certain Pension Funds was (1.15%) for the fiscal year ended June 30, 2016. 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 United States 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.

The credit ratings and limits for the Pension Funds as of June 30, 2016 are as follows:

| | Mir | nimum ratin | g ⁽¹⁾ | Limitation | | |
|--|-------------------|-------------------|-------------------|--|---------------------|--|
| Category | Moody's | S&P | Fitch | of issuer's outstanding debt/stock | Limitation of issue | Other limitations |
| Certificates of deposit | | | | | | Split rating allowable. |
| Domestic International | A3/P-1 Aa3/P-1 | A-/A-1 AA-/A-1 | A-/F-1 AA-/F-1 | - | - | Cannot exceed 10% of issuer's primary capital. Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities. |
| Collateralized notes and mortgages | ВааЗ | BBB- | BBB- | - | 25% | Not more than 5% of fund assets can be invested in one issue. Not more than 5% of pension fund assets can be invested in any one issuer and af- filiated 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 | ВааЗ | BBB- | BBB- | 10% | - | Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities |
| Global diversified credit investments: Direct bank loans Funds | Baa3 Baa3 | BBB- BBB- | BBB- BBB- | 10% _ | - | Not more than 7% of pension fund assets can be invested in this category. Not more than 5% of pen- sion 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. |

| | Mini | mum ratin | g ⁽¹⁾ | Limitation of | | |
|---|---------|-----------|------------------|---------------------------------------|---------------------|---|
| Category | Moody's | S&P | Fitch | issuer's outstanding debt/stock | Limitation of issue | Other limitations |
| 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 | | | | | | Not more than 10% of pension fund |
| Pass-through securities | А3 | A- | A- | _ | - | assets can be invested in mortgage backed securities. |
| Senior debt securities | _ | - | _ | _ | 25% | |
| Non-convertible preferred stocks | Ваа3 | BBB- | BBB- | 10% | 25% | Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities |
| Repurchase agreements: | | | | | | |
| Bank or trust company | _ | - | _ | _ | _ | - |
| Broker | P-1 | A-1 | F-1 | _ | - | - |
| State, municipal, and public Authority obligations | АЗ | A- | A- | 10% | 10% | Not more than 2% of pension fund assets can be invested in debt of any one obligor. |
| Swap transactions | Ваа2 | ВВВ | ВВВ | - | - | 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. |

⁽¹⁾ Short-term ratings (e.g. P-1, A-1, F-1) are used for commercial paper and certificates of deposit.

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, global diversified credit investments, non-convertible preferred stock, and mortgage-backed pass-through securities that do not meet the minimum credit rating requirements set forth above.

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 fair 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 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-thecounter market. For SACT, not more than 10% of the fair 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, 2016, 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 Standard & Poor's ratings for fixed income securities not rated by Moody's (in thousands).

| | Moody's rating | | | | | | | | | |
|-------------------------------------|----------------|-----------|-----------|-----------|---------|---------|---------|-------|-----|------------|
| | Aaa | Aa | A | Baa | Ba | В | Caa | Ca | C | Total |
| Corporate obligations | \$353,574 | 349,030 | 713,305 | 1,260,037 | 518,111 | 669,135 | 356,648 | 4,420 | 21 | 4,224,281 |
| Foreign government obligations | 410,676 | 1,707,446 | 56,170 | _ | _ | - | _ | _ | - | 2,174,292 |
| United States Treasury TIPS | 1,480,562 | - | - | - | - | - | _ | - | _ | 1,480,562 |
| United States Treasury bonds | 725,424 | _ | - | - | - | - | _ | - | _ | 725,424 |
| Federal agency obligations | 463,814 | - | 121,325 | _ | - | - | _ | _ | - | 585,139 |
| International corporate obligations | 16,121 | 100,335 | 125,423 | 65,142 | 100,363 | 68,764 | 27,641 | 2,058 | - | 505,847 |
| Mortgages (FHLMC/FNMA/GNMA) | 24,680 | - | _ | _ | _ | _ | _ | _ | _ | 24,680 |
| SBA pass through certificates | 12,424 | - | - | - | _ | - | - | - | _ | 12,424 |
| Bank loans | _ | - | - | 857 | 1,848 | 4,231 | 3,305 | - | 130 | 10,371 |
| Asset Backed Securities | 4,134 | - | _ | _ | _ | _ | _ | _ | - | 4,134 |
| Other | 14,543 | 197,477 | 86,391 | - | _ | _ | _ | _ | _ | 298,411 |
| | \$3,505,952 | 2,354,288 | 1,102,614 | 1,326,036 | 620,322 | 742,130 | 387,594 | 6,478 | 151 | 10,045,565 |

| | | Standard and Poor's rating | | | | | | | | |
|-------------------------------------|----|----------------------------|-------|--------|---------|--------|---------|--------|-------|---------|
| | A | AA | AA | A | ВВВ | ВВ | В | ccc | D | Totals |
| Corporate obligations | \$ | _ | - | - | 231,491 | 11,168 | 12,437 | 1,701 | 815 | 257,612 |
| Foreign government obligations | | _ | - | 40,459 | _ | _ | _ | _ | _ | 40,459 |
| International corporate obligations | | _ | _ | _ | _ | 15,328 | 8,622 | 1,271 | 320 | 25,541 |
| Municipal obligations | | _ | 8,043 | 18,186 | _ | 1,409 | 133,434 | 11,861 | _ | 172,573 |
| | \$ | _ | 8,043 | 58,645 | 231,491 | 27,545 | 154,493 | 14,833 | 1,135 | 496,185 |

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 \$398,010,022, and do not have a Moody's or Standard & Poor's rating. The above tables also do not include investment in the Cash Management Fund totaling \$5,045,823,955, 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, 2016 (in thousands).

| | Maturities in years | | | | | |
|-------------------------------------|---------------------|-----------|-----------|-----------------|---------------------|--|
| Fixed income investment type | Less than 1 | 1-5 | 6—10 | More than 10 | Total fair value | |
| Corporate obligations | \$174,165 | 1,494,698 | 1,888,756 | 926,519 | 4,484,138 | |
| Foreign government obligations | 124,122 | 806,628 | 1,060,797 | 223,204 | 2,214,751 | |
| United States Treasury TIPS | _ | 554,850 | 849,757 | 75,955 | 1,480,562 | |
| United States Treasury bonds | 50,003 | 206,070 | 469,351 | _ | 725,424 | |
| Federal agency obligations | 10,311 | 276,044 | 298,784 | _ | 585,139 | |
| International corporate obligations | 37,647 | 283,905 | 160,381 | 49,459 | 531,392 | |
| Mortgages (FHLMC/FNMA/GNMA) | _ | _ | 3,147 | 21,533 | 24,680 | |
| SBA pass through certificates | 171 | 12,253 | _ | _ | 12,424 | |
| Bank loans | 858 | 4,626 | 5,738 | _ | 11,222 | |
| Asset backed securities | _ | 2,065 | _ | 2,069 | 4,134 | |
| Municipal obligations | _ | 26,173 | 12,285 | 286,182 | 324,640 | |
| | \$397,277 | 3,667,312 | 4,748,996 | 1,584,921 | 10,398,506 | |

The fixed income exchange traded funds held by the Common Pension Funds and the fixed income mutual funds held by NJSEDCP as of June 30, 2016, were \$146,343,995 and \$394,909,679, respectively. These funds have a weighted average duration of 4.12 and 5.37 years, respectively.

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, 2016 (expressed in U.S. dollars):

| Currency | Equities | Fixed Income | Alternative investments | Total fair value |
|-----------------------|-------------------|-----------------|-------------------------|---------------------|
| Australian dollar | \$ 546,303,934 | _ | _ | 546,303,934 |
| Brazilian real | 227,180,838 | _ | _ | 227,180,838 |
| Canadian dollar | 720,795,945 | 80,538,269 | _ | 801,334,214 |
| Chilean peso | 16,103,184 | _ | _ | 16,103,184 |
| Columbian peso | _ | 1,149,428 | _ | 1,149,428 |
| Czech koruna | 26,503,605 | _ | _ | 26,503,605 |
| Danish krone | 158,035,915 | _ | _ | 158,035,915 |
| Egyptian pound | 277 | _ | _ | 277 |
| Euro | 2,092,234,927 | _ | 596,965,223 | 2,689,200,150 |
| Hong Kong dollar | 734,338,183 | _ | _ | 734,338,183 |
| Hungarian forint | 28,225,188 | _ | _ | 28,225,188 |
| Indonesian rupiah | 114,823,882 | _ | _ | 114,823,882 |
| Japanese yen | 1,783,500,154 | _ | _ | 1,783,500,154 |
| Malaysian ringgit | 31,795,988 | _ | _ | 31,795,988 |
| Mexican peso | 108,913,863 | _ | _ | 108,913,863 |
| Morocacan dirham | 1,438,729 | _ | _ | 1,438,729 |
| New Israeli sheqel | 4,692,313 | _ | _ | 4,692,313 |
| New Taiwan dollar | 20,256,942 | _ | _ | 20,256,942 |
| New Zealand dollar | 198,670 | _ | _ | 198,670 |
| Norwegian krone | 58,435,767 | _ | _ | 58,435,767 |
| Pakistan rupee | 27,184,693 | _ | _ | 27,184,693 |
| Philippine peso | 68,402,405 | _ | _ | 68,402,405 |
| Polish zloty | 47,114,109 | _ | _ | 47,114,109 |
| Pound sterling (U.K.) | 1,435,852,288 | _ | 230,824,687 | 1,666,676,975 |
| Qatari rial | 5,277,360 | _ | _ | 5,277,360 |
| Singapore dollar | 88,554,023 | _ | _ | 88,554,023 |
| South African rand | 202,477,537 | _ | _ | 202,477,537 |
| South Korean won | 434,741,594 | _ | _ | 434,741,594 |
| Swedish krona | 215,620,886 | _ | _ | 215,620,886 |
| Swiss franc | 743,690,690 | _ | _ | 743,690,690 |
| Thailand baht | 72,560,967 | _ | _ | 72,560,967 |
| Turkish lira | 85,091,102 | _ | _ | 85,091,102 |
| Uae dirham | 11,938,409 | _ | _ | 11,938,409 |
| | \$ 10,112,284,367 | 81,687,697 | 827,789,910 | 11,021,761,974 |

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 fair 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%).

Not more than 5% of the fair 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. These investments cannot comprise more than 20% of any one investment managers' total assets.

As of June 30, 2016, the net position of Common Pension Fund E includes receivables of \$478 million related to the secondary sale of real estate funds and redemption of hedge funds.

(5) 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 Pension Funds have rights to the collateral received. All of the publicly traded securities held in Common Pension Funds, and certain securities held directly by the pension plans, are eligible for the securities lending program. Collateral received may consist of cash, letters of credit, or government securities 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, 2016, 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 contracts with the Common Pension Funds' securities lending agent require 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.

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, 2016 (in thousands).

| | Rating | | | | |
|----------------------------|---------------|-----------|-----------|--|--|
| | Aaa/AAA | Not rated | Totals | | |
| Repurchase agreements | \$ 821,000 | _ | 821,000 | | |
| State Street institutional | | | | | |
| liquid reserves fund | _ | 401,016 | 401,016 | | |
| Cash overdraft | _ | 74,902 | 74,902 | | |
| | \$ 821,000 | 475,918 | 1,296,918 | | |

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 the Pension Funds' name.

As of June 30, 2016, the Pension Funds had outstanding loaned investment securities with an aggregate fair value of \$1,272,910,574 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.

(6) Derivatives

The pension funds (JRS, SPRS, TPAF, PFRS, and PERS) 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 net increase 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 future 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 of a specified price (futures or strike price) and date, or be settled in cash. Future contracts must be traded on a securities exchange or over the counter market. The net change in the future 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. The Common Pension Funds had no investments in futures at June 30, 2016.

Foreign currency forward contracts are used as a means to hedge against currency risks in the Common Pension Fund. 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 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 it writes (or sells) call options on underlying stocks held by the Common Pension Funds or stock indices. The Common Pension Funds enter into covered put options when it purchases put options on underlying stocks held by the Common Pension Funds or stock indices. The Common Pension Fund enters into put spreads when it purchases 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, 2016, Common Pension Fund's derivative investments included foreign currency forward contracts and equity options:

| | Notional value (local currency) | Receivable | Payable | Change in fair value |
|-------------------------------------|---------------------------------|-------------------|-------------|----------------------|
| Foreign currency forward contracts: | | | | |
| Sell: | | | | |
| Euro | 425,000,000 | \$ 476,107,500 | 474,399,459 | 1,708,041 |
| Japanese yen | 1,500,000,000 | 132,128,904 | 146,349,617 | (14,220,713) |
| Pound sterling | 50,000,000 | 68,650,000 | 66,884,935 | 1,765,065 |
| Total Forward contracts | | \$ 676,886,404 | 687,634,011 | (10,747,607) |

| | No | tional value | Fair value | Change in fair value | |
|--------------------|------|--------------|-------------|----------------------|--|
| Options: | | | | | |
| Purchased Options: | | | | | |
| Put | \$ 1 | 04,943,000 | 668,750 | (1,391,250) | |
| Written Options: | | | | | |
| Put | 1 | 04,943,000 | (135,000) | 810,000 | |
| Call | 2 | 90,357,010 | (2,871,381) | (286,311) | |
| Total Options | \$ 5 | 00,243,010 | (2,337,631) | (867,561) | |

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.

(7) 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.

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.
- Options 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.
- . Distributions from private equity 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, 2016, 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.
- The valuation methods for investments measured at the NAV per share (or its equivalent) is presented in the table below.

The following table summarizes the fair value hierarchy of the investment portfolio as of June 30, 2016 (in thousands):

| | Total | Level 1 | Level 2 |
|---------------------------------------|---------------|------------|------------|
| Investments by fair value | | | |
| Equity securities | | | |
| Domestic equities | \$ 20,837,337 | 20,837,337 | _ |
| International equities | 12,174,418 | 12,172,573 | 1,845 |
| Equity mutual funds | 2,687,843 | 2,687,843 | <u> </u> |
| Total equity securities | 35,699,598 | 35,697,753 | 1,845 |
| Debt securities | | | |
| Corporate obligations | 4,484,138 | _ | 4,484,138 |
| Foreign government obligations | 2,214,751 | _ | 2,214,751 |
| United States Treasury Tips | 1,480,562 | _ | 1,480,562 |
| United States Treasury bonds | 725,424 | _ | 725,424 |
| Federal agency obligations | 585,139 | _ | 585,139 |
| International corporate obligations | 531,392 | _ | 531,392 |
| Municipals obligations | 324,640 | _ | 324,640 |
| Exchanged Traded Funds | 541,254 | 541,254 | _ |
| Mortgages (FHLMC/FNMA/GNMA) | 24,680 | _ | 24,680 |
| SBA pass through certificates | 12,424 | _ | 12,424 |
| Bank loans | 11,222 | _ | 11,222 |
| Asset backed securities | 4,134 | | 4,134 |
| Total debt securities | 10,939,760 | 541,254 | 10,398,506 |
| Total investments by fair value level | 46,639,358 | 36,239,007 | 10,400,351 |

| | Total | Level 1 | Level 2 |
|---|---------------|---------|-----------|
| Investments measured at the net asset value (NAV) | | | |
| Buyout funds | 6,105,418 | | |
| Opportunistic hedge funds | 3,802,287 | | |
| Real estate funds - Equity | 2,894,980 | | |
| Credit oriented hedge funds | 2,591,759 | | |
| Global diversified credit funds | 2,589,107 | | |
| Equity oriented hedge funds | 1,791,385 | | |
| Real asset funds | 1,728,010 | | |
| Debt related funds | 708,447 | | |
| Venture capital funds | 476,596 | | |
| Real estate funds - Debt | 473,184 | | |
| Multi-strategy hedge funds | 365,950 | | |
| Opportunistic private equity funds | 335,360 | | |
| Secondary private equity funds | 92,513 | | |
| Total investments measured at NAV | 23,954,996 | | |
| Local Government Investment Pool | | | |
| Cash Management Fund | 5,045,824 | | |
| Total investments measured at fair value | \$ 75,640,178 | | |
| Investments derivative instruments | | | |
| Put options (assets) | \$ 669 | 669 | _ |
| Foreign currency forward contracts (assets) | 687,634 | _ | 687,634 |
| Foreign currency forward contracts (liabilities) | (676,886) | _ | (676,886) |
| Options written (liabilities) | (3,006) | (3,006) | |
| Total investment derivative intruments | \$ 8,411 | (2,337) | 10,748 |

The following table represents the unfunded commitments, redemptions frequency and redemption notice period for investments measured at NAV as of June 30, 2016 (in thousands).

| | Fair Value | Unfunded Commitments | Redemption Frequency (if currently Eligible) | Redemption Notice Period |
|--|------------------|-------------------------|---|-----------------------------|
| Buyout private equity funds ⁽¹³⁾ | \$ 6,105,418 | 2,744,139 | None | N/A |
| Opportunistic hedge funds ⁽³⁾ | 3,802,287 | 58,741 | Monthly, quarterly | 2-90 days |
| Real estate funds -Equity ⁽⁶⁾ | 2,894,980 | 1,989,567 | Quarterly | 90 days |
| Global diversified credit funds ⁽⁵⁾ | 2,591,759 | 1,398,438 | Semi-annual | 90 days |
| Credit oriented hedge funds ⁽¹⁾ | 2,589,107 | 180,198 | Monthly, quarterly, semi-annual, annually | 45-60 days |
| Equity oriented hedge funds ⁽²⁾ | 1,791,385 | 496,525 | Quarterly, semi-annual, annually | 45-92 days |
| Real asset funds ⁽⁸⁾ | 1,728,010 | 1,255,885 | Daily, monthly | 1-30 days |
| Debt related private equity funds ⁽¹⁰⁾ | 708,447 | 822,376 | None | N/A |
| Venture capital private equity funds ⁽¹¹⁾ | 476,596 | 101,879 | None | N/A |
| Real estate funds-Debt ⁽⁷⁾ | 473,184 | 472,856 | Quarterly | 90 days |
| Multi-strategy hedge funds ⁽⁴⁾ | 365,950 | _ | Quarterly | None |
| Opportunistic private equity funds ⁽⁹⁾ | 335,360 | 307,696 | None | N/A |
| Secondary private equity funds ⁽¹²⁾ | 92,513 | 28,756 | None | N/A |
| Total investment measured at the NAV | \$ 23,954,996 | 9,857,056 | | |

Credit oriented hedge funds includes investments in 13 hedge fund and separate account strategies that includes 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. These securities are often illiquid. Investments representing approximately 42% of the value of the investments cannot be redeemed because the investment includes restrictions that do not allow for redemptions. As of June 30, 2016, these remaining redemption restriction periods range from 3 to 30 months. Three investments valued at \$527 million at June 30, 2016, have a 25% investor-level gate restriction. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.

- 2. Equity oriented hedge funds includes investments in 16 hedge fund and separate account strategies that includes 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. Investments representing approximately 31% of the value of the investments cannot be redeemed because the investment includes restrictions that do not allow for redemptions. As of June 30, 2016, these remaining redemption restriction periods range from 9 to 24 months. One investment valued at \$108 million at June 30, 2016 has a 25% investor-level gate restriction. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- Opportunistic hedge funds includes investments in 9 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 16% of the value of the investments in this type cannot be redeemed because the investments include restrictions. As of June 30, 2016, this remaining redemption restriction period is 18 months. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- Multi-strategy hedge funds includes investments in 5 hedge funds that pursue multiple strategies to diversify risks and reduce volatility. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments.
- Global diversified credit funds includes investments in 14 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. Investments representing approximately 82% of the value of the investments in this type cannot be redeemed because the investments include restrictions. As of June 30, 2016, these remaining redemption restriction periods range from 9 to 40 months. Investments representing approximately 4% can never be redeemed. Distributions from each investment will be received as the underlying investments of the funds and separate accounts are liquidated. It is expected that the underlying assets will be liquidated over the next 3 to 8 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 6. Real estate funds Equity includes investments in 40 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 73% of real estate equity investments can never be redeemed. 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 2 to 10 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 7. Real estate funds Debt includes investments in 6 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 representing approximately 58% of real estate debt investments can never be redeemed. 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 5 to 8 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 8. Real asset funds includes investments in 19 fund or separate account strategies, which invests 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. Investments representing approximately 80% can never be redeemed. 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 3 to 12 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.

- 9. Opportunistic private equity funds includes investments in 3 funds and separate accounts which acquire minority equity interests in investment management companies. Investments representing approximately 76% of the value of the investments have a perpetual term and cannot be redeemed. Investments representing approximately 24% of the value of the investments can be redeemed after 9 years or December 2025. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 10. Debt related private equity funds includes investments in 24 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 purchasing equity 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. 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 12 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 11. Venture capital private equity funds includes investments in 6 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 2 to 12 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 12. Secondary private equity funds includes investments in 6 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 3 to 10 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.
- 13. Buyout private equity funds includes investments in 68 partnership 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. It is expected that the underlying assets will be liquidated over the next 1 to 12 years. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the investment.

(8) Local Employer's Contributions under Chapter 19, P.L. 2009

As discussed in Note 1, in the fiscal year ended June 30, 2009, the State passed Chapter 19, P.L. 2009, 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, 2016, the remaining receivable balances related to Chapter 19, P.L. 2009, were \$129.3 million and \$43.9 million for PFRS and PERS, respectively.

(9) OPEB Plans Funded Status

The following represents the funded status of each of the State Health Benefit Plans as of the most recent actuarial valuation date of July 1, 2015.

| | SHBP — State | SHBP — Local | SHBP — Education |
|--|---------------------|----------------|------------------|
| Actuarial value of assets | \$ _ | _ | _ |
| Actuarial accrued liability | 25,937,400,000 | 16,800,900,000 | 41,565,900,000 |
| Unfunded (overfunded) actuarial accrued liability | 25,937,400,000 | 16,800,900,000 | 41,565,900,000 |
| Funded ratio | _ | _ | _ |
| Covered payroll | \$ 7,660,189,014 | 2,945,900,000 | 12,277,410,986 |
| Unfunded (overfunded) actuarial accrued liability as a percentage of covered payroll | 338.60% | 570.30% | 338.60% |

Actuarial Assumptions

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future, and these amounts and assumptions are subject to continual revision as actual results are compared to past expectations. Calculations are based on the benefits provided under the terms of the plan in effect and the pattern of cost sharing between employees and the employer. Actuarial calculations reflect a long-term perspective and employ methods and assumptions that are designed to reduce shortterm volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. A summary of the significant actuarial methods and assumptions used by SHBP - State, SHBP - Local, and SHBP - Education as of the most recent actuarial date of July 1, 2015, are as follows:

| | SHBP — State | SHBP — Local | SHBP — Education |
|-------------------------------|---------------------------------|--------------------------------|--------------------------------|
| Actuarial cost method | Projected unit credit | Projected unit credit | Projected unit credit |
| Amortization method | Level dollar, open | Level dollar, open | Level dollar, open |
| Remaining amortization period | 30 years | 30 years | 30 years |
| Actuarial assumptions: | | | |
| Interest rate | 4.50 % (assuming no prefunding) | 4.50% (assuming no prefunding) | 4.50% (assuming no prefunding) |
| Salary range | N/A | N/A | N/A |
| Cost-of-living adjustments | N/A | N/A | N/A |

For pre-Medicare PPO medical benefits, this amount initially is 6.0% and decreases to a 5.0% long-term trend rate after ten years. For post-65 PPO medical benefits, the trend rate is 4.5%. For HMO medical benefits, the trend rate is initially 6.0% and decreases to a 5.0% long-term trend rate after nine years. For prescription drug benefits, the initial trend rate is 11.0% decreased to a 5.0% long-term trend rate after nine years. For the Medicare Part B reimbursement, the trend rate is 5.0%. This reflects the known underlying cost of the Part B premium.

Refer to Schedules 4 and 5 for multi-year required supplementary information related to these OPEB plans.

(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 (\$60,940,480); SPRS (\$197,482,820); TPAF (\$11,783,696,363); PFRS (\$3,614,531,970); PERS (\$13,970,809,778)

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 (\$-86,829,409); SPRS (\$709,287,553); TPAF (\$-25,939,180,994); PERS (\$-16,946,584,348)

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.

Retirement Reserve - JRS (\$205,888,749); SPRS (\$788,191,739); TPAF (\$36,873,347,598); PFRS (\$23,813,371,687); PERS (\$29,484,467,092)

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 (7.65% for State fiscal year 2016) is credited to the Retirement Reserve.

Retirement Reserve - POPF (\$6,111,233)

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 (\$27,544,768); PERS – Local (\$62,147,069)

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 a zero balance as these premium expenses are funded on a monthly basis.

Pension Accumulation Reserve – PFRS (\$-3,470,721,761)

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 (\$1,894,928)

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

Alternate Benefit - Long-Term Disability Reserve (\$1,874,778)

The reserve balance of the ABPLTD (NJSA: 18A:66-177) is available for future payments to participants.

Benefit Enhancement Reserve - PERS - Local (\$191,231,019)

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 Chapter 353, P.L. 2001 and Chapter 133, P.L. 2001 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 - State (\$-244,611,401)

The State uses this fund (N.J.S.A.: SHBP 52:14-17.42) to cover claims payments.

SHBP Reserve Fund - Local (\$266,900,433)

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.

SHBP Reserve Fund - Education (\$72,834,902)

The net position of SHBP - Education (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.

Various reserve balances as of June 30, 2016, are as follows:

| | Pension Reserves | Other Postemployment Benefit Plan Reserves |
|---|----------------------|--|
| Members' Annuity Savings Reserve and Accumulated | | |
| Interest Reserve | \$ 29,627,461,411 | _ |
| Contingent Reserve | (42,263,307,198) | _ |
| Retirement Reserve | 91,171,378,098 | _ |
| Non-Contributory Group Insurance Premium Reserve | 89,691,837 | _ |
| Pension Accumulation Reserve | (3,470,721,761) | _ |
| Pension Reserve | 1,894,928 | _ |
| Alternate Benefit — Long-Term Disability Reserve | 1,874,778 | _ |
| SHBP Reserve | _ | 95,123,934 |
| Benefit Enhancement Reserve | 191,231,019 | _ |
| Variable Accumulation Reserve (<u>N.J.S.A.</u> : DCRP (43:15C-1), NJSEDCP (52:18A-164), SACT (52:18A-109)) | 3,747,884,092 | _ |
| Variable Benefits Reserve (N.J.S.A: SACT 52:18A-109) | 36,018,098 | |
| Total | \$ 79,133,405,302 | 95,123,934 |

(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.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios — Defined Benefit Pension Plans — Judicial Retirement System (Unaudited) June 30, 2016

| | | 2016 | 2015 | 2014 |
|--|--------|--------------|--------------|--------------|
| Total pension liability: | | | | |
| Service cost | \$ | 33,333,864 | 30,702,986 | 32,123,341 |
| Interest on total pension liability | | 36,471,524 | 41,473,055 | 40,332,123 |
| Effect of economic/demographic (gains) or losses | | 254,822 | (1,733,197) | _ |
| Effect of assumptions changes or inputs | | 85,677,552 | (41,873,530) | 26,907,821 |
| Transfers from other systems | | 726,284 | 2,081,523 | _ |
| Benefit payments | | (54,686,521) | (52,430,016) | (49,604,080) |
| Net change in total pension liability | | 101,777,525 | (21,779,179) | 49,759,205 |
| Total pension liability-beginning | | 878,964,581 | 900,743,760 | 850,984,555 |
| Total pension liability-ending (a) | \$ | 980,742,106 | 878,964,581 | 900,743,760 |
| Plan fiduciary net pension: | | | | |
| Contributions-employer | \$ | 14,794,774 | 17,031,026 | 15,874,857 |
| Contributions-employee | | 9,271,869 | 6,310,124 | 5,096,577 |
| Net investment (loss) income | | (2,721,949) | 8,475,641 | 34,448,036 |
| Transfers from other systems | | 726,284 | 2,081,523 | _ |
| Benefit payments, including refunds of employee contribut | ions | (54,686,521) | (52,430,016) | (49,604,080) |
| Administrative expense | | (168,008) | (168,762) | (162,372) |
| Net change in Plan fiduciary net position | | (32,783,551) | (18,700,464) | 5,653,018 |
| Plan fiduciary net position-beginning | | 212,783,371 | 231,483,835 | 225,830,817 |
| Plan fiduciary net position-ending (b) | | 179,999,820 | 212,783,371 | 231,483,835 |
| Plan's net pension liability-ending (a)-(b) | \$ | 800,742,286 | 666,181,210 | 669,259,925 |
| Plan fiduciary net position as a percentage of the total pension lia | bility | 18.35% | 24.21% | 25.70% |
| Covered-employee payroll | \$ | 67,097,166 | 66,028,491 | 67,810,110 |
| Net pension liability as a percentage of covered-employee payroll | | 1193.41% | 1008.93% | 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:

For 2016, the discount rate changed to 3.11% and the long-term expected rate of return changed to 7.65%. Further, salary increases were assumed to increase 2.00% through fiscal year 2025 and 3.00% for each fiscal year thereafter. For 2015, the discount rate changed to 4.12% and the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2011 - June 30, 2014 experience study. For 2014, the discount rate was 4.58%.

Adjustments to June 30, 2015 reported Amounts:

The categories composing the changes in total pension liability were changed from previously reported amounts in the Division's 2015 CAFR to reflect updated mortality assumptions based on a recent actuarial experience study that was released between the date of the Division's 2015 CAFR and the JRS Schedule of Pension Amounts.

FINANCIAL INFORMATION

Required Supplementary Information

SCHEDULE 1

Schedule of Changes in Net Pension Liability and Related Ratios — Defined Benefit Pension Plans — Prison Officers' Pension Fund (Unaudited) June 30, 2016

| | | 2016 | 2015 | 2014 |
|--|----|-------------|-------------|-------------|
| otal pension liability: | | | | |
| Service cost | \$ | _ | _ | _ |
| Interest on total pension liability | | 251,254 | 331,362 | 401,659 |
| Effect of economic/demographic (gains) or losses | | 96,657 | (296,620) | _ |
| Effect of assumptions changes or inputs | | 1,171,953 | 163,490 | 129,449 |
| Transfers from other systems | | _ | _ | _ |
| Benefit payments | | (1,240,307) | (1,377,505) | (1,583,408) |
| Net change in total pension liability | | 279,557 | (1,179,273) | (1,052,300) |
| Total pension liability-beginning | | 7,226,313 | 8,405,586 | 9,457,886 |
| Total pension liability-ending (a) | \$ | 7,505,870 | 7,226,313 | 8,405,586 |
| Plan fiduciary net pension: | | | | |
| Contributions-employer | \$ | 634,217 | 698,360 | 793,174 |
| Net investment income | | 18,067 | 6,355 | 7,368 |
| Benefit payments, including refunds of employee contribution | s | (1,240,307) | (1,377,505) | (1,583,408) |
| Administrative expense | | (5,312) | (5,843) | (5,853) |
| Net change in Plan fiduciary net position | | (593,335) | (678,633) | (788,719) |
| Plan fiduciary net position-beginning | | 6,704,568 | 7,383,201 | 8,171,920 |
| Plan fiduciary net position-ending (b) | | 6,111,233 | 6,704,568 | 7,383,201 |
| Plan's net pension liability-ending (a)-(b) | \$ | 1,394,637 | 521,745 | 1,022,385 |
| Plan fiduciary net position as a percentage of the total pension liabili | ty | 81.42% | 92.78% | 87.84% |
| Covered-employee payroll | | N/A | N/A | N/A |
| let pension liability as a percentage of covered-employee payroll | | 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:

Changes in assumptions:

For 2016, the discount rate changed to 2.85%. Further, 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. For 2015, the discount rate changed to 3.80%. For 2014, the discount rate was 4.29%.

None

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios — Defined Benefit Pension Plans — State Police Retirement System (Unaudited) June 30, 2016

| | | 2016 | 2015 | 2014 |
|--|------|---------------|---------------|---------------|
| Total pension liability: | | | | |
| Service cost | \$ | 113,546,510 | 93,740,921 | 93,623,020 |
| Interest on total pension liability | | 221,675,495 | 216,980,562 | 209,010,706 |
| Effect of economic/demographic (gains) or losses | | (17,580,385) | 35,245,543 | _ |
| Effect of assumptions changes or inputs | | 747,941,075 | 435,691,094 | 92,686,900 |
| Transfers from other systems | | 54,000 | 222,557 | _ |
| Benefit payments | | (213,436,150) | (206,493,624) | (197,958,938) |
| Net change in total pension liability | | 852,200,545 | 575,387,053 | 197,361,688 |
| Total pension liability-beginning | | 4,821,505,776 | 4,246,118,723 | 4,048,757,035 |
| Total pension liability-ending (a) | \$ | 5,673,706,321 | 4,821,505,776 | 4,246,118,723 |
| Plan fiduciary net pension: | | | | |
| Contributions-employer | \$ | 37,435,541 | 38,527,297 | 36,436,923 |
| Contributions-employee | | 22,818,295 | 22,315,431 | 24,034,496 |
| Net investment (loss) income | | (19,284,054) | 75,532,779 | 287,098,217 |
| Transfers from other systems | | 54,000 | 222,557 | _ |
| Benefit payments, including refunds of employee contribution | ns | (213,436,150) | (206,493,624) | (197,958,938) |
| Administrative expense | | (334,630) | (351,724) | (280,026) |
| Net change in Plan fiduciary net position | | (172,746,998) | (70,247,284) | 149,330,672 |
| Plan fiduciary net position-beginning | | 1,867,709,110 | 1,937,956,394 | 1,788,625,722 |
| Plan fiduciary net position-ending (b) | | 1,694,962,112 | 1,867,709,110 | 1,937,956,394 |
| Plan's net pension liability-ending (a)-(b) | \$ | 3,978,744,209 | 2,953,796,666 | 2,308,162,329 |
| Plan fiduciary net position as a percentage of the total pension liabi | lity | 29.87% | 38.74% | 45.64% |
| Covered-employee payroll | \$ | 275,477,457 | 262,496,289 | 262,063,829 |
| Net pension liability as a percentage of covered-employee payroll | | 1444.31% | 1125.27% | 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:

For 2016 the discount rate changed to 3.55% and the long-term expected rate of return changed to 7.65%. Further, salary increases were assumed to increase 2.95% through fiscal year 2025 and 3.95% for each fiscal year thereafter. For 2015, the discount rate changed to 4.59% and the demographic assumptions were revised to reflect those recommended on the basis of July 1, 2011 - June 30, 2014 experience study. In addition, the social security wage base was set at \$118,500 for 2015, increasing 4.00% per annum, compounded annually and the 401(a)(17) pay limit was set at \$265,000 for 2015, increasing 3.00% per annum, compounded annually. For 2014, the discount rate was 5.12%.

Adjustments to June 30, 2015 reported amounts:

The categories composing the changes in total pension liability were changed from previously reported amounts in the Division's 2015 CAFR to reflect updated mortality assumptions based on a recent actuarial experience study that was released between the date of the Division's 2015 CAFR and the SPRS Schedule of Pension Amounts.

See accompanying independent auditors' report.

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FINANCIAL INFORMATION

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, 2016**

| | 2016 | 2015 | 2014 |
|--|-------------|-------------|-------------|
| Total pension liability: | | | |
| Service cost \$ | _ | _ | _ |
| Interest on total pension liability | 352,889 | 504,066 | 632,080 |
| Effect of economic/demographic (gains) or losses | (71,313) | (993,528) | _ |
| Effect of assumptions changes or inputs | 1,273,909 | 193,719 | 163,528 |
| Benefit payments | (1,881,252) | (2,445,627) | (2,942,035) |
| Net change in total pension liability | (325,767) | (2,741,370) | (2,146,427) |
| Total pension liability-beginning | 10,218,402 | 12,959,772 | 15,106,199 |
| Total pension liability-ending (a) \$ | 9,892,635 | 10,218,402 | 12,959,772 |
| Plan fiduciary net pension: | | | |
| Contributions-employer \$ | 1,344,017 | 1,577,751 | 1,900,831 |
| Net investment income | 10,856 | 198 | 585 |
| Benefit payments, including refunds of employee contributions | (1,881,252) | (2,445,627) | (2,942,035) |
| Administrative expense | (6,643) | (8,003) | (9,566) |
| Net change in Plan fiduciary net position | (533,022) | (875,681) | (1,050,185) |
| Plan fiduciary net position-beginning | 2,427,950 | 3,303,631 | 4,353,816 |
| Plan fiduciary net position-ending (b) | 1,894,928 | 2,427,950 | 3,303,631 |
| Plan's net pension liability-ending (a)-(b) \$ | 7,997,707 | 7,790,452 | 9,656,141 |
| Plan fiduciary net position as a percentage of the total pension liability | 19.15% | 23.76% | 25.49% |
| Covered-employee payroll | N/A | N/A | N/A |
| Net pension liability as a percentage of covered-employee payroll | 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:

For 2016 the discount rate changed to 2.85%. Further, 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. For 2015, the discount rate changed to 3.80%. For 2014, the discount rate was 4.29%

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, 2016**

| | | 2016 | 2015 | 2014 |
|--|----------------|-----------------|-----------------|-----------------|
| Total pension liability: | | | | |
| Service cost | \$ | 2,344,321,810 | 2,022,411,197 | 1,870,901,832 |
| Interest on total pension liability | | 3,694,844,118 | 3,797,032,970 | 3,794,362,523 |
| Effect of economic/demographic (gains) or losses | | (134,644,168) | 365,228,279 | (24,898,221) |
| Effect of assumptions changes or inputs | | 10,827,093,000 | 5,913,556,000 | 2,614,173,709 |
| Transfers from other systems | | 1,564,002 | 4,117,141 | _ |
| Benefit payments | | (4,169,070,762) | (4,015,003,587) | (3,837,859,513) |
| Net change in total pension liability | | 12,564,108,000 | 8,087,342,000 | 4,416,680,330 |
| Total pension liability-beginning | | 89,182,662,000 | 81,095,320,000 | 76,678,639,670 |
| Total pension liability-ending (a) | \$ | 101,746,770,000 | 89,182,662,000 | 81,095,320,000 |
| Plan fiduciary net pension: | | | | |
| Contributions-employer | \$ | 1,105,810 | 807,246 | 4,688,045 |
| Contributions-nonemployer | | 798,963,467 | 539,796,289 | 423,012,101 |
| Contributions-employee | | 761,711,695 | 740,296,265 | 716,183,306 |
| Net investment (loss) income | | (267,684,353) | 1,066,062,926 | 4,100,273,453 |
| Transfers from other systems | | 1,564,002 | 4,117,141 | _ |
| Other | | 243,660 | 358,899 | _ |
| Benefit payments, including refunds of employee c | ontributions | (4,169,070,762) | (4,015,003,587) | (3,837,859,513) |
| Administrative expense | | (13,768,112) | (13,890,080) | (12,170,971) |
| Net change in Plan fiduciary net position | | (2,886,934,593) | (1,677,454,901) | 1,394,126,421 |
| Plan fiduciary net position-beginning | | 25,604,797,560 | 27,282,252,461 | 25,888,126,040 |
| Plan fiduciary net position-ending (b) | | 22,717,862,967 | 25,604,797,560 | 27,282,252,461 |
| Plan's net pension liability-ending (a)-(b) | \$ | 79,028,907,033 | 63,577,864,440 | 53,813,067,539 |
| Plan fiduciary net position as a percentage of the total per | sion liability | 22.33% | 28.71% | 33.64% |
| Covered-employee payroll | \$ | 10,305,472,484 | 10,162,263,470 | 10,038,792,896 |
| Net pension liability as a percentage of covered-employee | payroll | 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:

None

Changes in assumptions:

For 2016 the discount rate changed to 3.22% and the long-term expected rate of return changed to 7.65%. Further, the demographic assumptions were revised to reflect those recommended on the basis of July 1, 2012 - June 30, 2015 experience study. For 2015, the discount changed to 4.13%. For 2014 the discount rate was 4.68%.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios — Defined Benefit Pension Plans — Police and Firemen's Retirement System (Unaudited) **June 30, 2016**

| | | 2016 | 2015 | 2014 |
|--|----|-----------------|-----------------|-----------------|
| Total pension liability: | | | | |
| Service cost | \$ | 1,148,613,712 | 994,248,683 | 1,079,166,175 |
| Interest on total pension liability | | 2,751,445,220 | 2,680,664,300 | 2,535,619,539 |
| Effect of economic/demographic (gains) or losses | | (34,916,637) | (215,122,438) | _ |
| Effect of assumptions changes or inputs | | 343,078,737 | 3,755,474,472 | 649,814,155 |
| Transfers from other systems | | 358,929 | 800,782 | _ |
| Benefit payments | | (2,324,175,953) | (2,205,464,297) | (2,105,829,011) |
| Net change in total pension liability | | 1,884,404,008 | 5,010,601,502 | 2,158,770,858 |
| Total pension liability-beginning | | 47,517,765,905 | 42,507,164,403 | 40,348,393,545 |
| Total pension liability-ending (a) | \$ | 49,402,169,913 | 47,517,765,905 | 42,507,164,403 |
| Plan fiduciary net pension: | | | | |
| Contributions-employer | \$ | 900,033,567 | 883,776,917 | 858,047,628 |
| Contributions-nonemployer | | 61,466,000 | 76,038,000 | _ |
| Contributions-employee | | 388,681,408 | 386,991,641 | 385,660,096 |
| Net investment (loss) income | | (150,693,159) | 922,598,676 | 3,381,553,869 |
| Transfers from other systems | | 358,929 | 800,782 | _ |
| Employer specific contributions-additional contribution | | 1,923,531 | 535,424 | _ |
| Employer specific contributions-delayed appropriation | | 763,176 | 865,936 | _ |
| Employer specific contributions-delayed enrollments | | 142,034 | 224,629 | _ |
| Employer specific contributions-retroactive | | 3,661,101 | 24,536,440 | _ |
| Benefit payments, including refunds of employee contribution | ıS | (2,324,175,953) | (2,205,464,297) | (2,105,829,011) |
| Administrative expense | | (4,292,891) | (4,531,012) | (3,884,342) |
| Net change in Plan fiduciary net position | | (1,122,132,257) | 86,373,136 | 2,515,548,240 |
| Plan fiduciary net position-beginning | | 25,106,858,921 | 25,020,485,785 | 22,504,937,545 |
| Plan fiduciary net position-ending (b) | | 23,984,726,664 | 25,106,858,921 | 25,020,485,785 |
| Plan's net pension liability-ending (a)-(b) | \$ | 25,417,443,249 | 22,410,906,984 | 17,486,678,618 |
| Plan fiduciary net position as a percentage of the total pension liability | ty | 48.55% | 52.84% | 58.86% |
| Covered-employee payroll | \$ | 3,695,509,355 | 3,682,677,356 | 3,678,910,266 |
| Net pension liability as a percentage of covered-employee payroll | | 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:

None

Changes in assumptions:

For 2016, the discount rate changed to 5.55%, the long-term expected rate of return changed to 7.65%, and 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, the discount rate changed to 5.79% and demographic assumptions were revised in accordance with the results of the July 1, 2010 - June 30, 2013 experience study. For 2014, the discount rate was 6.32%.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios — Defined Benefit Pension Plans — Public Employees' Retirement System (Unaudited) June 30, 2016

| | 2016 | 2015 | 2014 |
|--|-----------------|-----------------|-----------------|
| Total pension liability: | | | |
| Service cost \$ | 1,628,065,678 | 1,523,631,386 | 1,592,214,831 |
| Interest on total pension liability | 3,653,373,426 | 3,647,688,354 | 3,506,486,225 |
| Effect of economic/demographic (gains) or losses | 600,806,505 | 1,050,795,158 | _ |
| Effect of assumptions changes or inputs | 8,792,817,065 | 4,091,557,460 | 1,222,437,554 |
| Transfers from other systems | 778,753 | 1,651,542 | _ |
| Benefit payments | (3,629,651,915) | (3,441,046,065) | (3,259,290,114) |
| Net change in total pension liability | 11,046,189,512 | 6,874,277,835 | 3,061,848,496 |
| Total pension liability-beginning | 74,723,698,562 | 67,849,420,727 | 64,787,572,231 |
| Total pension liability-ending (a) \$ | 85,769,888,074 | 74,723,698,562 | 67,849,420,727 |
| Plan fiduciary net pension: | | | |
| Contributions-employer \$ | 1,273,425,342 | 1,085,237,214 | 917,689,000 |
| Contributions-employee | 821,305,787 | 805,232,235 | 797,818,225 |
| Net investment (loss) income | (237,215,643) | 1,117,827,113 | 4,102,964,869 |
| Transfers from other systems | 778,753 | 1,651,542 | _ |
| Employer specific contributions-additional contribution | 257,850 | 111,824 | _ |
| Employer specific contributions-delayed appropriation | 1,721,199 | 1,664,415 | _ |
| Employer specific contributions-delayed enrollments | 532,612 | 594,843 | _ |
| Employer specific contributions-retroactive | 687,225 | 6,504,878 | _ |
| Other | (51,586) | (31,006) | _ |
| Benefit payments, including refunds of employee contributions | (3,629,651,915) | (3,441,046,065) | (3,259,290,114) |
| Administrative expense | (23,285,920) | (23,761,860) | (21,756,019) |
| Net change in Plan fiduciary net position | (1,791,496,296) | (446,014,867) | 2,537,425,961 |
| Plan fiduciary net position-beginning | 28,553,566,906 | 28,999,581,773 | 26,462,155,812 |
| Plan fiduciary net position-ending (b) | 26,762,070,610 | 28,553,566,906 | 28,999,581,773 |
| Plan's net pension liability-ending (a)-(b) \$ | 59,007,817,464 | 46,170,131,656 | 38,849,838,954 |
| Plan fiduciary net position as a percentage of the total pension liability | 31.20% | 38.21% | 42.74% |
| Covered-employee payroll \$ | 11,320,198,747 | 11,441,433,226 | 11,448,531,265 |
| Net pension liability as a percentage of covered-employee payroll | 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:

None

Changes in assumptions:

For 2016, the discount rate changed to 3.98%, the long-term expected rate of return changed to 7.65%, demographic assumptions were revised in accordance with the results of 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. For 2015, the discount rate changed to 4.90%. In addition, the social security wage base was set at \$118,500 for 2015, increasing 4.00% per annum, compounded annually and the 401(a) (17) pay limit was set at \$265,000 for 2015, increasing 3.00% per annum, compounded annually. For 2014, the discount rate was 5.39%.

Required Supplementary Information

Schedule of Employer Contributions — **Defined Benefit Pension Plans (Unaudited)**

| | | Actuarially determined contribution | Actual employer contribution | Contribution deficiency (excess) | Covered payroll | Contribution as a percentage of covered payroll |
|--------------------|----|---|------------------------------------|--|--------------------|---|
| | | | Judicial Retire | ement System | | |
| Year ended June 30 |): | | | | | |
| 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 |
| 2012 | | 42,475,660 | 5,969,713 | 36,505,947 | 67,437,125 | 8.85 |
| 2011 | | 38,450,553 | 651,718 | 37,798,835 | 71,746,413 | 0.91 |
| 2010 | | 32,540,704 | 1,032,857 | 31,507,847 | 70,133,372 | 1.47 |
| 2009 | | 29,809,782 | 1,696,843 | 28,112,939 | 67,159,516 | 2.53 |
| 2008 | | 27,171,100 | 12,913,890 | 14,257,210 | 63,144,685 | 20.45 |
| 2007 | | 25,174,191 | 12,741,898 | 12,432,293 | 62,492,250 | 20.39 |
| | | | Prison Officers | ' Pension Fund | | |
| Year ended June 30 |): | | | | | |
| 2016 | \$ | _ | _ | _ | N/A | N/A |
| 2015 | | _ | _ | _ | N/A | N/A |
| 2014 | | _ | _ | _ | N/A | N/A |
| 2013 | | _ | _ | _ | N/A | N/A |
| 2012 | | _ | _ | _ | N/A | N/A |
| 2011 | | _ | _ | _ | N/A | N/A |
| 2010 | | _ | _ | _ | N/A | N/A |
| 2009 | | _ | _ | _ | N/A | N/A |
| 2008 | | _ | _ | _ | N/A | N/A |
| 2007 | | | | | N/A | N/A |

SCHEDULE 2, continued

Required Supplementary Information

Schedule of Employer Contributions — **Defined Benefit Pension Plans (Unaudited)**

| | | Actuarially determined contribution | Actual employer contribution | Contribution deficiency (excess) | Covered payroll | Contribution as a percentage of covered payroll |
|--------------------|----|-------------------------------------|------------------------------------|--|-----------------|---|
| | | | State Police Ret | irement System | | |
| Year ended June 30 |): | | | | | |
| 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 | 36,379,273 | 68,714,105 | 262,063,829 | 13.88 |
| 2013 | | 99,876,582 | 27,777,047 | 72,099,535 | 283,219,927 | 9.81 |
| 2012 | | 98,869,662 | 13,545,607 | 85,324,055 | 275,219,752 | 4.92 |
| 2011 | | 114,120,061 | 2,201,604 | 111,918,457 | 289,980,657 | 0.76 |
| 2010 | | 91,411,237 | 1,018,200 | 90,393,037 | 287,267,502 | 0.35 |
| 2009 | | 86,385,254 | 5,574,860 | 80,810,394 | 281,087,566 | 1.98 |
| 2008 | | 78,761,279 | 36,443,502 | 42,317,777 | 275,301,995 | 13.24 |
| 2007 | | 56,502,006 | 29,268,194 | 27,233,812 | 263,220,592 | 11.12 |
| | | Conso | lidated Police and | Firemen's Pension F | und | |
| Year ended June 30 |): | | | | | |
| 2016 | \$ | 491,683 | 148,000 | 343,683 | N/A | N/A |
| 2015 | | _ | _ | _ | N/A | N/A |
| 2014 | | 864,041 | _ | 864,041 | N/A | N/A |
| 2013 | | 1,095,632 | 896,883 | 198,749 | N/A | N/A |
| 2012 | | 1,240,860 | 174,000 | 1,066,860 | N/A | N/A |
| 2011 | | 528,714 | _ | 528,714 | N/A | N/A |
| 2010 | | 1,678,690 | _ | 1,678,690 | N/A | N/A |
| 2009 | | 1,824,798 | 1,256,000 | 568,798 | N/A | N/A |
| 2008 | | 2,388,591 | 523,000 | 1,865,591 | N/A | N/A |
| 2007 | | 8,474,210 | 1,784,000 | 6,690,210 | N/A | N/A |

SCHEDULE 2, continued

Required Supplementary Information

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

| | Actuarially determined contribution | Actual employer contribution | Contribution deficiency (excess) | Covered payroll | Contribution as a percentage of covered payroll |
|---------------------|---|------------------------------------|--|-----------------|---|
| | | Teachers' Pension | and Annuity Fund | | |
| Year ended June 30: | | | | | |
| 2016 | \$ 2,544,811,534 | 764,489,000 | 1,780,322,534 | 10,305,472,484 | 7.42% |
| 2015 | 2,306,611,715 | 504,320,000 | 1,820,291,715 | 10,162,263,470 | 4.96 |
| 2014 | 2,158,287,358 | 392,035,985 | 1,766,251,373 | 10,038,792,896 | 3.91 |
| 2013 | 2,331,811,395 | 647,059,335 | 1,684,752,060 | 9,779,212,916 | 6.62 |
| 2012 | 2,269,823,968 | 317,927,358 | 1,951,896,610 | 9,682,318,739 | 3.28 |
| 2011 | 2,123,175,951 | 30,655,332 | 2,092,520,619 | 10,025,401,658 | _ |
| 2010 | 1,796,358,016 | 33,199,655 | 1,763,158,361 | 9,747,020,060 | _ |
| 2009 | 1,601,478,508 | 95,863,972 | 1,505,614,536 | 9,419,083,203 | 1.02 |
| 2008 | 1,550,503,836 | 695,275,811 | 855,228,025 | 9,077,628,813 | 7.66 |
| 2007 | 1,407,249,580 | 690,794,259 | 716,455,321 | 8,748,623,186 | 7.90 |
| | P | olice and Firemen's | Retirement System | 1 | |
| Year ended June 30: | | | | | |
| 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 |
| 2012 | 1,238,132,402 | 826,461,015 | 411,671,387 | 3,649,416,297 | 22.65 |
| 2011 | 1,337,424,856 | 889,724,548 | 447,700,308 | 3,720,534,369 | 23.91 |
| 2010 | 1,161,763,447 | 758,722,185 | 403,041,262 | 3,673,674,523 | 20.65 |
| 2009 | 1,048,234,663 | 716,491,044 | 331,743,619 | 3,596,254,177 | 19.92 |
| 2008 | 960,856,263 | 780,799,395 | 180,056,868 | 3,459,839,699 | 22.57 |
| 2007 | 801,216,011 | 550,911,183 | 250,304,828 | 3,278,999,899 | 16.80 |

SCHEDULE 2, continued

Required Supplementary Information

Schedule of Employer Contributions — **Defined Benefit Pension Plans (Unaudited)**

| | Actuarially determined contribution | Actual employer contribution | Contribution deficiency (excess) | Covered payroll | Contribution as a percentage of covered payroll |
|---------------------|-------------------------------------|------------------------------------|--|-----------------|---|
| | | Public Employees' I | Retirement System | | |
| Year ended June 30: | | | | | |
| 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 |
| 2012 | 1,895,158,413 | 976,093,907 | 919,064,506 | 11,609,042,726 | 8.41 |
| 2011 | 1,824,391,081 | 832,016,186 | 992,374,895 | 11,981,354,783 | 6.94 |
| 2010 | 1,422,475,763 | 640,282,996 | 782,192,767 | 11,995,447,141 | 5.34 |
| 2009 | 1,285,791,399 | 627,989,949 | 657,801,450 | 11,815,800,825 | 5.31 |
| 2008 | 1,145,564,136 | 646,690,366 | 498,873,770 | 11,418,467,816 | 5.66 |
| 2007 | 762,290,568 | 457,860,138 | 304,430,430 | 10,983,873,428 | 4.17 |

FINANCIAL INFORMATION

SCHEDULE 2, continued

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 | Entry Age Normal | Entry Age Normal | Entry Age Normal | Entry Age Norm | al Entry Age Normal | Entry Age Normal | Entry Age Normal |
| Amortization method | Level Dollar, open | Level Dollar, open | Level Dollar, open | Level Dollar, ope | en Level Dollar, open | Level Dollar, open | Level Dollar, open |
| Remaining amortization period | 30 years | 1 year | 30 years | 30 years | 30 years | 30 years | 30 years |
| Asset valuation method | Five-year average of market values | Five-year average of market values | Five-year average of market values | Five-year averag of market value | | Five-year average of market values | Five-year average of market values |
| Inflation | 3.08% | 3.08% | 3.08% | 3.08% | 2.50% | 3.08% | 3.08% |
| Projected salary increase 2016 | | | | | | | |
| Initial fiscal year applied through Rate | 2025 2.00% | N/A^ N/A^ | 2025 2.95% | N/A^ N/A^ | N/A Varies based on experience | 2026 2.10 - 8.98% based on age | 2026 1.65 - 4.15% based on age |
| Thereafter | 3.00% | N/A^ | 3.95% | N/A^ | Varies based on experience | 3.10 - 9.98% based on age | 2.65 -5.15% based on age |
| 2015 and 2014 Through fiscal year 2021 | 2.50% | N/A^ | 3.45% | N/A^ | Varies based on experience | 2.60 - 9.48% based on age | 2.15- 4.40% based on age |
| Thereafter | 3.50% | N/A^ | 4.45% | 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 | | | | | | | |
| 2016 2015 | 7.65% 7.90% | 2.85% 3.80% | 7.65% 7.90% | 2.85% 3.80% | 7.65% 7.90% | 7.65% 7.90% | 7.65% 7.90% |
| 2013 | 7.90% | 4.29% | 7.90% | 4.29% | 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.

Contributions: Contributions reported on Schedule 1 include actual contributions by State and, where applicable, the local employer's contribution revenue recorded in fiscal year 2016 that is due in fiscal year 2017 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.

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

Required Supplementary Information

Schedule of Investment Returns — Defined Benefit Pension Plans **Annual Money-Weighted Rate of Return, Net of Investment Expense (Unaudited)**

Active Pension Funds* **POPF CPFPF** Year ended June 30: 2016 0.50% -1.15% 0.28% 2015 4.08% 0.09% 0.34% 2014 16.79% 0.09% 0.02%

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

^{*} The annual money-weighted rate of return, net of investment expense, for the Active Pension Funds, which includes JRS, SPRS, TPAF, PFRS, and PERS, is calculated on the investments held within Common Pension Funds D and E as a whole rather than by individual plan since the portfolio is managed as one pool of investments.

Required Supplementary Information

SCHEDULE 4

Unfunded

Other Postemployment Benefits Schedule of Funding Progress — **Defined Benefit (Unaudited)**

| Actuarial valuation date | Actuarial value of assets (a) | Actuarial accrued liability (b) | Unfunded (overfunded) actuarial accrued liability (b-a) | Funded ratio (a/b) | Covered payroll (c) | (overfunded) actuarial accrued liability as a percentage of covered payroll* ((b-a)/c) |
|--------------------------------|--|--|--|--------------------------|---------------------------|--|
| | s | State Health Bene | efits Program — S | itate | | |
| July 1, 2015 | \$ _ | 25,937,400,000 | 25,937,400,000 | -% | \$ 7,660,189,01 | 4 338.6% |
| July 1, 2014 | _ | 24,470,500,000 | 24,470,500,000 | _ | 7,554,955,23 | 3 323.9 |
| July 1, 2013 | _ | 19,746,700,000 | 19,746,700,000 | _ | 7,811,194,62 | 0 252.8 |
| July 1, 2012 | _ | 19,319,700,000 | 19,319,700,000 | _ | 7,695,193,89 | 4 251.1 |
| July 1, 2011 | _ | 18,077,800,000 | 18,077,800,000 | _ | 7,491,835,88 | 9 241.3 |
| | 5 | State Health Bene | efits Program — L | .ocal | | |
| July 1, 2015 | \$ - | 16,800,900,000 | 16,800,900,000 | -% | \$ 2,945,900,00 | 0 570.3% |
| July 1, 2014 | - | 16,408,500,000 | 16,408,500,000 | _ | 3,067,600,00 | 0 534.9 |
| July 1, 2013 | _ | 13,804,500,000 | 13,804,500,000 | _ | 3,156,000,00 | 0 437.4 |
| July 1, 2012 | _ | 12,378,100,000 | 12,378,100,000 | _ | 2,937,000,00 | 0 421.4 |
| July 1, 2011 | _ | 11,127,000,000 | 11,127,000,000 | _ | 2,831,000,00 | 0 393.0 |
| | Sta | te Health Benefi | ts Program — Edu | ıcation | | |
| July 1, 2015 | \$ - | 41,565,900,000 | 41,565,900,000 | -% | \$12,277,410,98 | 6 338.6% |
| July 1, 2014 | - | 40,575,700,000 | 40,575,700,000 | _ | 12,526,744,76 | 7 323.9 |
| July 1, 2013 | _ | 33,253,400,000 | 33,253,400,000 | _ | 13,153,105,38 | 0 252.8 |
| July 1, 2012 | _ | 32,182,900,000 | 32,182,900,000 | _ | 12,818,706,10 | 6 251.1 |
| July 1, 2011 | _ | 30,871,900,000 | 30,871,900,000 | _ | 12,794,864,11 | 1 241.3 |

Required Supplementary Information

Other Postemployment Benefits Schedule of Funding Progress — **Additional Actuarial Information (Unaudited)**

Significant actuarial methods and assumptions used in the most recent 2015 actuarial valuation include the following:

State Health Benefit Program Funds

| Actuarial cost method | Projected unit credit |
|-------------------------------|--------------------------------|
| Amortization method | Level dollar, open |
| Remaining amortization period | 30 years |
| | |
| Actuarial assumptions: | |
| Interest rate | 4.50% (assuming no prefunding) |
| Salary range | N/A |
| Cost-of-living adjustments | N/A |
| | |
| Valuation date | July 1, 2015 |

For pre-Medicare PPO medical benefits, this amount initially is 6.0% and decreases to a 5.0% long-term trend rate after ten years. For post-65 PPO medical benefits, the trend rate is 4.5%. For HMO medical benefits, the trend rate is initially 6.0% and decreases to 5.0% long-term trend rate after ten years. For prescription drug benefits, the initial trend rate is 11.0% decreased to a 5.0% long-term trend rate after nine years. For the Medicare Part B reimbursement, the trend rate is 5.0%. This refects the known underlying cost of the Part B premium.

Required Supplementary Information

Other Postemployment Benefits Schedule of Employer Contributions — **Defined Benefit (Unaudited)**

| | | Annual required contribution (1) | Employer Contributions | Percentage contributed |
|--------------------------|--------------|----------------------------------|---------------------------|------------------------|
| | State Heal | th Benefits Program — S | tate | |
| Year ended June 30, 2016 | \$ | 2,506,300,000 | 696,519,227 | 27.8% |
| Year ended June 30, 2015 | | 2,396,900,000 | 613,079,000 | 25.6 |
| Year ended June 30, 2014 | | 1,935,100,000 | 569,367,000 | 29.4 |
| Year ended June 30, 2013 | | 1,911,400,000 | 562,698,000 | 29.4 |
| Year ended June 30, 2012 | | 1,802,200,000 | 505,481,000 | 28.0 |
| | State Heal | th Benefits Program — Lo | ocal | |
| Year ended June 30, 2016 | \$ | 1,566,000,000 | 439,100,000 | 28.0% |
| Year ended June 30, 2015 | | 1,535,100,000 | 396,900,000 | 25.9 |
| Year ended June 30, 2014 | | 1,324,400,000 | 369,600,000 | 27.9 |
| Year ended June 30, 2013 | | 1,200,700,000 | 322,300,000 | 26.8 |
| Year ended June 30, 2012 | | 1,098,200,000 | 274,800,000 | 25.0 |
| | State Health | Benefits Program — Edu | cation | |
| Year ended June 30, 2016 | \$ | 4,095,900,000 | 1,138,280,773 | 27.8% |
| Year ended June 30, 2015 | | 4,034,800,000 | 1,032,021,000 | 25.6 |
| Year ended June 30, 2014 | | 3,346,800,000 | 984,733,000 | 29.4 |
| Year ended June 30, 2013 | | 3,238,900,000 | 953,502,000 | 29.4 |
| Year ended June 30, 2012 | | 3,115,800,000 | 873,919,000 | 28.0 |

The annual required contribution reflects a 30-year, 4.0% annual increasing amortization of the unfunded actuarial accrued liability. Based on expected benefit payments plus retiree drug subsidy for the applicable fiscal year end.

Schedule of Administrative Expenses Year ended June 30, 2016

| | JRS | POPF | SPRS | CPFPF | TPAF | PFRS | PERS | NJSEDCP | Total |
|----------------------------------|------------|-------|---------|-------|------------|-----------|------------|---------|------------|
| Personnel services: | | | | | | | | | |
| Salaries and wages | \$ 86,267 | 1,719 | 123,043 | 1,738 | 5,020,548 | 1,363,553 | 8,398,909 | 100,389 | 15,096,166 |
| Employee benefits | 39,352 | 802 | 57,581 | 814 | 2,349,494 | 698,583 | 3,930,485 | 61,394 | 7,138,508 |
| Total personnel services | 125,619 | 2,524 | 180,624 | 2,552 | 7,370,042 | 2,062,136 | 12,329,394 | 161,783 | 22,234,674 |
| Professional services: | | | | | | | | | |
| Actuarial services | 8,268 | 695 | 49,734 | 703 | 207,299 | 009'069 | 750,000 | I | 1,707,299 |
| Data processing | 15,157 | 487 | 11,862 | 493 | 1,422,489 | 384,090 | 2,379,692 | 13,261 | 4,227,531 |
| Information systems | 8,465 | 718 | 17,529 | 1,998 | 2,180,389 | 257,065 | 3,151,635 | I | 5,617,799 |
| Other professional (1) | 3,035 | 255 | 18,481 | 258 | 745,734 | 256,572 | 1,248,688 | I | 2,273,023 |
| Medical reviews (exams/hearings) | ı | I | 21,700 | ı | 358,734 | 472,545 | 1,023,255 | I | 1,876,234 |
| Elections | I | I | I | I | I | 24,889 | 20,000 | I | 44,889 |
| Internal audit and legal | 2,101 | 177 | 12,639 | 179 | 515,703 | 175,500 | 862,723 | 36 | 1,569,058 |
| Total professional services | 37,026 | 2,332 | 131,945 | 3,631 | 5,430,348 | 2,261,261 | 9,435,993 | 13,297 | 17,315,833 |
| Communication: | | | | | | | | | |
| Travel | 7 | 1 | 41 | П | 4,271 | 4,134 | 7,115 | I | 15,570 |
| Telephone | 353 | 30 | 2,125 | 30 | 86,715 | 29,510 | 145,065 | 2,800 | 266,628 |
| Postage | 1,600 | 134 | 9,622 | 136 | 392,608 | 133,609 | 656,796 | 1,000 | 1,195,505 |
| Motor pool | 12 | 1 | 73 | П | 2,994 | 1,019 | 5,009 | I | 9,109 |
| Printing and office | 450 | 38 | 2,705 | 38 | 110,369 | 37,560 | 184,637 | 1 | 335,797 |
| Total communication | 2,422 | 204 | 14,566 | 206 | 596,957 | 205,832 | 998,622 | 3,800 | 1,822,609 |
| Miscellaneous: | | | | | | | | | |
| Office space | 2,868 | 241 | 17,253 | 244 | 703,978 | 239,572 | 1,177,691 | I | 2,141,847 |
| Maintenance | 16 | 1 | 94 | 1 | 3,849 | 1,310 | 6,439 | I | 11,710 |
| Equipment | 26 | ∞ | 286 | ∞ | 23,894 | 8,131 | 39,973 | I | 72,697 |
| Other services and charges | 16 | 2 | 86 | 1 | 3,985 | 1,356 | 6,667 | 12,000 | 24,125 |
| Total miscellaneous | 2,997 | 252 | 18,031 | 254 | 735,706 | 250,369 | 1,230,770 | 12,000 | 2,250,379 |
| Total administrative expenses | \$ 168,064 | 5,312 | 345,166 | 6,643 | 14,133,053 | 4,779,598 | 23,994,779 | 190,880 | 43,623,495 |
| : | | | | | | | | | |

FINANCIAL INFORMATION

SCHEDULE 7

Schedule of Investment Expenses Year ended June 30, 2016

| | JRS | POPF | SPRS | CPFPF | TPAF | PFRS | PERS | NJSEDCP | Total |
|--------------------|--------------|-------|---------|-------|-----------|-----------|-----------|---------|------------|
| Investment expense | \$ 21,872 | 2,032 | 132,734 | 2,549 | 5,434,567 | 1,837,898 | 9,226,688 | 247,860 | 16,906,200 |

See accompanying independent auditors' report.

Schedule of Expenses for Consultants Year ended June 30, 2016

SCHEDULE 8

| - | JRS | POPF | SPRS | CPFPF | TPAF | PFRS | PERS | Total |
|-------------------------------------|-------------|------|--------|-------|---------|-----------|-----------|-----------|
| Actuarial: | | | | | | | | |
| Buck Consultants | \$ 8,268 | 695 | 49,734 | 703 | _ | 690,600 | 750,000 | 1,500,000 |
| Milliman | _ | _ | _ | _ | 207,299 | _ | _ | 207,299 |
| Medical reviews (exams/hearings) | _ | _ | 21,700 | _ | 358,734 | 472,545 | 1,023,255 | 1,876,234 |
| Board elections: | | | | | | | | |
| Global support | _ | _ | _ | _ | _ | 24,889 | 20,000 | 44,889 |
| Total expenses for consultants | \$ 8,268 | 695 | 71,434 | 703 | 566,033 | 1,188,034 | 1,793,255 | 3,628,422 |

Schedule of Fiduciary Net Position — Fiduciary Funds June 30, 2016

| | Pension Trust Funds | Other Postemployment Benefit Plans | Total |
|--|---------------------------|--|----------------|
| Assets: | | | |
| Cash and cash equivalents | \$ 8,444,812 | 1,906,988 | 10,351,800 |
| Receivables: | | | |
| Contributions: | | | |
| Members | 195,809,464 | 3,152,451 | 198,961,915 |
| Employers | 2,049,067,334 | 191,958,452 | 2,241,025,786 |
| Accrued interest and dividends | 4,255,408 | _ | 4,255,408 |
| Other | 18,167,012 | 3,304,005 | 21,471,017 |
| Total receivables | 2,267,299,218 | 198,414,908 | 2,465,714,126 |
| Investments, at fair value: | | | |
| Cash Management Fund | 1,040,234,254 | 688,935,591 | 1,729,169,845 |
| Common Pension Fund D | 45,840,206,401 | _ | 45,840,206,401 |
| Common Pension Fund E | 25,062,510,418 | _ | 25,062,510,418 |
| Domestic equities | 678,024,900 | _ | 678,024,900 |
| Fixed income mutual funds | 394,909,679 | _ | 394,909,679 |
| Equity mutual funds | 2,687,843,042 | _ | 2,687,843,042 |
| Total investments | 75,703,728,694 | 688,935,591 | 76,392,664,285 |
| Securities lending collateral | 1,298,508,410 | _ | 1,298,508,410 |
| Members' loans and mortgages | 2,242,910,998 | _ | 2,242,910,998 |
| Total assets | 81,520,892,132 | 889,257,487 | 82,410,149,619 |
| Liabilities: | | | |
| Accounts payable and accrued expenses | 178,894,347 | 791,551,177 | 970,445,524 |
| Retirement benefits payable | 866,831,486 | _ | 866,831,486 |
| Noncontributory group life insurance premiums payable | 29,272,362 | _ | 29,272,362 |
| Administrative expense payable | 15,544,997 | 2,582,376 | 18,127,373 |
| Securities lending collateral and rebates payable | 1,296,943,638 | _ | 1,296,943,638 |
| Total liabilities | 2,387,486,830 | 794,133,553 | 3,181,620,383 |
| Net position: | | | |
| Restricted for pension and other postemployment benefits | \$ 79,133,405,302 | 95,123,934 | 79,228,529,236 |
| | | | |

Schedule of Changes in Fiduciary Net Position — Fiduciary Funds Year ended June 30, 2016

| | Pension Trust Funds | Other Postemployment Benefit Plans | Total |
|--|---------------------------|--|-----------------|
| Additions: | | | |
| Contributions: | | | |
| Members | \$ 2,189,872,156 | 538,527,119 | 2,728,399,275 |
| Employers | 2,231,713,112 | 6,139,366,463 | 8,371,079,575 |
| Nonemployer | 860,429,467 | _ | 860,429,467 |
| Employer specific | 15,215,218 | _ | 15,215,218 |
| Total contributions | 5,297,229,953 | 6,677,893,582 | 11,975,123,535 |
| Investment (loss) income: | | | |
| Net (decrease) increase in fair value of investments | (2,244,405,037) | 142,248 | (2,244,262,789) |
| Interest | 1,594,956,586 | 2,657,902 | 1,597,614,488 |
| Dividends | 14,889,882 | _ | 14,889,882 |
| | (634,558,569) | 2,800,150 | (631,758,419) |
| Less investment expense | 16,906,200 | _ | 16,906,200 |
| Net investment (loss) income | (651,464,769) | 2,800,150 | (648,664,619) |
| Total additions | 4,645,765,184 | 6,680,693,732 | 11,326,458,916 |
| Deductions: | | | |
| Benefits | 10,377,992,493 | 6,892,406,433 | 17,270,398,926 |
| Refunds of contributions | 202,432,865 | _ | 202,432,865 |
| Administrative and miscellaneous expenses | 42,052,396 | 10,501,476 | 52,553,872 |
| Total deductions | 10,622,477,754 | 6,902,907,909 | 17,525,385,663 |
| Change in net position | (5,976,712,570) | (222,214,177) | (6,198,926,747) |
| Net position restricted for pension and other postemployment benefits: | | | |
| Beginning of year | 85,110,117,872 | 317,338,111 | 85,427,455,983 |
| End of year | \$ 79,133,405,302 | 95,123,934 | 79,228,529,236 |

FINANCIAL INFORMATION

SCHEDULE 11

Combining Schedule of Fiduciary Net Position Information — Fiduciary Funds — Select Pension Trust Funds June 30, 2016

| | Judicial Retirement System | Prison Officers' Pension Fund | State Police Retirement System | Consolidated Police and Firemen's Retirement System | Pension and | Police and Firemen's Retirement System | | otal |
|---|----------------------------------|-------------------------------------|--------------------------------------|---|---------------------------------------|--|----------------------------|------|
| Assets: | ., | | ., | | , , , , , , , , , , , , , , , , , , , | | | _ |
| Cash and cash equivalents \$ | 223,043 | 206,780 | 1,587,746 | 97,183 | 2,414,775 | 1,609,548 | 2,143,605 8,282, | 680 |
| Receivables: | | | | | | | | |
| Contributions: | | | | | | | | |
| Members | 350,324 | - | 1,236,348 | _ | 82,176,124 | 49,897,205 | 61,755,437 195,415, | 438 |
| Employers | 149,725 | - | 158,804 | _ | 33,077,039 | 992,349,260 | 1,023,306,306 2,049,041 | ,134 |
| Accrued interest and dividends | 390 | 10 | 2,128 | 16 | 33,129 | 3,304,248 | 28,203 3,368 | ,124 |
| Other | 888,102 | 49,875 | 271,237 | 288,358 | 2,551,217 | 3,478,523 | 8,899,751 16,427, | .063 |
| Total receivables | 1,388,541 | 49,885 | 1,668,517 | 288,374 | 117,837,509 | 1,049,029,236 | 1,093,989,697 2,264,251, | 759 |
| Investments, at fair value: | | | | | | | | |
| Cash Management Fund | 8,327,661 | 5,958,633 | 31,939,826 | 1,683,801 | 394,124,066 | 244,143,777 | 330,384,293 1,016,562 | ,057 |
| Common Pension Fund D | 115,510,746 | - | 1,075,987,507 | _ | 14,568,762,228 | 13,864,778,564 | 16,215,167,356 45,840,206 | 401 |
| Common Pension Fund E | 58,519,326 | _ | 585,745,952 | _ | 7,797,708,833 | 7,693,273,548 | 8,927,262,759 25,062,510 | ,418 |
| Total investments | 182,357,733 | 5,958,633 | 1,693,673,285 | 1,683,801 | 22,760,595,127 | 21,802,195,889 | 25,472,814,408 71,919,278 | ,876 |
| Securities lending collateral | 3,272,055 | _ | 30,479,331 | _ | 412,687,066 | 392,745,430 | 459,324,528 1,298,508 | ,410 |
| Members' loans and mortgages | 775,888 | _ | 16,096,136 | _ | 271,634,977 | 1,337,601,102 | 616,802,895 2,242,910, | 998 |
| Total assets | 188,017,260 | 6,215,298 | 1,743,505,015 | 2,069,358 | 23,565,169,454 | 24,583,181,205 | 27,645,075,133 77,733,232, | 723 |
| Liabilities: | | | | | | | | |
| Accounts payable and accrued expenses | _ | 683 | 75,978 | _ | 72,431,070 | 5,450,197 | 99,421,414 177,379, | 342 |
| Retirement benefits payable | 4,551,435 | 101,483 | 17,741,886 | 172,051 | 349,959,596 | 193,136,024 | 300,889,814 866,552, | 289 |
| Noncontributory group life insurance premiums payable | 149,725 | - | 158,804 | _ | 7,663,781 | 5,884,168 | 15,327,645 29,184 | ,123 |
| Administrative expense payable | 48,168 | 1,899 | 123,633 | 2,379 | 5,062,284 | 1,712,001 | 8,594,633 15,544 | 997 |
| Securities lending collateral and rebates payable | 3,268,112 | _ | 30,442,602 | _ | 412,189,756 | 392,272,151 | 458,771,017 1,296,943, | ,638 |
| Total liabilities | 8,017,440 | 104,065 | 48,542,903 | 174,430 | 847,306,487 | 598,454,541 | 883,004,523 2,385,604, | 389 |
| Net position restricted for pensions \$ | 179,999,820 | 6,111,233 | 1,694,962,112 | 1,894,928 | 22,717,862,967 | 23,984,726,664 | 26,762,070,610 75,347,628, | 334 |

Combining Schedule of Changes in Fiduciary Net Position Information — Fiduciary Funds — Select Pension Trust Funds Year ended June 30, 2016

| | Judicial Retirement System | Prison Officers' Pension Fund | State Police Retirement System | Consolidated Police and Firemen's Retirement System | Teachers' Pension and Annuity Fund | Police and Firemen's Retirement System | Public Employe Retirement System | es' Total |
|--|----------------------------------|-------------------------------------|--------------------------------------|---|------------------------------------|--|--|-----------------|
| Additions: | System | Pelision Fund | System | Retirement System | Amorty Fund | System | System | |
| Contributions: | | | | | | | | |
| Members: | | | | | | | | |
| State | \$ 9,271,869 | - | 22,818,295 | _ | 761,711,695 | 50,916,706 | 320,331,293 | 1,165,049,858 |
| Local | _ | _ | _ | _ | _ | 337,764,702 | 500,974,494 | 838,739,196 |
| Employers: | | | | | | | | |
| State | 14,794,774 | _ | 37,435,541 | 148,000 | 1,105,810 | 84,788,178 | 385,039,628 | 523,311,931 |
| Local | _ | _ | _ | _ | _ | 815,245,389 | 888,385,714 | 1,703,631,103 |
| Nonemployers | _ | _ | - | _ | 798,963,467 | 61,466,000 | _ | 860,429,467 |
| Employer specific | 726,284 | 634,217 | 54,000 | 1,196,017 | 1,807,662 | 6,848,771 | 3,926,053 | 15,193,004 |
| Total contributions | 24,792,927 | 634,217 | 60,307,836 | 1,344,017 | 1,563,588,634 | 1,357,029,746 | 2,098,657,182 | 5,106,354,559 |
| Investment (loss) income: | | | | | | | | |
| Net (decrease) increase in fair value of investments | (6,342,413) | 1,295 | (53,947,388) | 346 | (747,095,626) | (648,865,408) | (799,550,199) | (2,255,799,393) |
| Interest | 3,642,336 | 18,804 | 34,796,068 | 13,059 | 484,845,840 | 500,010,147 | 571,561,244 | 1,594,887,498 |
| | (2,700,077) | 20,099 | (19,151,320) | 13,405 | (262,249,786) | (148,855,261) | (227,988,955) | (660,911,895) |
| Less investment expense | 21,872 | 2,032 | 132,734 | 2,549 | 5,434,567 | 1,837,898 | 9,226,688 | 16,658,340 |
| Net investment (loss) income | (2,721,949) | 18,067 | (19,284,054) | 10,856 | (267,684,353) | (150,693,159) | (237,215,643) | (677,570,235) |
| Total additions | 22,070,978 | 652,284 | 41,023,782 | 1,354,873 | 1,295,904,281 | 1,206,336,587 | 1,861,441,539 | 4,428,784,324 |
| Deductions: | | | | | | | | |
| Benefits: | | | | | | | | |
| Benefit expense- retirement allowances | 53,842,747 | 1,240,307 | 211,451,186 | 1,881,252 | 4,075,562,467 | 2,277,762,983 | 3,416,130,678 | 10,037,871,620 |
| Non-contributory group insurance expense | 843,774 | _ | 1,855,541 | _ | 35,580,277 | 38,372,031 | 77,192,795 | 153,844,418 |
| Refunds of contributions | - | - | 129,423 | _ | 57,928,018 | 8,040,939 | 136,328,442 | 202,426,822 |
| Administrative and miscellaneous expenses | 168,008 | 5,312 | 334,630 | 6,643 | 13,768,112 | 4,292,891 | 23,285,920 | 41,861,516 |
| Total deductions | 54,854,529 | 1,245,619 | 213,770,780 | 1,887,895 | 4,182,838,874 | 2,328,468,844 | 3,652,937,835 | 10,436,004,376 |
| Change in net position | (32,783,551) | (593,335) | (172,746,998) | (533,022) | (2,886,934,593) | (1,122,132,257) | (1,791,496,296) | (6,007,220,052) |
| Net position restricted for pensions: | | | | | | | | |
| Beginning of year | 212,783,371 | 6,704,568 | 1,867,709,110 | 2,427,950 | 25,604,797,560 | 25,106,858,921 | 28,553,566,906 | 81,354,848,386 |
| End of year | \$179,999,820 | 6,111,233 | 1,694,962,112 | 1,894,928 | 22,717,862,967 | 23,984,726,664 | 26,762,070,610 | 75,347,628,334 |

Combining Schedule of Fiduciary Net Position Information — Fiduciary Funds — State Health Benefit Program Fund — State June 30, 2016

| | Health Benefit Program Fund State | Prescription Drug Program Fund State | Total State Health Benefit Program Fund State |
|--|---|---|--|
| Assets: | | | |
| Cash and cash equivalents | \$ 793,060 | 24,373 | 817,433 |
| Receivables: | | | |
| Contributions: | | | |
| Members | 758,090 | 455,092 | 1,213,182 |
| Employers | 27,860,082 | (1,871) | 27,858,211 |
| Other | 66,617 | 432,262 | 498,879 |
| Total receivables | 28,684,789 | 885,483 | 29,570,272 |
| Investments, at fair value: | | | |
| Cash Management Fund | 10,859,513 | 1,029,763 | 11,889,276 |
| Total investments | 10,859,513 | 1,029,763 | 11,889,276 |
| Total assets | 40,337,362 | 1,939,619 | 42,276,981 |
| Liabilities: | | | |
| Accounts payable and accrued expenses | 244,839,146 | 41,080,845 | 285,919,991 |
| Administrative expense payable | 968,391 | _ | 968,391 |
| Total liabilities | 245,807,537 | 41,080,845 | 286,888,382 |
| Net position: | | | |
| Restricted for other postemployment benefits | \$ (205,470,175) | (39,141,226) | (244,611,401) |

Combining Schedule of Changes in Fiduciary Net Position Information — Fiduciary Funds — State Health Benefit Program Fund — State Year ended June 30, 2016

| | Health Benefit Program Fund State | Prescription Drug Program Fund State | Total State Health Benefit Program Fund State |
|--|---|---|--|
| Additions: | | | |
| Contributions: | | | |
| Members | \$ 332,228,523 | 99,045,767 | 431,274,290 |
| Employers | 1,386,855,904 | 611,695,921 | 1,998,551,825 |
| Total contributions | 1,719,084,427 | 710,741,688 | 2,429,826,115 |
| Investment income: | | | |
| Net decrease in fair value of investments | (2,012) | (4,944) | (6,956) |
| Interest | 244,289 | 82,844 | 327,133 |
| Net investment income | 242,277 | 77,900 | 320,177 |
| Total additions | 1,719,326,704 | 710,819,588 | 2,430,146,292 |
| Deductions: | | | |
| Benefits | 1,802,871,176 | 746,330,856 | 2,549,202,032 |
| Administrative expenses | 3,938,054 | _ | 3,938,054 |
| Total deductions | 1,806,809,230 | 746,330,856 | 2,553,140,086 |
| Change in net position | (87,482,526) | (35,511,268) | (122,993,794) |
| Net position restricted for other postemployment benefits: | | | |
| Beginning of year | (117,987,649) | (3,629,958) | (121,617,607) |
| End of year | \$ (205,470,175) | (39,141,226) | (244,611,401) |

Combining Schedule of Fiduciary Net Position Information — Fiduciary Funds — State Health Benefit Program Fund — Local June 30, 2016

| | Health Benefit Program Fund Local | Prescription Drug Program Fund Local | Total State Health Benefit Program Fund Local |
|--|---|---|--|
| Assets: | | | |
| Cash and cash equivalents | \$ 305,646 | 10,277 | 315,923 |
| Receivables: | | | |
| Contributions: | | | |
| Members | 532,624 | 399,323 | 931,947 |
| Employers | 93,656,371 | 15,416,961 | 109,073,332 |
| Other | 52,318 | 1,851,166 | 1,903,484 |
| Total receivables | 94,241,313 | 17,667,450 | 111,908,763 |
| Investments, at fair value: | | | |
| Cash Management Fund | 312,878,273 | 8,178,918 | 321,057,191 |
| Total investments | 312,878,273 | 8,178,918 | 321,057,191 |
| Total assets | 407,425,232 | 25,856,645 | 433,281,877 |
| Liabilities: | | | |
| Accounts payable and accrued expenses | 146,406,869 | 19,502,000 | 165,908,869 |
| Administrative expense payable | 472,575 | _ | 472,575 |
| Total liabilities | 146,879,444 | 19,502,000 | 166,381,444 |
| Net position: | | | |
| Restricted for other postemployment benefits | \$ 260,545,788 | 6,354,645 | 266,900,433 |

Combining Schedule of Changes in Fiduciary Net Position Information — Fiduciary Funds — State Health Benefit Program Fund — Local Year ended June 30, 2016

| | Health Benefit Program Fund Local | Prescription Drug Program Fund Local | Total State Health Benefit Program Fund Local |
|--|---|---|--|
| Additions: | | | |
| Contributions: | | | |
| Members | \$ 34,080,441 | 18,602,370 | 52,682,811 |
| Employers | 1,041,627,610 | 274,568,352 | 1,316,195,962 |
| Total contributions | 1,075,708,051 | 293,170,722 | 1,368,878,773 |
| Investment income: | | | |
| Net increase (decrease) in fair value of investments | 71,664 | (659) | 71,005 |
| Interest | 1,086,731 | 75,400 | 1,162,131 |
| Net investment income | 1,158,395 | 74,741 | 1,233,136 |
| Total additions | 1,076,866,446 | 293,245,463 | 1,370,111,909 |
| Deductions: | | | |
| Benefits | 1,029,578,781 | 365,797,859 | 1,395,376,640 |
| Administrative expenses | 1,921,770 | _ | 1,921,770 |
| Total deductions | 1,031,500,551 | 365,797,859 | 1,397,298,410 |
| Change in net position | 45,365,895 | (72,552,396) | (27,186,501) |
| Net position restricted for other postemployment benefits: | | | |
| Beginning of year | 215,179,893 | 78,907,041 | 294,086,934 |
| End of year | \$ 260,545,788 | 6,354,645 | 266,900,433 |

Combining Schedule of Fiduciary Net Position Information — Fiduciary Funds — State Health Benefit Program Fund — Education June 30, 2016

| | | | Total State |
|--|---------------------------|---------------------------|---------------------------|
| | | Prescription Drug | Health Benefit |
| | Program Fund Education | Program Fund Education | Program Fund Education |
| Assets: | | | |
| Cash and cash equivalents | \$ 769,587 | 4,045 | 773,632 |
| Receivables: | | | |
| Contributions: | | | |
| Members | 396,276 | 611,046 | 1,007,322 |
| Employers | 49,957,830 | 5,069,079 | 55,026,909 |
| Other | 901,642 | _ | 901,642 |
| Total receivables | 51,255,748 | 5,680,125 | 56,935,873 |
| Investments, at fair value: | | | |
| Cash Management Fund | 354,561,481 | 1,427,643 | 355,989,124 |
| Total investments | 354,561,481 | 1,427,643 | 355,989,124 |
| Total assets | 406,586,816 | 7,111,813 | 413,698,629 |
| Liabilities: | | | |
| Accounts payable and accrued expenses | 296,378,273 | 43,344,044 | 339,722,317 |
| Administrative expense payable | 1,141,410 | _ | 1,141,410 |
| Total liabilities | 297,519,683 | 43,344,044 | 340,863,727 |
| Net position: | | | |
| Restricted for other postemployment benefits | \$ 109,067,133 | (36,232,231) | 72,834,902 |

Combining Schedule of Changes in Fiduciary Net Position Information — Fiduciary Funds — State Health Benefit Program Fund — Education Year ended June 30, 2016

| | | Total State | |
|--|-----------------------------|--------------------------------|--------------------------------|
| | Health Benefit Program Fund | Prescription Drug Program Fund | Health Benefit Program Fund |
| | Education Education | Education | Education |
| Additions: | | | |
| Contributions: | | | |
| Members | \$ 30,184,313 | 24,385,705 | 54,570,018 |
| Employers | 2,195,399,775 | 629,218,901 | 2,824,618,676 |
| Total contributions | 2,225,584,088 | 653,604,606 | 2,879,188,694 |
| Investment income: | | | |
| Net increase (decrease) in fair value of investments | 79,188 | (989) | 78,199 |
| Interest | 1,052,646 | 115,992 | 1,168,638 |
| Net investment income | 1,131,834 | 115,003 | 1,246,837 |
| Total additions | 2,226,715,922 | 653,719,609 | 2,880,435,531 |
| Deductions: | | | |
| Benefits | 2,240,825,698 | 707,002,063 | 2,947,827,761 |
| Administrative expenses | 4,641,652 | _ | 4,641,652 |
| Total deductions | 2,245,467,350 | 707,002,063 | 2,952,469,413 |
| Change in net position | (18,751,428) | (53,282,454) | (72,033,882) |
| Net position restricted for other postemployment benefits: | | | |
| Beginning of year | 127,818,561 | 17,050,223 | 144,868,784 |
| End of year | \$ 109,067,133 | (36,232,231) | 72,834,902 |

Combining Schedule of Balance sheet Information — Fiduciary Funds — Agency Funds June 30, 2016

| | Bei | Alternate nefit Program Fund | Pension Adjustment Fund | Dental Expense Program Fund | Total Agency Funds |
|--|-----|------------------------------------|-------------------------------|-----------------------------------|--------------------------|
| Assets: | | | | | |
| Cash and cash equivalents | \$ | 1,050,138 | 1,737,674 | 35,083 | 2,822,895 |
| Receivables: | | | | | |
| State related employer contributions | | _ | 316,085 | _ | 316,085 |
| Other | | 35,077,677 | 683 | 839,880 | 35,918,240 |
| Total receivables | | 35,077,677 | 316,768 | 839,880 | 36,234,325 |
| Investments, at fair value: | | | | | |
| Cash Management Fund | | 712,038 | 525,341 | 40,175,944 | 41,413,323 |
| Total investments | | 712,038 | 525,341 | 40,175,944 | 41,413,323 |
| Total assets | \$ | 36,839,853 | 2,579,783 | 41,050,907 | 80,470,543 |
| Liabilities: | | | | | |
| Accounts payable and accrued expenses | \$ | 36,833,743 | _ | 41,050,907 | 77,884,650 |
| Assets held for local contributing employers | | _ | 2,226,939 | _ | 2,226,939 |
| Pension adjustment payroll payable | | _ | 140,204 | _ | 140,204 |
| Due to State of New Jersey | | 6,110 | 23,980 | _ | 30,090 |
| Due to other funds | | _ | 188,660 | _ | 188,660 |
| Total liabilities | \$ | 36,839,853 | 2,579,783 | 41,050,907 | 80,470,543 |

Combining Schedule of Changes in Fiduciary Net Position Information — Fiduciary Funds — Agency Funds Year ended June 30, 2016

| | Alternate Benefit Program Fund | | Pension Adjustment Fund | Dental Expense Program Fund | Total Agency Funds |
|---|--------------------------------------|-------------|-------------------------------|-----------------------------------|--------------------------|
| Additions: | | | | | |
| Contributions: | | | | | |
| Members | \$ | 797,153 | _ | 97,209,860 | 98,007,013 |
| Employers | | 186,772,897 | 1,747,289 | 37,492,926 | 226,013,112 |
| Total contributions | | 187,570,050 | 1,747,289 | 134,702,786 | 324,020,125 |
| Investment income: | | | | | |
| Net increase in fair value of investments | | 129 | 33 | 8,935 | 9,097 |
| Interest | | 5,806 | 5,383 | 137,430 | 148,619 |
| Total investment income | | 5,935 | 5,416 | 146,365 | 157,716 |
| Total additions | | 187,575,985 | 1,752,705 | 134,849,151 | 324,177,841 |
| Deductions: | | | | | |
| Benefits | | 187,568,965 | 1,894,633 | 136,914,050 | 326,377,648 |
| Refunds of contributions | | 7,020 | (141,928) | (2,064,899) | (2,199,807) |
| Total deductions | | 187,575,985 | 1,752,705 | 134,849,151 | 324,177,841 |
| Changes in net position | | _ | _ | _ | _ |
| Net position — beginning of year | | | | _ | |
| Net position — end of year | \$ | _ | _ | _ | _ |

Combining Schedule of Balance sheet Information — Agency Fund — Dental Expense Program Fund June 30, 2016

| | | | Total Agency Fund — Dental Expense |
|---------------------------------------|------------------|------------|--|
| | State | Local | Program Fund |
| Assets: | | | |
| Cash and cash equivalents | \$ 16,075 | 19,008 | 35,083 |
| Receivables: | | | |
| Other | 836,832 | 3,048 | 839,880 |
| Total receivables | 836,832 | 3,048 | 839,880 |
| Investments, at fair value: | | | |
| Cash Management Fund | 29,809,733 | 10,366,211 | 40,175,944 |
| Total investments | 29,809,733 | 10,366,211 | 40,175,944 |
| Total assets | \$ 30,662,640 | 10,388,267 | 41,050,907 |
| Liabilities: | | | |
| Accounts payable and accrued expenses | \$ 30,662,640 | 10,388,267 | 41,050,907 |
| Cash Overdraft | _ | _ | _ |
| Total liabilities | \$ 30,662,640 | 10,388,267 | 41,050,907 |

Combining Schedule of Changes in Fiduciary Net Position Information — **Agency Fund — Dental Expense Program Fund** Year ended June 30, 2016

| | | | Total Agency Fund — Dental Expense |
|---|------------------|-------------|--|
| | State | Local | Program Fund |
| Additions: | | | |
| Contributions: | | | |
| Members | \$ 53,202,375 | 44,007,485 | 97,209,860 |
| Employers | 32,344,320 | 5,148,606 | 37,492,926 |
| Total contributions | 85,546,695 | 49,156,091 | 134,702,786 |
| Investment income: | | | |
| Net increase in fair value of investments | 8,488 | 447 | 8,935 |
| Interest | 91,913 | 45,517 | 137,430 |
| Total investment income | 100,401 | 45,964 | 146,365 |
| Total additions | 85,647,096 | 49,202,055 | 134,849,151 |
| Deductions: | | | _ |
| Benefits | 85,773,547 | 51,140,503 | 136,914,050 |
| Refunds of contributions | (126,451) | (1,938,448) | (2,064,899) |
| Total deductions | 85,647,096 | 49,202,055 | 134,849,151 |
| Changes in net position | _ | _ | _ |
| Net position — beginning of year | _ | | _ |
| Net position — end of year | \$ | _ | |

Schedule of Changes in Assets and Liabilities Information — Agency Fund — Alternate Benefit Program Fund June 30, 2016

| | | Balance | | | Balance |
|---------------------------------------|----|-------------|-------------|-------------|---------------|
| | Ju | ne 30, 2015 | Additions | Deductions | June 30, 2016 |
| Assets: | | | | | |
| Cash and cash equivalents | \$ | 528,538 | 165,089,956 | 164,568,356 | 1,050,138 |
| Receivables: | | | | | |
| Other | | 34,362,245 | 35,077,677 | 34,362,245 | 35,077,677 |
| Investments, at fair value: | | | | | |
| Cash Management Fund | | 1,171,987 | 190,208,339 | 190,668,288 | 712,038 |
| Total assets | \$ | 36,062,770 | 390,375,972 | 389,598,889 | 36,839,853 |
| Liabilities: | | | | | |
| Accounts payable and accrued expenses | \$ | 35,887,485 | 37,461,670 | 36,515,412 | 36,833,743 |
| Due to State of New Jersey | | 175,285 | 6,110 | 175,285 | 6,110 |
| Total liabilities | \$ | 36,062,770 | 37,467,780 | 36,690,697 | 36,839,853 |

Schedule of Changes in Assets and Liabilities Information — **Agency Fund — Pension Adjustment Fund June 30, 2016**

| | Ju | Balance ne 30, 2015 | Additions | Deductions | Balance June 30, 2016 |
|--|----|------------------------|-----------|------------|--------------------------|
| Assets: | | | | | |
| Cash and cash equivalents | \$ | 560,467 | 1,186,389 | 9,182 | 1,737,674 |
| Receivables: | | | | | |
| State related employer contributions | | 426,251 | 1,386,409 | 1,496,575 | 316,085 |
| Other | | 641 | 11,021 | 10,979 | 683 |
| Investments, at fair value: | | | | | |
| Cash Management Fund | | 1,838,470 | 696,801 | 2,009,930 | 525,341 |
| Total assets | \$ | 2,825,829 | 3,280,620 | 3,526,666 | 2,579,783 |
| Liabilities: | | | | | |
| Assets held for local contributing employers | \$ | 2,350,663 | 152 | 123,876 | 2,226,939 |
| Pension adjustment payroll payable | | 175,351 | 1,873,978 | 1,909,125 | 140,204 |
| Due to State of New Jersey | | 42,185 | 23,980 | 42,185 | 23,980 |
| Due to other funds | | 257,630 | 1,234,039 | 1,303,009 | 188,660 |
| Total liabilities | \$ | 2,825,829 | 3,132,149 | 3,378,195 | 2,579,783 |

Schedule of Changes in Assets and Liabilities Information — Agency Fund — Dental Expense Program Fund — Total June 30, 2016

| | | Balance | Additions | Daduations | Balance |
|---------------------------------------|----|-------------|-------------|-------------|---------------|
| | Ju | ne 30, 2015 | Additions | Deductions | June 30, 2016 |
| Assets: | | | | | |
| Cash and cash equivalents | \$ | 11,207 | 37,005,871 | 36,981,995 | 35,083 |
| Receivables: | | | | | |
| Other | | 1,424,253 | 134,150,985 | 134,735,358 | 839,880 |
| Investments, at fair value: | | | | | |
| Cash Management Fund | | 41,039,074 | 215,227,679 | 216,090,809 | 40,175,944 |
| Total assets | \$ | 42,474,534 | 386,384,535 | 387,808,162 | 41,050,907 |
| Liabilities: | | | | | |
| Accounts payable and accrued expenses | \$ | 42,148,134 | 42,824,356 | 43,921,583 | 41,050,907 |
| Cash overdraft | | 326,400 | _ | 326,400 | _ |
| Total liabilities | \$ | 42,474,534 | 42,824,356 | 43,921,583 | 41,050,907 |

Schedule of Changes in Assets and Liabilities Information — Agency Fund — Dental Expense Program Fund — State **June 30, 2016**

| | Ju | Balance ine 30, 2015 | Additions | Deductions | Balance June 30, 2016 |
|---------------------------------------|----|-------------------------|-------------|-------------|--------------------------|
| Assets: | | | | | |
| Cash and cash equivalents | \$ | _ | 29,163,406 | 29,147,331 | 16,075 |
| Receivables: | | | | | |
| Other | | 1,391,268 | 86,027,234 | 86,581,670 | 836,832 |
| Investments, at fair value: | | | | | |
| Cash Management Fund | | 29,387,552 | 156,644,635 | 156,222,454 | 29,809,733 |
| Total assets | \$ | 30,778,820 | 271,835,275 | 271,951,455 | 30,662,640 |
| Liabilities: | | | | | |
| Accounts payable and accrued expenses | \$ | 30,452,420 | 31,461,797 | 31,251,577 | 30,662,640 |
| Cash overdraft | | 326,400 | _ | 326,400 | _ |
| Total liabilities | \$ | 30,778,820 | 31,461,797 | 31,251,577 | 30,662,640 |

Schedule of Changes in Assets and Liabilities Information — Agency Fund — Dental Expense Program Fund — Local June 30, 2016

| | Ju | Balance ne 30, 2015 | Additions | Deductions | Balance June 30, 2016 |
|---------------------------------------|----|------------------------|-------------|-------------|--------------------------|
| Assets: | | | | | |
| Cash and cash equivalents | \$ | 11,207 | 7,842,465 | 7,834,664 | 19,008 |
| Receivables: | | | | | |
| Other | | 32,985 | 48,123,751 | 48,153,688 | 3,048 |
| Investments, at fair value: | | | | | |
| Cash Management Fund | | 11,651,522 | 58,583,044 | 59,868,355 | 10,366,211 |
| Total assets | \$ | 11,695,714 | 114,549,260 | 115,856,707 | 10,388,267 |
| Liabilities: | | | | | |
| Accounts payable and accrued expenses | \$ | 11,695,714 | 11,362,559 | 12,670,006 | 10,388,267 |
| Total liabilities | \$ | 11,695,714 | 11,362,559 | 12,670,006 | 10,388,267 |

INVESTMENT SECTION

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CHRIS CHRISTIE Governor

KIM GUADAGNO Lt. Governor

DEPARTMENT OF THE TREASURY DIVISION OF INVESTMENT P. O. Box 290 TRENTON, NEW JERSEY 08625-0290 Telephone (609) 292-5106 / FACSIMILE (609) 984-4425

FORD M. SCUDDER Acting State Treasurer

CHRIS McDonough Director

June 30, 2016

The Division of Investment ("Division"), under the jurisdiction of the State Investment Council (the "Council"), is responsible for the investment management of the assets of seven public pension systems: the Consolidated Police and Firemen's Pension Fund, the Judicial Retirement System, the Police and Firemen's Retirement System, the Prison Officers' Pension Fund, the Public Employees' Retirement System, the State Police Retirement System, and the Teachers' Pension and 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 Council to formulate investment procedures and policies to be followed by 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 is comprised of 16 members, appointed to fixed terms. Nine members are appointed by the Governor for staggered five-year terms, and are drawn traditionally from the investment community. Eight of these nine hold appointments subject to the advice and consent of the Senate, and one appointee is selected by the Governor from nominees submitted jointly by the President of the Senate and Speaker of the Assembly. Two members are appointed by the Governor for five-year terms from nominees submitted by the New Jersey State AFL-CIO, with at least one appointed member being a member of a union representing police officers or firefighters. Two members are appointed by the Governor for three-year terms from nominees submitted by the New Jersey Education Association and the State Troopers Fraternal Organization. Three members are designated to the Council for three-year terms by the respective pension system's board of trustees for the Public Employees' Retirement System, the Police and Firemen's Retirement System, and the Teachers' Pension and Annuity Fund. 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 (P.L. 1997, c.26). 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.

Christopher McDonough

Director, Division of Investment

Mylley

State Investment Council Policies Regarding the Investment of Pension Fund Assets (at June 30, 2016)

- Investment of pension assets is governed by the State Investment Council Regulations (N.J.A.C. 17:16) (the "Regulations") as well as an annual asset allocation plan approved the State Investment 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 investments is permitted in securities issued by the U.S. Government and designated agencies.
- Investment in global debt obligations, non-convertible preferred stocks, global diversified credit investments, 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 passthrough securities are subject to a minimum rating requirement of A3 by Moody's, A- by Standard and 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 ensure that the portfolio is adequately diversified and that competitive market pricing is obtained.
- Investments in alternative investments are limited to no more than 38% of the portfolio in the aggregate, with individual category limitations for
 private equity (12%), real estate (9%), real assets (7%), and hedge funds (15%).

Proxy Voting

- The Proxy Voting Policy summerizes guidelines for addressing key proxy issues. Business judgement 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.

Pension Fund Rate of Return

| | | Annu | alized |
|--|-------------|---------|---------|
| | Fiscal 2016 | 3 Years | 5 Years |
| Domestic Equity with Cash, Hedges, Miscellaneous | (1.48)% | 9.93% | 10.83% |
| S&P 1500 Composite | 3.64 | 11.52 | 11.94 |
| Equity Only (Ex Cash) | (1.58) | 10.12 | 11.00 |
| Domestic Fixed Income with Cash, Hedges, Miscellaneous | 4.91 | 4.73 | 6.25 |
| Fixed Income Blended Benchmark | 4.93 | 4.26 | 5.90 |
| Investment Grade | 5.93 | 4.54 | 5.79 |
| Investment Grade Blended Benchmark | 6.97 | 4.58 | 6.92 |
| High Yield | 2.96 | 6.85 | 7.72 |
| Barclays High Yield Index | 1.62 | 4.19 | 5.84 |
| International Equity with Cash, Hedges, Miscellaneous | (10.36) | 0.60 | (1.04) |
| MSCI All World Country Index (ex US) | (10.24) | 1.16 | 0.10 |
| Custom International Equity Markets Index | (10.43) | 0.76 | (0.24) |
| Developed Markets Equity | (9.60) | 2.36 | 0.85 |
| Custom International Equity Developed Markets Index | (9.96) | 1.93 | 1.37 |
| Emerging Markets Equity | (10.81) | (2.28) | (3.87) |
| Custom International Equity Emerging Markets Benchmark | (11.77) | (1.41) | (3.27) |
| Alternative Investments | 1.43 | 7.96 | 7.34 |
| Hedge Funds | (5.13) | 3.00 | 3.95 |
| HFRI Fund of Funds Composite (One month lag) | (5.94) | 1.60 | 1.46 |
| Private Equity | 6.27 | 15.73 | 13.24 |
| Cambridge Associates (One quarter lag) | 3.16 | 10.90 | 11.52 |
| Real Estate | 9.86 | 12.10 | 11.41 |
| Real Estate Index (One quarter lag) | 12.62 | 12.59 | 12.10 |
| Real Assets/Commodities | (4.39) | (2.10) | (3.41) |
| Bloomberg Commodity Index Total Return | (13.32) | (10.55) | (10.82) |
| Plan Cash ¹ | 1.56 | 1.01 | 0.68 |
| US Treasury Bills (3 month) | 0.14 | 0.07 | 0.06 |
| Total Pension Fund | (0.93) | 6.40 | 6.64 |
| Total Fund Benchmark | 0.23 | 6.10 | 5.86 |

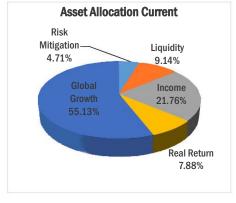
¹ Plan Cash comprises the seven plan cash accounts.

Pension Fund Asset Allocation — June 30, 2016

| | Actual Allocation % | Target % | Difference % | Allocation \$ |
|--------------------------------------|---------------------------|----------|-----------------|------------------|
| Absolute Return/Risk Mitigation | 4.71% | 5.00% | (0.29%) | 3,433.52 |
| Risk Mitigation | 4.71% | 5.00% | (0.29%) | 3,433.52 |
| Cash Equivalents (1) | 5.89% | 5.00% | 0.89% | 4,293.31 |
| Short Term Cash Equivalents | 0.30% | 0.00% | 0.30% | 215.81 |
| TIPS | 2.03% | 1.50% | 0.53% | 1,482.48 |
| US Treasuries | 0.93% | 1.50% | (0.57%) | 676.09 |
| Total Liquidity | 9.14% | 8.00% | 1.14% | 6,667.69 |
| Investment Grade Credit | 8.75% | 8.00% | 0.75% | 6,382.38 |
| Public High Yield | 2.50% | 2.00% | 0.50% | 1,822.54 |
| Global Diversified Credit | 3.86% | 5.00% | (1.14%) | 2,813.23 |
| Credit Oriented Hedge Funds | 3.66% | 3.75% | (0.09%) | 2,665.98 |
| Debt Related Private Equity | 0.96% | 1.00% | (0.04%) | 698.23 |
| Debt Related Real Estate | 0.65% | 0.80% | (0.15%) | 473.18 |
| Police and Fire Mortgage Program (2) | 1.40% | 1.20% | 0.20% | 1,019.41 |
| Total Income | 21.76% | 21.75% | 0.01% | 15,874.95 |
| Commodities | 0.61% | 0.50% | 0.11% | 445.33 |
| Private Real Assets | 2.00% | 2.00% | 0.00% | 1,461.28 |
| Equity Related Real Estate | 5.26% | 5.25% | 0.01% | 3,839.96 |
| Total Real Return | 7.88% | 7.75% | 0.13% | 5,746.57 |
| US Equity | 26.76% | 26.00% | 0.76% | 19,517.51 |
| Non-US Developed Markets Equity | 11.38% | 13.25% | (1.87%) | 8,298.45 |
| Emerging Markets Equity | 4.67% | 6.50% | (1.83%) | 3,409.67 |
| Equity Oriented Hedge Funds | 3.15% | 3.75% | (0.60%) | 2,294.52 |
| Buyouts/Venture Capital | 9.17% | 8.00% | 1.17% | 6,689.62 |
| Total Global Growth | 55.13% | 57.50% | (2.37%) | 40,209.77 |
| Opportunistic Private Equity | 0.46% | 0.00% | 0.46% | 335.36 |
| Other Cash and Receivables | 0.92% | 0.00% | 0.92% | 672.39 |
| Total Pension Fund | 100.00% | 100.00% | 0.00% | 72,940.25 |

⁽¹⁾ The cash aggregate comprises the two common pension fund cash accounts, in addition to the seven plan cash accounts.

Totals may not equal sum of components due to rounding.

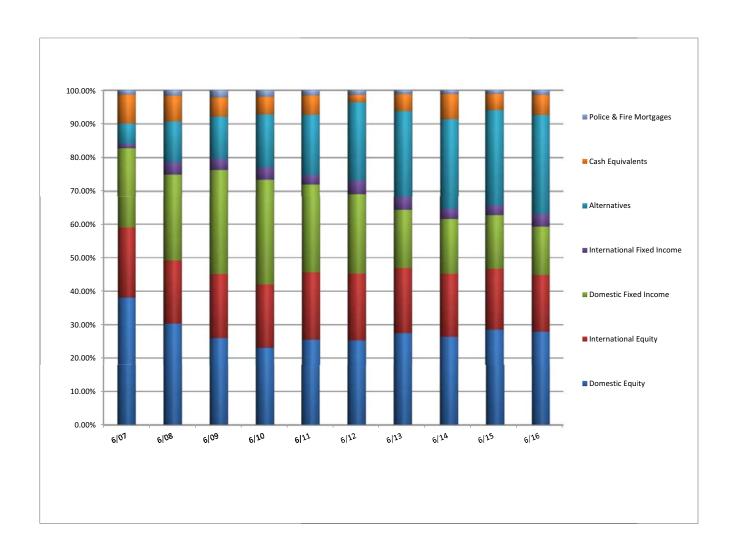




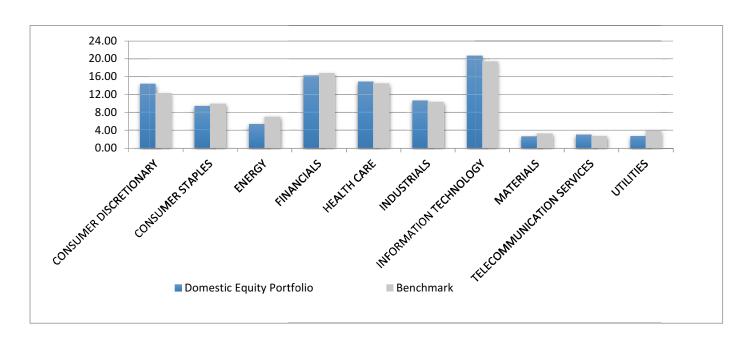
⁽²⁾ For Financial Reporting Police and Fire Mortgage Program is considered a receivable under GASB72.



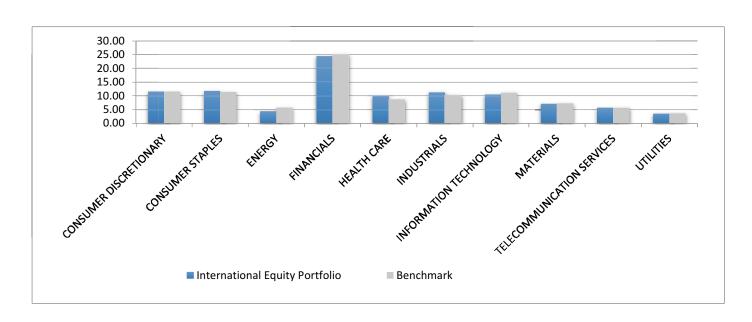
Pension Fund Composite Asset Allocation History



U.S. Equities Market — Portfolio Sector Weightings June 30, 2016



International Equities Markets — Portfolio Sector Weightings June 30, 2016



List of Largest Assets Held by the Pension Fund Largest Domestic Stock Holdings (by Fair Value) June 30, 2016

| Shares | Stock | Fair Value (USD) |
|-----------|-------------------|------------------|
| 6,625,000 | Apple Inc. | 633,350,000 |
| 764,000 | Alphabet Inc. | 528,764,400 |
| 8,867,900 | Microsoft Corp. | 453,770,443 |
| 4,500,000 | Walt Disney Co. | 440,190,000 |
| 4,140,000 | Exxon Mobil | 388,083,600 |
| 3,300,000 | Facebook Inc. | 377,124,000 |
| 2,880,000 | Johnson & Johnson | 349,344,000 |
| 6,689,000 | Wells Fargo | 316,590,370 |
| 9,610,000 | General Electric | 302,522,800 |
| 405,000 | Amazon.com | 289,826,100 |

Largest Domestic Bond Holdings (by Fair Value) June 30, 2016

| Par | Bonds | Coupon | Due | Fair Value (USD) |
|-------------|------------------------------|--------|-----------|------------------|
| 440,470,000 | US Treasury TIPS | 0.125% | 1/15/2023 | 446,308,430 |
| 372,771,300 | US Treasury TIPS | 0.125% | 7/15/2024 | 376,518,397 |
| 310,464,000 | US Treasury TIPS | 0.125% | 4/15/2018 | 315,072,528 |
| 224,183,900 | US Treasury TIPS | 1.125% | 1/15/2021 | 239,777,460 |
| 175,000,000 | US Treasury Notes | 1.875% | 5/31/2022 | 182,013,650 |
| 150,000,000 | US Treasury Notes | 2.125% | 6/30/2022 | 158,156,250 |
| 1,390,000 | ISHARES IBOXX HIGH YIELD ETF | | | 117,719,100 |
| 89,000,000 | AID ISRAEL | 5.500% | 4/26/2024 | 112,719,390 |
| 100,000,000 | US Treasury Notes | 2.000% | 2/28/2021 | 104,609,400 |
| 100,000,000 | US Treasury Notes | 1.250% | 1/31/2020 | 101,460,900 |

List of Largest Assets Held Largest International Stock Holdings (by Fair Value) June 30, 2016

| Shares | Stock | Fair Value (USD) |
|-----------|--|------------------|
| 3,955,550 | IShares MSCI Emerging Markets ETF | 165,460,657 |
| 547,137 | Roche Holding AG | 143,832,669 |
| 1,827,189 | Nestle SA | 140,949,757 |
| 1,653,770 | Novartis AG | 136,060,014 |
| 2,200,000 | IShares Edge MSCI MIN VOL Emerging Markets ETF | 113,498,000 |
| 4,034,367 | IShares MSCI India ETF | 112,639,527 |
| 552,177 | L Oreal Prime De Fidelite | 105,511,802 |
| 82,906 | Samsung Electronics Co LTD | 102,566,350 |
| 3,855,411 | Taiwan Semiconductor SP ADR | 101,127,431 |
| 3,893,300 | Tencent Holdings LTD | 88,475,537 |

Largest International Bond Holdings (by Fair Value) June 30, 2016

| Par | Bonds | Coupon | Due | Fair Value (USD) |
|-------------|------------------------------|--------|-----------|------------------|
| 69,000,000 | Hydro Quebec | 8.50% | 12/1/2029 | 109,716,555 |
| 105,000,000 | Province of Ontario | 1.88% | 5/21/2020 | 107,226,420 |
| 100,000,000 | Province of British Columbia | 2.65% | 9/22/2021 | 106,521,500 |
| 100,000,000 | Province of Ontario | 2.50% | 4/27/2026 | 102,997,500 |
| 100,000,000 | Province of Quebec | 2.50% | 4/20/2026 | 102,895,500 |
| 100,000,000 | OEKB OEST. KONTROLLBANK | 1.13% | 4/26/2019 | 100,334,600 |
| 100,000,000 | Province of Ontario | 1.25% | 6/17/2019 | 100,274,700 |
| 60,000,000 | Province of Quebec | 7.50% | 9/15/2029 | 90,993,600 |
| 90,000,000 | Province of Manitoba | 2.13% | 6/22/2026 | 89,468,370 |
| 72,000,000 | Province of Manitoba | 2.10% | 9/6/2022 | 74,068,992 |

Fiscal Year 2016 Commissions on Global Securities⁽¹⁾

| Broker | Shares (2) | Total Commissions ⁽²⁾ | Commissions | |
|---|---------------|-------------------------------------|-------------|--|
| | | | per Share | |
| Abel/Noser Corp. | 1,500,000 | \$ 75,000 | \$ 0.050 | |
| ABG Sundal Collier Inc. | 187,500 | 6,054 | 0.032 | |
| 3. Riley & Co., LLC | 3,517,550 | 120,317 | 0.034 | |
| Barclays Capital Inc. | 38,463,793 | 1,029,747 | 0.027 | |
| BMO Capital Markets Corp. | 23,583,728 | 233,787 | 0.010 | |
| Buckingham Research Group Inc. (The) | 7,004,250 | 238,923 | 0.034 | |
| C.L. King & Associates, Inc. | 22,326,292 | 222,356 | 0.010 | |
| Canaccord Genuity Inc. | 3,639,397 | 123,814 | 0.034 | |
| Capital Institutional Services, Inc. | 29,535,560 | 1,472,678 | 0.050 | |
| Citigroup Global Markets, Inc. | 19,393,911 | 664,034 | 0.034 | |
| CLSA Americas, LLC | 7,084,933 | 240,720 | 0.034 | |
| Cowen and Company, LLC | 12,120,512 | 411,092 | 0.034 | |
| Craig-Hallum Capital Group LLC | 10,797,647 | 367,978 | 0.034 | |
| Credit Suisse Securities LLC | 24,288,316 | 1,026,481 | 0.042 | |
| RT Capital Group | 2,881,540 | 98,671 | 0.034 | |
| BS Vickers Securities Inc. | 11,649,117 | 54,763 | 0.005 | |
| eutsche Bank AG | 9,088,182 | 312,188 | 0.034 | |
| BN Securities, Inc. | 37,796,307 | 220,341 | 0.006 | |
| BR Capital Markets & Co. | 1,765,369 | 59,581 | 0.034 | |
| oldman, Sachs & Co. | 14,087,123 | 393,203 | 0.028 | |
| ordon, Haskett & Co. | 10,183,300 | 509,165 | 0.050 | |
| nstinet, LLC | 74,470,872 | 1,712,227 | 0.023 | |
| nternational Strategy & Investment Group | 7,253,150 | 246,679 | 0.034 | |
| TG Inc. | 200,000 | 1,400 | 0.007 | |
| P. Morgan Securities LLC | 54,378,133 | 1,284,528 | 0.024 | |
| anney Montgomery Scott LLC | 3,846,200 | 130,792 | 0.034 | |
| efferies LLC | 31,275,978 | 240,859 | 0.008 | |
| MP Securities LLC | 3,677,825 | 125,224 | 0.034 | |
| epler Capital Markets Inc. | 41,323,742 | 127,503 | 0.003 | |
| eyBanc Capital Markets Inc. | 2,828,650 | 96,308 | 0.034 | |
| eerink Partners LLC | 5,460,000 | 187,128 | 0.034 | |
| lacquarie Capital Inc. | 101,991,985 | 203,321 | 0.002 | |
| leridian Equity Partners, Inc. | 27,084,638 | 266,846 | 0.010 | |
| lerrill Lynch, Pierce, Fenner & Smith, Inc. | 12,646,302 | 434,000 | 0.034 | |
| lorgan Stanley & Co. LLC | 33,831,396 | 649,046 | 0.019 | |
| 'Neil Securities Inc Total | 990,000 | 9,900 | 0.010 | |
| ppenheimer & Co. Inc. | 6,180,900 | 211,047 | 0.034 | |
| aymond James & Associates, Inc. | 1,290,250 | 43,078 | 0.033 | |
| anford C. Bernstein & Co., LLC | 11,277,501 | 298,622 | 0.026 | |
| tifel, Nicolaus & Company, Inc. | 9,511,970 | 324,214 | 0.034 | |
| unTrust Robinson Humphrey, Inc. | 2,414,400 | 82,912 | 0.034 | |
| hemis Trading LLC | 28,888,221 | 276,663 | 0.010 | |
| BS Securities LLC | 20,063,289 | 456,745 | 0.023 | |
| /allachBeth Capital, LLC | 20,437,098 | 156,871 | 0.008 | |
| /ells Fargo Securities LLC | 7,593,700 | 260,170 | 0.034 | |
| Villiam Blair & Company, LLC | 2,334,700 | 80,715 | 0.035 | |
| Villiams Capital Group, L.P. | 23,130,632 | 230,906 | 0.010 | |
| | 825,275,859 | \$ 16,018.597 | \$ 0.019 | |
| wadaa ayaaytad theayah addigaya with waris oo bugbar- | 1 540 000 440 | ¢ 4704.000 | ¢ 0.000 | |
| rades executed through advisers with various brokers | 1,542,989,143 | \$ 4,721,002 | \$ 0.003 | |

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

⁽²⁾ Excludes \$394,145 in commissions related to options on approximately 39.5 million shares and \$23,152 in commissions paid on futures.

Schedule of Fees Year ending June 30, 2016

| Pension Fund |
|--------------|
| Mat Assists |

| | | Net Assets | | | |
|---------------------------------------|----|------------------|------|--------------|---------|
| (000's) | u | ınder Management | Fees | Basis Points | |
| Investment Advisers' fees: | | | | | |
| Fixed Income advisers | \$ | 1,346,080 | \$ | 5,248 | |
| International small capp advisers | | 487,884 | | 2,924 | |
| Emerging Market advisers | | 3,048,477 | | 14,194 | |
| | \$ | 4,882,441 | | 22,366 | 45.809 |
| Alternative investment, opportunistic | | | | | |
| and global diversified credit funds | \$ | 24,001,775 | | 377,455 | 157.261 |
| Other investment service fees: | | | | | |
| Custodian | | | | 590 | |
| Security Lending Fees | | | | 2,868 | |
| Investment consultants | | | | 2,424 | |
| | | | | 5,882 | |
| Total | \$ | 72,940,255 | \$_ | 405,703 | 55.621 |

ACTUARIAL SECTION

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STATE OF NEW JERSEY DIVISION OF PENSIONS AND BENEFITS PUBLIC EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL INFORMATION

June 22, 2017

The Board of Trustees
Public Employees' Retirement System
of New Jersey



500 Plaza Drive Secaucus, New Jersey 07096-1533

Re: Actuary's Certification Letter

Members of the Board:

An actuarial valuation of the Public Employees' Retirement System of New Jersey ("PERS") is performed annually to measure the ongoing costs of the System (with required contributions determined separately for the State and Local employers) and the progress towards the funding goals of the System over time. In general, the financial goals of the PERS are a pattern of contributions, which is sufficient to cover the normal cost of the System plus the contribution towards the unfunded accrued liability. The information contained in this certification letter is based on the July 1, 2015 valuation of PERS.

In accordance with the New Jersey statutes, employers are required to make two contributions to the System, a normal contribution and an accrued liability contribution. The normal contribution for basic allowances is defined under the Projected Unit Credit funding method as the present value of the benefits accruing during the current year. Prior to the July 1, 2010 valuation, the unfunded accrued liability contribution for basic allowances and cost of living adjustments (COLAs) was determined as a level percentage of pay required to amortize the unfunded accrued liability over 30 years in annual payments increasing by 4% per year. The funding reform provisions of Chapter 78, P.L. 2011 changed the methodology used to amortize the unfunded accrued liability. 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 amortization period.

The final Appropriation Act of fiscal year 2015 reduced the actuarially determined State Pension contribution of \$1,058,157,699 to \$195,153,000. This amount excludes the Workers Compensation Judges Part contribution of \$679,374, which is payable by fund transfer from the Second Injury Fund, and the Non-Contributory Group Insurance Premium of \$34,999,000. Accordingly, a fiscal year 2015 employer contribution of \$195,832,374 (\$195,153,000 plus the Workers Compensation Judges Part transfer of \$679,374) was recognized for purposes of this valuation.

In addition, the valuation reflects the provisions of the Appropriations Act of 2016 for fiscal year 2016. The fiscal year 2016 actuarially determined State Pension contribution has been reduced from \$1,182,038,756 to \$354,611,627, discounted from the expected payable date of June 30, 2016 to the valuation date. This amount excludes the Worker Compensation Judges Part contribution of \$678,348, which is payable by fund transfer from the Second Injury Fund, and the estimated Non-Contributory Group Insurance Premium of \$34,616,000. Accordingly, a fiscal year 2016 employer contribution of \$355,289,975 (\$354,611,627 plus Workers Compensation Judges Part transfers of \$678,348) was recognized as a receivable contribution for purposes of this valuation. This amount may be subject to change per the requirements of the State's fiscal year 2016 spending plan.

The State's actuarially determined contribution for the fiscal year beginning July 1, 2016 is \$1,263,740,460. This amount is comprised of an unfunded accrued liability payment of \$1,131,801,081 plus a normal contribution of \$131,939,379. This amount excludes the Worker Compensation Judges Part contribution of \$633,589, which is payable by fund transfer from the Second Injury Fund, and the estimated Non-Contributory Group Insurance Premium of \$34,803,000. This amount may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

The valuation again reflects the provisions of Chapter 42, P.L. 2002, which allowed Local employers to issue refunding bonds to retire the unfunded accrued liability due to certain early retirement incentive programs.

The valuation reflects Chapter 19, P.L. 2009, which allowed the State Treasurer to reduce Local employers' normal and accrued liability contributions to 50% of the amount certified for the State fiscal year 2009. In addition, certain Local employers who were eligible under Chapter 19, P.L. 2009 to defer 50% of their State fiscal year 2009 pension contribution but did not were permitted to defer 50% of their State fiscal year 2010 pension contribution. This 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 provides that a Local employer may pay 100% of the actuarially determined contributions for State fiscal years 2009 and 2010. Such an employer will be credited with the full payments and any such amounts will not be included in their unfunded liability.

ACTUARIAL INFORMATION

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
PUBLIC EMPLOYEES' RETIREMENT SYSTEM

The underlying demographic data is maintained and provided by the New Jersey Division of Pensions and Benefits. The data is analyzed by Conduent for internal completeness and consistency and compared with the prior valuation data to again ensure consistency.

As required under Chapter 84, P.L. 1954, an actuarial investigation of the demographic experience of the members and beneficiaries of PERS is made once in every three-year period. The contributions for the fiscal year beginning July 1, 2015 were based on the actuarial assumptions that were determined from the July 1, 2011 to June 30, 2014 Experience Study and approved by the Board of Trustees at the October 14, 2015 Board meeting.

The valuation reflects the economic assumptions which include a rate of investment return of 7.90% per annum. Additionally, the current salary increase assumption projects future salary increases that are 1.00% per annum higher for fiscal years ending 2022 and thereafter. These assumptions will remain in effect for valuation purposes until such time the Board or the Treasurer recommends revised economic assumptions.

The valuation cost method used is the projected unit credit method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. The asset valuation method used was a five-year average of market values with write-up. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis.

The valuation does not take into account any changes in U.S. equity prices and bond yields that have occurred after the valuation date. Taking these into account may significantly change the market and actuarial value of assets shown. The effect of these events on any funded ratios shown, and on Retirement System calculations, is not known. Retirement System funding and financial accounting rules generally prohibit reflection of changes in assets and underlying economic conditions that occur after the valuation date.

In our opinion, the attached schedules of valuation results fairly represent the status of the PERS and present an accurate view of historical data. The underlying assumptions and methods are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the System.

The following supporting schedules in the Actuarial Section were prepared by Conduent:

- . Summary of Actuarial Assumptions and Methods
- Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- . Schedule of Active Member Valuation Data
- · Solvency Test
- . Analysis of Past Financial Experience
- . Reconciliation of Employer Contribution Rates
- . Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

In addition, Conduent prepared the "Schedule of Funding Progress" and the "Schedule of Employer Contributions" in the Financial Section which can be found in the July 1, 2015 valuation report for PERS. The Schedule of Funding Progress and the Schedule of Employer Contributions are provided for informational purposes only since the reporting requirements of Statements No. 67 and No. 68 will be effective as of the June 30, 2014 and June 30, 2015 reporting dates, respectively.

To the best of our knowledge, this information is complete and accurate. The valuation was performed by, and under the supervision of, independent qualified actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board and generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the Retirement System, and on actuarial assumptions that are individually and in the aggregate internally consistent and reasonable based on the actual experience of the Retirement System.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, FSA, EA, MAAA Principal, Consulting Actuary

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Summary of Actuarial Assumptions and Methods

Chapter 84, P.L. 1954, provides that once in every three-year period the actuary shall examine in detail the demographic experience of the members and beneficiaries of the PERS to assure that the tables used for determining expected liabilities are consistent with recent experience.

The demographic assumptions used for the July 1, 2015, actuarial valuation of the PERS were based on the results of the experience study, which covered the period from July 1, 2011, to June 30, 2014, which were approved by the Board of Trustees, and the revised economic assumptions, which were established for the July 1, 2012, valuation.

An outline of the actuarial assumptions and methods used for the July 1, 2015, valuation is as follows:

Valuation Interest Rate: 7.90% per annum, compounded annually.

Employee Contribution Interest Rate: 7.90% per annum.

COLA: No future COLA is assumed.

Compensation Limit Increase: 401(a)(17) Limit - 3.00% per annum, Social Security Wage Base - 4.00% per annum.

Separations from Service and Salary Increases: Representative values of the assumed annual rates of separation and annual rates of salary increases are as follows:

| | | | | | Annual | Rate of | | | | |
|-----|-------------------|--------|--------|--------|--------|---------|-------|-----------------------|----------------|---------------------|
| | Select Withdrawal | | | | | | | | nate rawal¹ | |
| | 1st ' | Year | 2nd | Year | 3rd | Year | | Eligibility enefit | | igibility enefit |
| Age | State | Local | State | Local | State | Local | State | Local | State | Local |
| 20 | 28.90% | 40.19% | 13.53% | 15.12% | 9.52% | 12.19% | 4.48% | 6.31% | _ | _ |
| 25 | 36.12 | 40.19 | 13.53 | 15.12 | 9.52 | 12.19 | 4.69 | 6.31 | _ | _ |
| 30 | 36.12 | 38.84 | 13.53 | 14.67 | 9.52 | 13.32 | 3.82 | 6.11 | _ | 0.03% |
| 35 | 26.14 | 33.51 | 10.83 | 11.74 | 7.99 | 10.77 | 2.86 | 3.99 | 0.05% | 0.03 |
| 40 | 21.66 | 32.05 | 8.86 | 10.52 | 6.37 | 10.66 | 1.80 | 2.91 | 0.05 | 0.05 |
| 45 | 20.41 | 31.01 | 8.26 | 10.08 | 5.79 | 10.36 | 1.22 | 2.46 | 0.24 | 0.16 |
| 50 | 20.41 | 28.39 | 7.65 | 9.58 | 5.21 | 9.57 | .90 | 1.94 | 1.10 | 0.64 |
| 55 | 20.41 | 27.96 | 7.65 | 9.40 | 5.21 | 9.08 | .88 | 1.60 | 1.43 | 0.77 |
| 60 | 20.41 | 22.37 | 7.65 | 9.40 | 5.21 | 6.84 | .88 | 1.52 | 0.90 | 0.77 |

¹ The rates of withdrawal prior to eligibility for a benefit assume a refund of contributions. The rates assumed for members withdrawing with a benefit are the sum of the rates of withdrawal after eligibility for a benefit and those prior to eligibility.

Summary of Actuarial Assumptions and Methods, continued

| | | | | | Annual | Rate of | | | | |
|-----|-----------------------------|--------|-------|--------------|---------------------------------------|---------------|--------|---------------|--------|--------|
| | Ordinary Death ² | | | Accid Dea | · · · · · · · · · · · · · · · · · · · | Ordi Disal | _ | Accid Disa | | |
| | Sta | ate | Lo | cal | | | | | | |
| Age | Male | Female | Male | Female | State | Local | State | Local | State | Local |
| 20 | 0.03% | 0.02% | 0.03% | 0.02% | 0.001% | 0.001% | 0.005% | _ | 0.001% | 0.001% |
| 25 | 0.04 | 0.02 | 0.04 | 0.02 | 0.001 | 0.001 | 0.006 | _ | 0.001 | 0.002 |
| 30 | 0.04 | 0.02 | 0.04 | 0.02 | 0.001 | 0.001 | 0.097 | 0.060% | 0.004 | 0.004 |
| 35 | 0.05 | 0.03 | 0.06 | 0.02 | 0.001 | 0.001 | 0.216 | 0.189 | 0.011 | 0.005 |
| 40 | 0.08 | 0.05 | 0.10 | 0.04 | 0.001 | 0.001 | 0.304 | 0.269 | 0.020 | 0.012 |
| 45 | 0.11 | 0.08 | 0.13 | 0.06 | 0.001 | 0.001 | 0.410 | 0.363 | 0.023 | 0.017 |
| 50 | 0.16 | 0.12 | 0.19 | 0.09 | 0.001 | 0.001 | 0.462 | 0.434 | 0.035 | 0.021 |
| 55 | 0.23 | 0.18 | 0.26 | 0.14 | 0.001 | 0.001 | 0.559 | 0.587 | 0.047 | 0.026 |
| 60 | 0.33 | 0.28 | 0.40 | 0.21 | 0.001 | 0.001 | 0.987 | 0.759 | 0.041 | 0.030 |
| 65 | 0.54 | 0.43 | 0.65 | 0.33 | 0.001 | 0.001 | 1.190 | 0.932 | 0.061 | 0.027 |
| 69 | 0.76 | 0.58 | 0.86 | 0.47 | 0.001 | 0.001 | 1.417 | 1.110 | 0.062 | 0.027 |

² RP-2000 Employee Preretirement Mortality Table for male and female active participants. For State, mortality tables are set back 4 years for males and 4 years for females. For Employees of Local employers, mortality tables are set back 2 years for males and 7 years for females. In addition, the tables provide for future improvements in mortality from the base year of 2013 using a generational approach based on Conduent Modified MP-2014. Rates shown above are unadjusted for Conduent Modified MP-2014.

| | Annual Rate of | | | | | | | |
|-----|----------------|-----------|------------------|--------------------------|--|--|--|--|
| | Service R | etirement | Salary Increases | | | | | |
| Age | State | Local | FY2015 to FY2021 | FY2022 and Thereafter | | | | |
| 20 | _ | - | 4.65% | 5.65% | | | | |
| 25 | - | _ | 4.40 | 5.40 | | | | |
| 30 | - | _ | 4.15 | 5.15 | | | | |
| 35 | - | _ | 3.90 | 4.90 | | | | |
| 40 | - | _ | 3.65 | 4.65 | | | | |
| 45 | - | _ | 3.40 | 4.40 | | | | |
| 50 | - | _ | 3.15 | 4.15 | | | | |
| 55 | 17.50% | 11.70% | 2.90 | 3.90 | | | | |
| 60 | 9.00 | 7.80 | 2.65 | 3.65 | | | | |
| 65 | 16.20 | 16.54 | 2.15 | 3.15 | | | | |
| 69 | 15.00 | 11.55 | 2.15 | 3.15 | | | | |

Summary of Actuarial Assumptions and Methods, continued

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

This legislation introduced special retirement eligibility for certain benefits. The valuation used the following annual rates of service retirement:

| | Annual Rates of Retirement | | | | | | | | |
|-----|----------------------------|--------------------|----------|----------|----------|-----------|--|--|--|
| | Less than | Less than 20 Years | | 21 to 24 | 25 or Mo | ore Years | | | |
| Age | State | Local | 20 Years | Years | State | Local | | | |
| 40 | 0.00% | 0.03% | 2.50% | 0.00% | 23.10% | 19.25% | | | |
| 45 | 0.00 | 0.00 | 2.50 | 0.00 | 23.10 | 19.25 | | | |
| 50 | 0.00 | 0.00 | 3.75 | 0.00 | 23.10 | 19.25 | | | |
| 55 | 2.59 | 3.06 | 5.00 | 0.00 | 26.22 | 21.85 | | | |
| 60 | 2.63 | 3.06 | 5.00 | 0.00 | 34.17 | 28.48 | | | |
| 65 | 2.63 | 3.06 | 37.50 | 0.00 | 100.00 | 100.00 | | | |
| 69 | 2.63 | 3.06 | 37.50 | 0.00 | 100.00 | 100.00 | | | |

Deaths after Retirement

The RP-2000 Combined Healthy Male and Female Mortality Tables (set back 1 year for males and females) for service retirement and beneficiaries of former members and a one year static projection based on mortality improvement scale AA. The RP-2000 Disabled Mortality Tables (set back 3 years for males and set forward 1 year for females) are used to value disabled retirees. In addition, the tables for service retirement and beneficiaries of former members provide for future improvements in mortality from the base year of 2013 using a generational approach based on the Conduent Modified 2014 projection scale. Illustrative rates of mortality unadjusted for the Conduent Modified 2014 projection scale are shown below:

| | Service Re | etirements | | Disability Retirements | |
|-----|------------|------------|-----|------------------------|-------|
| Age | Men | Women | Age | Men | Women |
| 55 | 0.31% | 0.24% | 35 | 2.26% | 0.75% |
| 60 | 0.59 | 0.44 | 40 | 2.26 | 0.75 |
| 65 | 1.11 | 0.86 | 45 | 2.26 | 0.82 |
| 70 | 1.95 | 1.48 | 50 | 2.51 | 1.25 |
| 75 | 3.34 | 2.53 | 55 | 3.16 | 1.76 |
| 80 | 5.73 | 4.12 | 60 | 3.80 | 2.29 |
| 85 | 9.91 | 6.90 | 65 | 4.50 | 2.96 |

ACTUARIAL INFORMATION

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Summary of Actuarial Assumptions and Methods, continued

Marriage

Husbands are assumed to be three years older than wives. Among the active population, 100% of participants are assumed to be married.

Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains or losses are recognized in future accrued liability contributions. 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.

Asset Valuation Method

A five year average of market values with write-up was used. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

State

| | Adde | ed to Rolls | Remove | ed from Rolls | Rolls at End of Year | | % Increase in | Average |
|-------------------|--------|---------------------|--------|---------------------|----------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 4,114 | \$124,446,887 | 1,754 | \$32,905,541 | 54,074 | \$1,405,596,194 | 6.99% | \$25,994 |
| 7/1/14 | 3,183 | 93,940,693 | 1,696 | 30,809,304 | 51,714 | 1,313,713,988 | 5.09 | 25,403 |
| 7/1/13 | 2,864 | 82,357,835 | 1,685 | 29,723,562 | 50,227 | 1,250,142,686 | 4.41 | 24,890 |
| 7/1/12 | 3,192 | 92,356,665 | 1,734 | 29,433,960 | 49,048 | 1,197,305,307 | 5.66 | 24,411 |
| 7/1/11 | 4,365 | 135,383,063 | 1,782 | 28,241,754 | 47,590 | 1,133,192,150 | 11.40 | 23,812 |
| 7/1/10 | 2,628 | 74,214,851 | 1,456 | 22,991,138 | 45,007 | 1,017,211,463 | 5.32 | 22,601 |

Local Employers

| | Adde | ed to Rolls | Remove | ed from Rolls | Rolls at End of Year | | % Increase in | Average |
|-------------------|--------|---------------------|--------|---------------------|----------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 7,870 | \$149,903,333 | 4,309 | \$54,707,095 | 112,563 | \$1,888,507,678 | 5.35% | \$16,777 |
| 7/1/14 | 7,003 | 137,416,194 | 4,288 | 52,540,322 | 109,002 | 1,792,563,653 | 5.02 | 16,445 |
| 7/1/13 | 6,911 | 123,953,479 | 4,169 | 49,483,971 | 106,287 | 1,706,902,310 | 4.60 | 16,059 |
| 7/1/12 | 7,334 | 137,596,316 | 4,284 | 49,626,477 | 103,545 | 1,631,782,901 | 5.83 | 15,759 |
| 7/1/11 | 9,296 | 195,153,024 | 4,529 | 48,064,677 | 100,495 | 1,541,951,837 | 11.54 | 15,344 |
| 7/1/10 | 6,182 | 115,153,073 | 3,805 | 42,585,361 | 95,728 | 1,382,400,685 | 5.56 | 14,441 |

Total System

| | Adde | d to Rolls | Remove | ed from Rolls | Rolls at End of Year | | % Increase in | Average |
|-------------------|--------|---------------------|--------|---------------------|----------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 11,984 | \$274,350,220 | 6,063 | \$87,612,636 | 166,637 | \$3,294,103,872 | 6.05% | \$19,768 |
| 7/1/14 | 10,186 | 231,356,887 | 5,984 | 83,349,626 | 160,716 | 3,106,277,641 | 5.05 | 19,328 |
| 7/1/13 | 9,775 | 206,311,314 | 5,854 | 79,207,533 | 156,514 | 2,957,044,996 | 4.52 | 18,893 |
| 7/1/12 | 10,526 | 229,952,981 | 6,018 | 79,060,437 | 152,593 | 2,829,088,208 | 5.75 | 18,540 |
| 7/1/11 | 13,661 | 330,536,087 | 6,311 | 76,306,431 | 148,085 | 2,675,143,987 | 11.48 | 18,065 |
| 7/1/10 | 8,810 | 189,367,924 | 5,261 | 65,576,499 | 140,735 | 2,399,612,148 | 5.46 | 17,051 |

¹ These values include beneficiaries in receipt but exclude deferred vested terminations.

² The benefit amounts shown are the annualized benefits as of the valuation date and are not the actual benefits paid during the fiscal year.

Schedule of Active Members Valuation Data

State

| Valuation Date | Number of Active Contributing Members | Annual Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|---|------------------------|-------------------------|--|
| 7/1/15 | 69,687 | \$4,443,605,376 | \$63,765 | 2.39% |
| 7/1/14 | 72,952 | 4,543,384,095 | 62,279 | 1.64 |
| 7/1/13 | 74,365 | 4,556,719,103 | 61,275 | 1.02 |
| 7/1/12 | 75,355 | 4,570,958,470 | 60,659 | 1.48 |
| 7/1/11 | 77,109 | 4,608,926,826 | 59,772 | 6.44 |
| 7/1/10 | 81,288 | 4,564,850,886 | 56,157 | 0.86 |

Local Employers

| Valuation Date | Number of Active Contributing Members | Annual Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|---|------------------------|-------------------------|--|
| 7/1/15 | 152,070 | \$6,876,593,371 | \$45,220 | 2.33% |
| 7/1/14 | 156,101 | 6,898,049,131 | 44,190 | 2.75 |
| 7/1/13 | 160,253 | 6,891,812,162 | 43,006 | 2.78 |
| 7/1/12 | 164,005 | 6,862,133,165 | 41,841 | 2.74 |
| 7/1/11 | 171,881 | 7,000,115,900 | 40,727 | 2.98 |
| 7/1/10 | 187,526 | 7,416,503,897 | 39,549 | 3.37 |

Total System

| Valuation Date | Number of Active Contributing Members | Annual Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|---|------------------------|-------------------------|--|
| 7/1/15 | 221,757 | \$11,320,198,747 | \$51,048 | 2.20% |
| 7/1/14 | 229,053 | 11,441,433,226 | 49,951 | 2.37 |
| 7/1/13 | 234,618 | 11,448,531,265 | 48,796 | 2.16 |
| 7/1/12 | 239,360 | 11,433,091,635 | 47,765 | 2.45 |
| 7/1/11 | 248,990 | 11,609,042,726 | 46,625 | 4.61 |
| 7/1/10 | 268,814 | 11,981,354,783 | 44,571 | 2.43 |

Solvency Test

State

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$5,302,732,138 | \$12,797,013,628 | \$3,535,761,532 | \$8,868,254,006 | 100.00% | 27.86% | 0.00% | |
| 7/1/14 | 5,169,631,309 | 11,857,858,226 | 3,815,201,383 | 9,128,235,998 | 100.00 | 33.38 | 0.00 | |
| 7/1/13 | 4,885,643,785 | 11,293,634,256 | 3,814,679,391 | 9,614,698,050 | 100.00 | 41.87 | 0.00 | |
| 7/1/12 | 4,562,712,648 | 10,849,987,028 | 3,970,884,963 | 9,774,698,097 | 100.00 | 48.04 | 0.00 | |
| 7/1/11 | 4,295,868,689 | 10,055,639,293 | 3,939,321,039 | 10,062,648,618 | 100.00 | 57.35 | 0.00 | |
| 7/1/10 | 4,218,496,038 | 8,891,761,902 | 4,318,920,081 | 10,253,254,901 | 100.00 | 67.87 | 0.00 | |

Local Employers

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$7,829,248,004 | \$16,502,540,582 | \$5,100,106,614 | \$21,495,828,937 | 100.00% | 82.82% | 0.00% | |
| 7/1/14 | 7,477,372,802 | 15,523,266,419 | 5,254,437,999 | 20,766,663,796 | 100.00 | 85.61 | 0.00 | |
| 7/1/13 | 7,060,416,742 | 14,775,793,049 | 5,169,572,726 | 19,978,598,632 | 100.00 | 87.43 | 0.00 | |
| 7/1/12 | 6,614,992,298 | 14,150,003,241 | 5,244,042,802 | 19,376,646,934 | 100.00 | 90.19 | 0.00 | |
| 7/1/11 | 6,244,282,760 | 13,077,334,135 | 5,357,478,680 | 18,997,383,783 | 100.00 | 97.52 | 0.00 | |
| 7/1/10 | 6,130,352,551 | 11,541,556,714 | 6,246,748,779 | 18,481,952,370 | 100.00 | 100.00 | 12.97 | |

Total System

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$13,131,980,142 | \$29,299,554,210 | \$8,635,868,146 | \$30,364,082,943 | 100.00% | 58.81% | 0.00% | |
| 7/1/14 | 12,647,004,111 | 27,381,124,645 | 9,069,639,382 | 29,894,899,794 | 100.00 | 62.99 | 0.00 | |
| 7/1/13 | 11,946,060,527 | 26,069,427,305 | 8,984,252,117 | 29,593,296,682 | 100.00 | 67.69 | 0.00 | |
| 7/1/12 | 11,177,704,946 | 24,999,990,269 | 9,214,927,765 | 29,151,345,031 | 100.00 | 71.89 | 0.00 | |
| 7/1/11 | 10,540,151,449 | 23,132,973,428 | 9,296,799,719 | 29,060,032,401 | 100.00 | 80.06 | 0.00 | |
| 7/1/10 | 10,348,848,589 | 20,433,318,616 | 10,565,668,860 | 28,735,207,271 | 100.00 | 89.98 | 0.00 | |

¹ Actuarial Value including receivable amounts.

Analysis of Past Financial Experience — Reconciliation of Employer Contribution Rates

State

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|--|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Prior Year Contribution Rate | 27.77%3 | 22.99% ³ | 22.97% ³ | 20.06%3 | 19.15% ³ | 16.28% ³ |
| Adjustment for Full Member Contributions to Offset Normal Cost | N/A | N/A | (1.45) | N/A | N/A | N/A |
| Revised Prior Year Contribution Rate | N/A | N/A | 21.52% | N/A | N/A | N/A |
| Net Change Due to: | | | | | | |
| Current New Entrants | (0.04) | (0.04) | (0.03) | 0.02 | 0.00 | 0.04 |
| Excess Salary Increases | 0.06 | (0.10) | (0.23) | (0.14) | 0.24 | (0.22) |
| Assumption/Method Changes | 0.05 | 0.04 | 0.00 | 0.80 | (1.28) | 0.00 |
| COLA Increases and Phase-In | 0.00 | 0.00 | 0.00 | 0.02 | (0.13) | (0.07) |
| Active Experience | 0.15 | (0.01) | (0.19) | 0.07 | 0.27 | 0.15 |
| Other Experience | 0.18 | 0.32 | 0.35 | 0.19 | (0.16) | 0.23 |
| Investment Loss/(Gain) | 0.32 | 0.17 | 0.47 | 0.67 | 0.48 | 0.65 |
| Chapter 133 Benefit Improvements ² | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Net Effect of Chapter 1331 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chapter 366 Benefit Improvement | 0.00 | 0.01 | 0.00 | (0.01) | 0.00 | 0.01 |
| Net Effect of Chapter 366 | 0.03 | 0.02 | 0.00 | 0.01 | 0.01 | 0.03 |
| Appropriation Act ⁴ | 1.64 | 2.37 | 1.10 | 1.28 | 1.48 | 1.03 |
| Chapter 21, P.L. 2008 | N/A | N/A | N/A | N/A | N/A | N/A |
| Chapter 103, P.L. 2007 | N/A | N/A | N/A | N/A | N/A | N/A |
| Chapter 78, P.L. 2011 | N/A | N/A | N/A | N/A | N/A | 1.02 |
| Recommended Contribution Rate: | | | | | | |
| Prior to reflecting Chapter 1, P.L. 2010 | 28.16%³ | 25.77%³ | 22.99% ³ | 22.97% ³ | 20.06% ³ | 19.15%³ |
| After reflecting Chapter 1, P.L. 2010 | N/A | N/A | 13.14% ³ | 9.85%3 | 5.73% | 2.74%³ |

¹ The additional annual employer normal contribution for the increase in benefits is funded by assets accumulated in the Benefit Enhancement Fund.

² Includes the effect of additional cost due to Chapter 353, P.L. 2000.

³ Excludes contribution rates payable to the Non-Contributing Group Insurance Premium Fund. The contribution rates are 0.78% for 2015, 0.76% for 2014, 0.75% for 2013, 0.73% for 2012, 0.74% for 2011, and 0.71% for 2010.

⁴ Net change due to Appropriation Act for July 1, 2010 includes 0.03% change due to the Fiscal Year 2010 Appropriation Act and 1.00% change due to the Fiscal Year 2011 Appropriation Act. Net change for July 1, 2011, July 1, 2012, and July 1, 2013 are due to the provisions of Chapter 1, P.L. 2010

Analysis of Past Financial Experience — Reconciliation of Employer Contribution Rates

Local

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|--|-----------------|-----------------|-----------------|---------------------|---------------------|---------------------|
| Prior Year Contribution Rate ⁴ | 12.49%³ | 11.85%³ | 12.68%³ | 11.29%³ | 11.32%³ | 11.12% ³ |
| Adjustment for Full Member Contributions to Offset Normal Cost | N/A | N/A | (1.24) | N/A | N/A | N/A |
| Revised Prior Year Contribution Rate | N/A | N/A | 11.44% | N/A | N/A | N/A |
| Net Change Due to: | | | | | | |
| Current New Entrants | (0.04) | (0.03) | (0.02) | 0.02 | 0.03 | 0.08 |
| Excess Salary Increases | 0.01 | 0.05 | 0.02 | (0.02) | (0.12) | (0.08) |
| Assumption/Method Changes | 0.18 | 0.06 | 0.00 | 0.38 | (0.93) | 0.00 |
| COLA Increases and Phase-In | 0.00 | 0.00 | 0.00 | 0.02 | (0.11) | (0.05) |
| Active Experience | (0.05) | (0.02) | (0.36) | 0.04 | 0.26 | 0.10 |
| Other Experience | 0.14 | 0.43 | 0.19 | 0.13 | 0.21 | (0.04) |
| Investment Loss/(Gain) | 0.30 | 0.16 | 0.59 | 0.83 | 0.77 | 0.77 |
| Chapter 133 Benefit Improvements ² | 0.00 | 0.00 | 0.00 | 0.00 | (0.13) | 0.00 |
| Net Effect of Chapter 133 ¹ | (0.62) | (0.64) | (0.67) | (0.68) | (0.69) | (0.81) |
| Chapter 366 Benefit Improvement | 0.01 | (0.01) | (0.01) | (0.01) | (0.01) | 0.00 |
| Net Effect of Chapter 366 | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.04) |
| Chapter 108, P.L. 2003 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chapter 103, P.L. 2007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chapter 78, P.L. 2011 | N/A | N/A | N/A | N/A | N/A | (0.58) |
| Recommended Contribution Rate ⁵ | 12.30%³ | 11.83%³ | 11.16%³ | 11.98% ³ | 10.58% ³ | 10.47%³ |

¹ The additional annual employer normal contribution for the increase in benefits is funded by assets accumulated in the Benefit Enhancement Fund.

² Includes the effect of additional cost due to Chapter 353, P.L. 2000.

³ Excludes contribution rates payable to the Non-Contributing Group Insurance Premium Fund. The contribution rates are 0.61% for 2015, 0.63% for 2014, 0.76% for 2013, 0.18% for 2012, 0.63% for 2011, and 0.67% for 2010.

⁴ Prior to the reallocation of State paid Local obligations due to Chapter 133, P.L. 2001 and Chapter 366, P.L. 2001.

⁵ After the reallocation of State paid Local obligations due to Chapter 133, P.L. 2001 and Chapter 366, P.L. 2001.

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

1. Definitions

Final Compensation (FC)

Average annual compensation for the three years of creditable service immediately preceding retirement or the highest three fiscal years of membership 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. Chapter 103, P.L. 2007 provides that for Class D, Class E, Class F and Class G members, 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. Chapter 1, P.L. 2010 provides that for Class F and Class G members FC is the average annual compensation for the five years of creditable service immediately preceding retirement or the highest five fiscal years of membership service.

Accumulated Deductions

Sum of all required amounts deducted from the compensation of a member or contributed by him.

Class B Member

Any member who was hired prior to July 1, 2007.

Class D Member

Any member who was hired on or after July 1, 2007, but prior to November 2, 2008.

Class E Member

Any member who was hired after November 1, 2008, but prior to May 22, 2010.

Class F Member

Any member who was hired on or after May 22, 2010, but prior to June 28, 2011.

Class G Member

Any member who was hired on or after June 28, 2011.

2. Benefits¹

Service Retirement

Eligible at age 60. Benefit equals a member annuity plus an employer pension, which together, equal 1/55th of FC for each year of service. Chapter 89, P.L. 2008 changed the eligibility age to age 62 for Class E members, Chapter 1, P.L. 2010 changed the eligibility age to age 62 for Class F members and changed the basic accrual rate from 1/55th to 1/60th of FC for each year of service for Class F and Class G members and Chapter 78, P.L. 2011 changed the eligibility age to age 65 for Class G members.

Ordinary Disability Retirement

Eligible after 10 years of service. Benefit equals a member annuity plus an employer pension which, together, equal 1.64% of FC for each year of service; minimum benefit of 43.6% of FC. Class F and Class G members are not eligible for an Ordinary Disability Retirement benefit in accordance with Chapter 3, P.L. 2010.

Accidental Disability

Eligible upon total and permanent disability prior to age 65 as a result of a duty injury. Benefit equals a member annuity plus an employer pension which, together, equal 72.7% of contributory compensation at the date of injury. Class F and Class G members are not eligible for an Accidental Disability Retirement benefit in accordance with Chapter 3, P.L. 2010.

Lump Sum Withdrawal

Eligible upon service termination prior to age 60 (age 62 for Class E and Class F members and age 65 for Class G members) and prior to 10 years of service. Benefit equals refund of accumulated deductions plus, if the member has completed three years of service, interest allowed thereon.

Vested Retirement

Eligible after 10 years of service. Benefit equals the lump sum benefit described above or a deferred retirement benefit, commencing at age 60 (age 62 for Class E and Class F members and age 65 for Class G members), equal to the service retirement benefit based on service and FC at date of termination.

Early Retirement

Eligible after 25 years of service (30 years of service for Class G members). Benefit equals the lump sum benefit described above or the vested benefit reduced by 1/4 percent for each month the retirement date precedes age 55. Chapter 103, P.L. 2007 provides that for Class D members, the reduction shall be 1/12 percent for each month (up to 60 months) the retirement date precedes age 60 plus 1/4 percent for each month the retirement date precedes age 55. Chapter 89, P.L. 2008 and Chapter 1, P.L. 2010 provides that for Class E and Class F members, the reduction shall be 1/12 percent for each month (up to 84 months) the retirement date precedes age 62 plus 1/4 percent for each month the retirement date precedes age 55. Chapter 78, P.L. 2011 provides that for Class G members, the reduction shall be 1/4 percent for each month the retirement date precedes age 65.

¹ Special benefits for veterans, law enforcement officers, legislators, prosecutors, and workers' compensation judges are summarized at the end of this section.

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes, continued

Ordinary Death (Insured)

Before Retirement

Eligible if active. Benefit equals accumulated deductions with interest plus an amount equal to 1-1/2 times contributory compensation at date of death.

After Retirement - Before Age 60

Eligible if disabled or vested terminated. Benefit equals 1-1/2 times last contributory compensation if disabled, accumulated deductions only if vested terminated.

After Retirement - After Age 60 or Early Retirement

Eligible after early retirement or after attainment of age 60 for other types of retirement (if not disabled, 10 years of service credit required on members enrolling after July 1, 1971). Benefit equals 3/16 of last contributory compensation.

Voluntary Death Benefit

An additional, employee-paid, death benefit is also available through the purchase of group insurance with an outside carrier.

Accidental Death

Eligible upon death resulting during performance of duty. Benefit varies as follows:

Widow(er)

50% of contributory compensation paid as pension.

Child(ren)

No spouse - 20% (1 child), 35% (2 children), 50% (3 or more children) of contributory compensation paid as pension to age 18 or life if disabled.

Surviving dependent parent

No spouse or child - 25% (1 parent) or 40% (2 parents) of contributory compensation paid as pension.

No relation above

Accumulated deductions paid to other beneficiary or estate.

In addition the employer-paid lump sum ordinary death benefit is paid.

Optional Benefits

Various forms of payment of equivalent actuarial value are available to retirees.

Special Benefits

Veterans

Service Retirement

Eligible if member on January 2, 1955, attains age 60, completes 20 years of service. Benefit equals 54.5% of final contributory compensation (veteran members after January 2, 1955, must attain age 55 with 25 years of service or age 60 with 20 years of service).

Chapter 220 Benefit

Eligible if age 55 and completes 35 years of service. Benefit equals 1/55th of the compensation for the 12-month period of membership that provides the largest possible benefit multiplied by the member's total years of service.

Law Enforcement

Service Retirement

Eligible at age 55 after 20 years of service. Benefit equals a member annuity plus an employer pension which, together, equal 2% of final contributory compensation for each of the first 25 years of service plus 1% of such compensation for non-contributory service or service over 25 years plus 1-2/3% for non-law enforcement service.

Chapter 4, P.L. 2001 **Special Retirement**

After completion of 25 years of service, an additional retirement benefit equal to 5% of final contributory pay is added to the above service related retirement benefit. There is a maximum total benefit of 70% of final contributory pay.

Ordinary Disability

Eligible after five years of service. Benefit is the same as for regular members.

Death After Retirement

Eligible upon death after an accidental disability retirement. Benefit is the same as for a regular member with a \$5,000 minimum.

Legislators

Service Retirement

Eligible at age 60 and termination of all public service. Benefit is equal to a member annuity plus an employer pension which, together, equal 3% of final contributory compensation for each year of service to a maximum of 2/3 of final compensation.

Vested Retirement

Eligible after eight years of legislative service. Benefit is a service retirement benefit deferred to age 60 or, alternatively, a lump sum equal

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes, continued

to his accumulated deductions.

Prosecutors Part (Chapter 366, P.L. 2001) Service Retirement

Eligibility means age 55 or 20 years of credited service. Mandatory retirement at age 70. Benefit is an annual retirement allowance equal to a member annuity plus an employer pension, which together equals the greater of:

- i. 1/60th of FC for each year service; or
- ii. 2% of FC multiplied by years of service up to 30 plus 1% of FC multiplied by years of service over 30; or
- iii. 50% of final contributory compensation if the member has 20 or more years of service.

Chapter 366 also requires that, in addition to the 50% of final contributory compensation benefit, any member as of January 7,2002, who will have 20 or more years of service and is required to retire upon attaining age 70, shall receive an additional benefit equal to 3% of final contributory compensation for each year of service over 20 years but not over 25 years.

Special Retirement

After completion of 25 years of service. The annual retirement benefit is equal to a member annuity plus an employer pension which together equal 65% of final contributory compensation plus 1% of final contributory compensation for each year of service over 25. There is a maximum benefit of 70% of final contributory compensation.

Vested Termination

Eligible upon termination of service prior to age 55 and after 10 years of Service (but less than 20 years). The benefit is a deferred retirement benefit, commencing at age 55, equal to a member annuity plus an employer pension which together provide a retirement allowance equal to 2% of final contributory compensation multiplied by service up to 30 plus 1% of final contributory compensation multiplied by years of service in excess of 30.

Death Benefits

Ordinary Death Benefit - Lump Sum

After retirement but prior to age 55, the benefit is as follows:

- For death while a Disabled Retiree the benefit is equal to 1-1/2 times Compensation.
- For death while a Deferred Retiree the benefit is equal to his Accumulated Deductions.
- iii. For death while a Retiree who has completed 20 years of Service, the benefit is equal to $\frac{1}{2}$ times final contributory compensation.

After retirement and after age 55, the benefit payable is equal to $\frac{1}{2}$ times final contributory compensation.

Chapter 1, P.L. 2010, closes the Prosecutors Part of the System to new members enrolled on or after May 22, 2010.

Workers' Compensation Judges Part (Chapter 259, P.L. 2001)

Service Retirement

- A. Mandatory retirement at age 70. Voluntary retirement prior to age 70 as follows:
 - Age 70 and 10 years of service as a judge of compensation;
 - Age 65 and 15 years of service as a judge of compensation; or
 - iii. Age 60 and 20 years of as of judge of compensation service.

Benefit is an annual retirement allowance equal to the greater of 75% of final salary or the regular service retirement benefit above.

- B. Age 65 while serving as a judge of compensation, five consecutive years of service as a judge of compensation and 15 years in the aggregate of public service; or
 - Age 60 while serving as a judge, five consecutive years of service as a judge of compensation and 20 years in the aggregate of public service.
 - Benefit is an annual retirement allowance equal to the greater of 50% of final salary or the regular service retirement benefit above.
- C. Age 60 while serving as a judge of compensation, five consecutive years of service as a judge of compensation and 15 years in the aggregate of public service. Benefit is an annual retirement allowance equal to the greater 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 or the regular service retirement benefit above.
- D. Age 60 while serving as a judge of compensation. Benefit is an annual retirement allowance equal to the greater of 2% of final salary for each year of service as a judge of compensation up to 25 years plus 1% for each year in excess of 25 years or the regular service retirement benefit above.

Early Retirement

Prior to age 60 while serving as a judge of compensation, five consecutive years of service as a judge of compensation 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.

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes, continued

Vested Termination

Termination of service prior to age 60, with 5 consecutive years of service as a judge of compensation 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% for service in excess of 25 years.

Death Benefits (Insured)

Before Retirement

Death of an active member of the plan. Benefit is equal to

- i. Lump sum payment equal to 1-1/2 times final salary, plus
- ii. Spousal life annuity of 25% of final salary plus 10% (15%) to one (two or more) surviving children payable until spouse's death or remarriage. 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 (children). If there is no surviving spouse (or dependent children), 20% or 30% of final salary to one or two dependent parents.

After Retirement

Death of a retired member of the plan. Benefit is equal to a lump sum of 25% of final salary for a member retired under normal, early retirement or vested termination. If a member were receiving a disability benefit, a lump sum 1-1/2 times final salary if death occurred before the member attained age 60 and 1/4 times final salary if death occurred after age 60.

Chapter 92, P.L. 2007, closes the Workers' Compensation Judges Part of the System to new members enrolled after June 8, 2007.

3. Contributions

By Members

Members enrolling in the retirement system on or after July 1, 1994 will contribute 5% of compensation. Members enrolled prior to July 1, 1994 will contribute 5% of compensation to the retirement system effective July 1, 1995 unless they previously had contributed less than 6% in which case they will contribute 4% of compensation beginning July 1, 1995 and 5% of compensation beginning July 1, 1996. Chapter 103, P.L. 2007 increases the contribution rate to 5.5% of compensation effective, generally, July 1, 2007 for State employees and July 1, 2008 for Local employees. Chapter 78, P.L. 2011 increases the contribution rate from 5.5% to 6.5% of compensation with the increase effective October 2011. Further, beginning July 2012, the member contribution rate will increase by 1/7th of 1% each July until a 7.5% member contribution rate is reached in July 2018.

A 7.50% member contribution rate for members who are eligible to retire under the Prosecutors Part of the Retirement System as provided by Chapter 366, P.L. 2001, was used prior to July 1, 2008. Effective July 1, 2008 the member contribution rate was increased to 8.50%. Chapter 78, P.L. 2011, increases the contribution rate from 8.5% to 10.0% of compensation with the increase effective October

By Employers

Normal Contribution

The State and Local employers pay annually a normal contribution to the retirement System. This contribution is determined each year on the basis of the annual valuation and represents the value of the benefits to be earned in the year following the valuation date. The normal contributions for active members' COLA are being phased in. Chapter 78, P.L. 2011, suspended future COLAs for current and future retirees and beneficiaries until reactivated as permitted by law.

In accordance with the provisions of Chapter 79, P.L. 1960, the monies appropriated for payment of the noncontributory life insurance coverage shall be held separate from the retirement System monies.

In accordance with the provisions of Chapter 133, P.L. 2001, the Benefit Enhancement Fund (BEF) was established to fund the additional annual employer normal contribution due to the law's increased benefits. (Chapter 353, P.L. 2001, extended this coverage to this law'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.

In accordance with the provisions of Chapter 259, P.L. 2001, the additional normal contributions for increased benefits to judges of compensation for a valuation period will be funded by transfers from the Second Injury Fund.

Chapter 19, P.L. 2009, provides that the State Treasurer will reduce for Local employers the normal contribution to 50% of the amount certified for fiscal year 2009. This 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 provides that a Local employer may pay 100% of the recommended contribution for fiscal vear 2009. Local employers who were eligible but did not elect to take advantage of Chapter 19, P.L. 2009, were permitted to elect to defer 50% of the 2010 fiscal year required contribution with the first payment due in the fiscal year ending June 30, 2012.

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes, continued

Accrued Liability Contributions

The State and Local employers pay contributions to cover any unfunded accrued liability. An unfunded accrued liability was established for active life COLAs. The amortization periods for funding these liabilities were set initially at 40 years. Experience gains or losses for the 10 valuation years following the March 31, 1992 valuation will increase or decrease the unfunded accrued liability. Thereafter, actuarial gains or losses will increase or decrease the amortization period unless an increase will cause it to exceed 30 years. Chapter 78, P.L. 2011, suspended future COLAs for current and future retirees and beneficiaries until reactivated as permitted by law and changed the methodology used to amortize the unfunded accrued liability. 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.

Chapter 366, P.L. 2001, 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 accrued liability in the Retirement System arising from the benefits established for the Prosecutors Part are to be amortized over a period of 30 years in the manner provided for other such liability in the Retirement System.

In accordance with the provisions of Chapter 259, P.L. 2001, the additional accrued liability contribution for increased benefits to judges of compensation for a valuation period will be funded by transfers from the Second Injury Fund.

Chapter 19, P.L. 2009, provides that the State Treasurer will reduce for Local employers the accrued liability contribution to 50% of the amount certified for fiscal year 2009. This 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 provides that a Local employer may pay 100% of the recommended contribution for fiscal year 2009. Local employers who were eligible but did not elect to defer 50% of the 2009 fiscal year contribution were permitted to elect to defer 50% of the 2010 fiscal year contribution with the first payment due in the fiscal year ending June 30, 2012.

ACTUARIAL INFORMATION

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** TEACHERS' PENSION AND ANNUITY FUND



February 18, 2016

1550 Liberty Ridge Drive, Suite 200 Wayne, PA 19087-5572 Tel +1 610 687 5644 Fax +1 610.687.4236 www.milliman.com

The Board of Trustees Teachers' Pension and Annuity Fund of New Jersey

Re: Actuary's Certification Letter

Members of the Board:

This report presents the results of the actuarial valuation of Teachers' Pension and Annuity Fund of New Jersey as of June 30, 2016. Section I contains highlights of the valuation including a general discussion and comments on the various schedules included in the report. The subsequent Sections contain schedules summarizing the underlying calculations, asset information, participant data, plan benefits and actuarial assumptions.

Purpose

The main purposes of this report are:

- to provide the annual state contribution in accordance with N.J. Statutes to be made in the Fiscal Year ending June 30, 2017 which represents the contribution for the valuation year beginning July 1, 2015;
- to determine the Target Funded Ratio as of July 1, 2015 in accordance with N.J. Statutes to potentially provide for the formation of a special pension committee;
- to review the experience under the plan for the valuation year ending June 30, 2015.

Actuarial computations presented in this report are for purposes of determining the statutory contribution amounts and Target Funded Ratio for TPAF. Actuarial computations under GASB Statements No. 67 and No. 68 are provided in a separate report and are for purposes of assisting TPAF and participating employers in fulfilling their financial accounting requirements. The computations prepared for these two purposes may differ. The calculations in the enclosed report have been made on a basis consistent with our understanding of the N.J. statutes. Determinations for purposes other than these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the use and benefit of the Teachers' Pension and Annuity Fund ("System") for the State of New Jersey Division of Pension and Benefits. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception:

 The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

Data Reliance

In preparing this report, we relied, without audit, on statutory provisions, member census data, plan provisions, asset statements and other information (both written and oral) provided by the State of New Jersey Division of Pensions and Benefits. We have not audited or verified the census data, asset statements or other information. To the extent any of these are inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

ACTUARIAL INFORMATION

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
TEACHERS' PENSION AND ANNUITY FUND

We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Future Measurements

This valuation report is only an estimate of TPAF's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of TPAF benefits, only the timing of TPAF contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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; changes in actuarial methods; and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Board and State Treasurer have the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

Certification

We hereby certify that, to the best of our knowledge, this report, including all costs and liabilities based on actuarial assumptions and methods adopted by the Board or mandated by statute, is complete and accurate and determined in conformance with generally recognized and accepted actuarial principles and practices, which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions and supporting Recommendations of the American Academy of Actuaries.

In compliance with New Jersey statute, this actuarial valuation is based on an investment return assumption of 7.90%. The investment return assumption is specified by the State Treasurer. Based on Milliman's capital market outlook model, this assumption is near the 75th percentile of projected annualized 30-year returns. We believe consideration should be given to reducing the investment return assumption. If the investment return was lowered, the actuarial accrued liability and statutory contributions would increase and the funded ratio would decrease. Determining results at an alternative investment return assumption is outside the scope of our assignment.

This actuarial valuation is based on the asset valuation method in compliance with New Jersey Statute. This method recognizes 20% of the difference between the market value of assets and the actuarial value of assets. Per Actuarial Standards of Practice (ASOP) No. 44, a reasonable asset valuation method produces values within a sufficiently narrow range around market value or recognizes differences from market value in a sufficiently short period. As of June 30, 2015, the Actuarial Value of Assets is 107.5% of market value. Investment losses have occurred each year since the July 1, 2000 actuarial valuation on an actuarial value of asset basis. Combining an optimistic investment return assumption with a current actuarial value of assets that exceeds the market value of assets, along with an asset smoothing method which recognizes investment losses very slowly over time, will result in upward pressure on actuarially determined contribution requirements in future years.

We are members of the American Academy of Actuaries and meet its Qualification Standard to render this actuarial opinion.

Respectfully submitted,

Bv:

Richard L. Gordon, F.S.A.

what I Yad

Member American Academy of Actuaries

Scott Porter, F.S.A.

Member American Academy of Actuaries

Summary of Actuarial Assumptions and Methods

A. Actuarial Assumptions

Interest: 7.90% per annum, compounded annually (as prescribed by the State Treasurer).

Salary Scale: Salary increases vary by years of employment and time period averaging 3.33% for periods prior to June 30, 2016, averaging 3.86% for a five year select period (June 30, 2016 – June 30, 2021) and averaging 4.67% thereafter. Average percentages based on 2012 Experience Study. Schedule of annual rates are shown below.

| Years of | S | g | |
|------------|---------------|---------------|-----------------|
| Employment | June 30, 2016 | June 30, 2021 | Ultimate Period |
| 0-8 | 3.80% | 4.30% | 5.40% |
| 9-12 | 4.35 | 5.05 | 5.95 |
| 13 | 4.10 | 4.80 | 5.80 |
| 14 | 3.95 | 4.65 | 5.45 |
| 15 | 3.95 | 4.45 | 5.05 |
| 16 | 3.30 | 3.90 | 4.50 |
| 17 | 3.15 | 3.65 | 4.15 |
| 18 | 2.85 | 3.35 | 3.95 |
| 19 | 2.70 | 3.20 | 3.70 |
| 20 | 2.50 | 3.00 | 3.60 |
| 21 | 2.35 | 2.75 | 3.25 |
| 22 | 2.10 | 2.50 | 3.10 |
| 23-25 | 2.00 | 2.40 | 2.95 |
| 26-30 | 1.80 | 2.20 | 2.80 |
| 31+ | 1.75 | 2.05 | 2.50 |

Increases in Compensation Limits: The IRC Section 401(a)(17) limit is assumed to increase 2.75% per annum, compounded annually. The Social Security Taxable Wage Base is assumed to increase 3.75% per annum, compounded annually.

A. Actuarial Assumptions (Continued)

Termination: Withdrawal rates vary by age, years of employment and gender. Illustrative rates are shown below:

| | Less Than 10 Years of Employment | | | | | |
|------------|----------------------------------|--------|--------|--|--|--|
| Years of | | Fen | nale | | | |
| Employment | Male | <40 | 40+ | | | |
| 0 | 9.65% | 10.29% | 10.29% | | | |
| 1 | 8.05 | 7.42 | 7.42 | | | |
| 2 | 7.36 | 6.91 | 6.91 | | | |
| 3 | 4.87 | 5.74 | 5.27 | | | |
| 4 | 3.39 | 5.07 | 3.06 | | | |
| 5 | 2.68 | 4.84 | 2.74 | | | |
| 6 | 2.05 | 4.58 | 2.07 | | | |
| 7 | 1.81 | 4.28 | 1.78 | | | |
| 8 | 1.46 | 4.01 | 1.43 | | | |
| 9 | 1.25 | 3.41 | 1.33 | | | |

A. Actuarial Assumptions (Continued)

| | Annual Rates for Those With Deferred Annuity Benefits* | | | | | | | |
|-----|---|--------|----------------------|--------------|-------|--------|--|--|
| | 10-14 Years of Employment 15-19 Years of Employment 20-24 Years | | 20-24 Years o | f Employment | | | | |
| Age | Male | Female | Male | Female | Male | Female | | |
| 30 | 0.65% | 3.06% | 0.47% | 2.50% | 0.31% | 1.66% | | |
| 35 | 0.66 | 2.27 | 0.48 | 1.86 | 0.32 | 1.24 | | |
| 40 | 0.69 | 1.34 | 0.50 | 0.93 | 0.33 | 0.62 | | |
| 45 | 0.57 | 0.61 | 0.41 | 0.42 | 0.27 | 0.28 | | |
| 50 | 0.65 | 0.62 | 0.47 | 0.43 | 0.31 | 0.29 | | |
| 55 | 1.18 | 1.29 | 0.85 | 0.89 | 0.57 | 0.59 | | |

^{*}Members must have attained 10 years of service or 60 years of age (62 years of age for Class E and F members, 65 years of age for Class G members) in order to receive an annuity benefit.

| | Annual Rates for Those Receiving Return of Contributions | | | | | | | |
|-----|--|--|-------|--------------|-------|--------|--|--|
| | 10-14 Years o | 0-14 Years of Employment 15-19 Years of Employment 20-24 Years of Employment | | f Employment | | | | |
| Age | Male | Female | Male | Female | Male | Female | | |
| 30 | 0.44% | 0.76% | 0.31% | 0.62% | 0.21% | 0.42% | | |
| 35 | 0.43 | 0.57 | 0.30 | 0.47 | 0.20 | 0.31 | | |
| 40 | 0.36 | 0.33 | 0.26 | 0.23 | 0.17 | 0.16 | | |
| 45 | 0.23 | 0.15 | 0.17 | 0.11 | 0.11 | 0.07 | | |
| 50 | 0.21 | 0.15 | 0.15 | 0.11 | 0.10 | 0.07 | | |
| 55 | 0.28 | 0.14 | 0.20 | 0.10 | 0.13 | 0.07 | | |

A. Actuarial Assumptions (Continued)

Retirement: Rates of retirement vary by age, gender and eligibility for an unreduced pension and post-retirement medical benefits. The rates listed below are for members hired prior to July 1, 2007 (Class A and B employees). Illustrative rates are shown below.

| | Loss Than | Less Than Age 55 or | | Attainment of Age 55 and 25 Years of Service | | | | |
|-------|-----------|---------------------|---------|--|------------|---------------|--|--|
| | | ears of Service | First E | ligibility | After Firs | t Eligibility | | |
| Age | Male | Female | Male | Female | Male | Female | | |
| <47 | 1.2% | 1.2% | N/A | N/A | N/A | N/A | | |
| 48 | 1.5 | 1.5 | N/A | N/A | N/A | N/A | | |
| 49 | 1.7 | 1.7 | N/A | N/A | N/A | N/A | | |
| 50 | 2.0 | 2.0 | N/A | N/A | N/A | N/A | | |
| 51 | 2.4 | 2.4 | N/A | N/A | N/A | N/A | | |
| 52 | 2.8 | 2.8 | N/A | N/A | N/A | N/A | | |
| 53 | 3.8 | 3.8 | N/A | N/A | N/A | N/A | | |
| 54 | 4.8 | 4.8 | N/A | N/A | N/A | N/A | | |
| 55 | N/A | N/A | 15.0% | 16.0% | N/A | N/A | | |
| 56 | N/A | N/A | 22.0 | 18.0 | 12.0% | 13.0% | | |
| 57 | N/A | N/A | 22.0 | 18.0 | 13.0 | 14.0 | | |
| 58 | N/A | N/A | 26.0 | 26.0 | 14.0 | 15.0 | | |
| 59 | N/A | N/A | 26.0 | 26.0 | 16.0 | 17.0 | | |
| 60 | 8.0 | 5.5 | 32.0 | 32.0 | 21.0 | 21.0 | | |
| 61 | 8.0 | 5.5 | 35.0 | 35.0 | 24.0 | 23.0 | | |
| 62 | 8.5 | 7.5 | 45.0 | 50.0 | 36.0 | 32.0 | | |
| 63 | 9.5 | 8.0 | 45.0 | 48.0 | 30.0 | 29.0 | | |
| 64 | 9.5 | 8.0 | 45.0 | 48.0 | 30.0 | 29.0 | | |
| 65 | 14.5 | 12.0 | 50.0 | 50.0 | 35.0 | 35.0 | | |
| 66-70 | 18.0 | 14.0 | 50.0 | 50.0 | 30.0 | 30.0 | | |
| 71+ | 18.0 | 16.0 | 50.0 | 50.0 | 30.0 | 30.0 | | |

A. Actuarial Assumptions (Continued)

The rates listed below are for members hired on or after July 1, 2007, and before November 2, 2008 (Class D employees). Illustrative rates are shown below.

| Less Than Age 60 or | | Ago 60 or | Attainment of Age 60 and 25 Years of Service | | | | | |
|---------------------|------|--|--|-------------------|-------|-------------|--|--|
| | | ess Than 25 Years of Service First Eligibility | | First Eligibility | | Eligibility | | |
| Age | Male | Female | Male | Female | Male | Female | | |
| <47 | 0.6% | 0.6% | N/A | N/A | N/A | N/A | | |
| 48 | 0.8 | 0.8 | N/A | N/A | N/A | N/A | | |
| 49 | 0.9 | 0.9 | N/A | N/A | N/A | N/A | | |
| 50 | 1.0 | 1.0 | N/A | N/A | N/A | N/A | | |
| 51 | 1.2 | 1.2 | N/A | N/A | N/A | N/A | | |
| 52 | 1.4 | 1.4 | N/A | N/A | N/A | N/A | | |
| 53 | 1.9 | 1.9 | N/A | N/A | N/A | N/A | | |
| 54 | 2.4 | 2.4 | N/A | N/A | N/A | N/A | | |
| 55 | 11.5 | 11.5 | N/A | N/A | N/A | N/A | | |
| 56 | 12.0 | 12.0 | N/A | N/A | N/A | N/A | | |
| 57 | 12.5 | 12.5 | N/A | N/A | N/A | N/A | | |
| 58 | 13.5 | 13.5 | N/A | N/A | N/A | N/A | | |
| 59 | 14.0 | 14.0 | N/A | N/A | N/A | N/A | | |
| 60 | 8.0 | 5.5 | 34.0% | 32.0% | N/A | N/A | | |
| 61 | 8.0 | 5.5 | 35.0 | 35.0 | 24.0% | 23.0% | | |
| 62 | 8.5 | 7.5 | 45.0 | 50.0 | 36.0 | 32.0 | | |
| 63 | 9.5 | 8.0 | 45.0 | 48.0 | 30.0 | 29.0 | | |
| 64 | 9.5 | 8.0 | 45.0 | 48.0 | 30.0 | 29.0 | | |
| 65 | 14.5 | 12.0 | 50.0 | 50.0 | 35.0 | 35.0 | | |
| 66-70 | 18.0 | 14.0 | 50.0 | 50.0 | 30.0 | 30.0 | | |
| 71+ | 18.0 | 16.0 | 50.0 | 50.0 | 30.0 | 30.0 | | |

A. Actuarial Assumptions (Continued)

The rates listed below are for members hired after November 1, 2008, and before June 28, 2011 (Class E and Class F employees). Illustrative rates are shown below.

| | Less Than A | Nga 62 or | Attainı | Attainment of Age 62 and 25 Years of Service | | | | |
|-------|-------------|------------------------------|---------|--|-------|-------------|--|--|
| | | ess Than 25 Years of Service | | First Eligibility | | Eligibility | | |
| Age | Male | Female | Male | Female | Male | Female | | |
| <47 | 0.6% | 0.6% | N/A | N/A | N/A | N/A | | |
| 48 | 0.7 | 0.7 | N/A | N/A | N/A | N/A | | |
| 49 | 0.8 | 0.8 | N/A | N/A | N/A | N/A | | |
| 50 | 0.9 | 0.9 | N/A | N/A | N/A | N/A | | |
| 51 | 1.1 | 1.1 | N/A | N/A | N/A | N/A | | |
| 52 | 1.3 | 1.3 | N/A | N/A | N/A | N/A | | |
| 53 | 1.7 | 1.7 | N/A | N/A | N/A | N/A | | |
| 54 | 2.2 | 2.2 | N/A | N/A | N/A | N/A | | |
| 55 | 10.5 | 10.5 | N/A | N/A | N/A | N/A | | |
| 56 | 10.8 | 10.8 | N/A | N/A | N/A | N/A | | |
| 57 | 11.0 | 11.0 | N/A | N/A | N/A | N/A | | |
| 58 | 12.0 | 12.0 | N/A | N/A | N/A | N/A | | |
| 59 | 12.5 | 12.5 | N/A | N/A | N/A | N/A | | |
| 60 | 20.0 | 20.0 | N/A | N/A | N/A | N/A | | |
| 61 | 22.0 | 22.0 | N/A | N/A | N/A | N/A | | |
| 62 | 23.0 | 18.0 | 50.0% | 50.0% | N/A | N/A | | |
| 63 | 9.5 | 8.0 | 45.0 | 48.0 | 30.0% | 29.0% | | |
| 64 | 9.5 | 8.0 | 45.0 | 48.0 | 30.0 | 29.0 | | |
| 65 | 14.5 | 12.0 | 50.0 | 50.0 | 35.0 | 35.0 | | |
| 66-70 | 18.0 | 14.0 | 50.0 | 50.0 | 30.0 | 30.0 | | |
| 71+ | 18.0 | 16.0 | 50.0 | 50.0 | 30.0 | 30.0 | | |

A. Actuarial Assumptions (Continued)

The rates listed below are for members hired on or after June 28, 2011 (Class G employees). Illustrative rates are shown below.

| | Lose Than | Age 65 or | Attainment of Age 65 and 30 Years of Service | | | | |
|-------|-----------|--|--|-------------------|------|----------------|--|
| | | Less Than Age 65 or ess Than 30 Years of Service First Eligibility After First | | First Eligibility | | at Eligibility | |
| Age | Male | Female | Male | Female | Male | Female | |
| <47 | 0.3% | 0.3% | N/A | N/A | N/A | N/A | |
| 48 | 0.4 | 0.4 | N/A | N/A | N/A | N/A | |
| 49 | 0.4 | 0.4 | N/A | N/A | N/A | N/A | |
| 50 | 0.5 | 0.5 | N/A | N/A | N/A | N/A | |
| 51 | 0.6 | 0.6 | N/A | N/A | N/A | N/A | |
| 52 | 0.7 | 0.7 | N/A | N/A | N/A | N/A | |
| 53 | 0.9 | 0.9 | N/A | N/A | N/A | N/A | |
| 54 | 1.1 | 1.1 | N/A | N/A | N/A | N/A | |
| 55 | 5.0 | 5.0 | N/A | N/A | N/A | N/A | |
| 56 | 6.0 | 6.0 | N/A | N/A | N/A | N/A | |
| 57 | 7.0 | 7.0 | N/A | N/A | N/A | N/A | |
| 58 | 8.0 | 8.0 | N/A | N/A | N/A | N/A | |
| 59 | 9.0 | 9.0 | N/A | N/A | N/A | N/A | |
| 60 | 15.0 | 15.0 | N/A | N/A | N/A | N/A | |
| 61 | 16.0 | 16.0 | N/A | N/A | N/A | N/A | |
| 62 | 36.0 | 32.0 | N/A | N/A | N/A | N/A | |
| 63 | 28.0 | 28.0 | N/A | N/A | N/A | N/A | |
| 64 | 28.0 | 28.0 | N/A | N/A | N/A | N/A | |
| 65 | 34.0 | 32.0 | 50.0% | 50.0% | N/A | N/A | |
| 66-70 | 18.0 | 14.0 | 50.0 | 50.0 | 30.% | 30.0 | |
| 71+ | 18.0 | 16.0 | 50.0 | 50.0 | 30.0 | 30.0 | |

A. Actuarial Assumptions (Continued)

Disability: Incidence of ordinary disabilities among active members apply upon the attainment of 10 years of service until the attainment of first eligibility for retirement. For members eligible for early retirement, the greater of the early retirement and disability benefit is valued. The rates vary by age, gender and type of disability. Illustrative rates are shown below:

| | Ordinary | | Accidental | | |
|-----|----------|---------|------------|---------|--|
| Age | Male | Female | Male | Female | |
| 25 | 0.0301% | 0.0379% | 0.0060% | 0.0060% | |
| 30 | 0.0473 | 0.0550 | 0.0060 | 0.0060 | |
| 35 | 0.0609 | 0.0674 | 0.0060 | 0.0060 | |
| 40 | 0.0701 | 0.0893 | 0.0060 | 0.0060 | |
| 45 | 0.1023 | 0.1317 | 0.0060 | 0.0060 | |
| 50 | 0.1421 | 0.1759 | 0.0060 | 0.0060 | |
| 55 | 0.4686 | 0.3506 | 0.0060 | 0.0060 | |

For Class F and G members assumed to receive a disability benefit under Chapter 3, P.L. 2010, it is assumed that these members will begin receiving their retirement benefit at age 70. The valuation excludes benefits paid from any disability income policy prior to retirement since these benefits are not paid from TPAF.

Pre-retirement Mortality: Illustrative rates of mortality of active members which vary by age and gender are shown below. Mortality improvements are projected using Scale AA from the base year of 2000 until the valuation date plus 15 years to account for future mortality improvement. Illustrative rates for the base year are shown below. No accidental deaths are assumed.

| | Ordinary | | | | |
|-----|----------|---------|--|--|--|
| Age | Male | Female | | | |
| 25 | 0.0345% | 0.0170% | | | |
| 30 | 0.0376 | 0.0191 | | | |
| 35 | 0.0353 | 0.0207 | | | |
| 40 | 0.0591 | 0.0284 | | | |
| 45 | 0.0890 | 0.0466 | | | |
| 50 | 0.1342 | 0.0645 | | | |
| 55 | 0.1978 | 0.1016 | | | |
| 60 | 0.2747 | 0.1589 | | | |
| 65 | 0.4263 | 0.2374 | | | |
| 70 | 0.6725 | 0.3754 | | | |

A. Actuarial Assumptions (Continued)

Post-retirement Mortality: Rates of mortality vary by age, gender and type of retirement. For non-disabled annuitants, mortality improvements are projected using Scale AA from the base year of 2000 for males and 2003 for females until the valuation date plus 7 years to account for future mortality improvement. Illustrative rates for the base year and Scale AA are shown below:

| | Service Retirements and Beneficiaries | | Scale AA | | Disability I | Retirement |
|-----|---------------------------------------|---------|----------|--------|--------------|------------|
| Age | Male | Female | Male | Female | Male | Female |
| 45 | 0.3573% | 0.1375% | 1.3% | 1.6% | 1.6928% | 0.6705% |
| 50 | 0.5265 | 0.2151 | 1.8 | 1.7 | 2.1731 | 1.0382 |
| 55 | 0.4781 | 0.3066 | 1.9 | 0.8 | 2.6581 | 1.4890 |
| 60 | 0.5813 | 0.4937 | 1.6 | 0.5 | 3.1531 | 1.9655 |
| 65 | 1.0238 | 0.6602 | 1.4 | 0.5 | 3.7630 | 2.5223 |
| 70 | 1.6962 | 1.0497 | 1.5 | 0.5 | 4.6937 | 3.3871 |
| 75 | 2.9598 | 1.7342 | 1.4 | 0.8 | 6.1550 | 4.7007 |
| 80 | 5.2282 | 3.0118 | 1.0 | 0.7 | 8.2029 | 6.5081 |
| 85 | 9.2106 | 6.4019 | 0.7 | 0.6 | 10.6202 | 9.0183 |

ACTUARIAL INFORMATION

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
TEACHERS' PENSION AND ANNUITY FUND

Summary of Actuarial Assumptions and Methods, continued

A. Actuarial Assumptions (Continued)

Noncontributory Active Members: 25% are assumed to return to contributory status.

Beneficiaries: 100% of active members are assumed to have a beneficiary for receipt of the lump sum death benefit or employee contribution refund upon death.

Form of Payment: Modified Cash Refund Annuity.

Member Annuity: Valuation mortality and interest are assumed to be the basis for determining the member annuity in future years.

Special Data Adjustments:

- Determination of employee type is based on Class Code and was used as provided by the Division.
- For noncontributory members where no salary was provided, no date of birth was provided, or ASF was negative a liability equal to the ASF was held.
- · For terminated noncontributory members, the liability is based on an estimated benefit using last known salary.
- For beneficiaries where no gender code or date of birth was provided, reasonable assumptions were made based on records provided in prior
 years or the deceased retiree's records. For retirees with a joint annuitant option code that was missing a spouse's date of birth, husbands
 are assumed to be 3 years older than wives. All such records were included in the valuation.
- Retiree members where no benefit and monthly allowance was provided, or no cause, class, or option was provided were excluded from the valuation.

B. Actuarial Valuation Method

The Projected Unit Credit Method was used as required by Chapter 62, P.L. 1994, as modified by Chapters 115, P.L. 1997, and 133, P.L. 2001. The minimum actuarial accrued liability was equal to the greater of formula benefit under the Projected Unit Credit Cost method, value of the estimated member annuity as of the valuation date and the contributions with interest as of the valuation date provided by the Division. The normal cost was determined using the same methodology but reflecting an additional year of service and contributions less the final amount determined for the actuarial accrued liability.

C. Asset Valuation Method

The actuarial value is equal's the prior year' actuarial value increased with interest and cash flows plus 20% of the difference between it and the market value of assets. Cash flows are based on an accrual accounting approach. This method is prescribed by statute.

D. Changes in Actuarial Assumptions

There are no changes in assumptions since the last valuation. Procedures regarding the treatment of noncontributory records that were terminated by the Division since the prior valuation have been modified to appropriately value these records.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

| | Added | l to Rolls | Removed | I from Rolls | Rolls a | t End of Year | % Increase in | |
|-------------------|--------|---------------------|---------|---------------------|---------|---------------------|--------------------------------|--------------------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number | Annual Allowance | Average Annual Allowance | Average Annual Allowance |
| 6/30/10 | 4,147 | N/A | 2,124 | N/A | 80,237 | 2,957,518,144 | 1.42 | 36,860 |
| 6/30/11 | 7,744 | N/A | 2,069 | N/A | 85,912 | 3,285,419,699 | 3.75 | 38,242 |
| 6/30/12 | 5,496 | N/A | 2,100 | N/A | 89,308 | 3,462,975,740 | 1.40 | 38,776 |
| 6/30/13 | 4,614 | N/A | 2,193 | N/A | 91,729 | 3,591,007,462 | 0.96 | 39,148 |
| 6/30/14 | 5,284 | N/A | 2,191 | N/A | 94,822 | 3,750,680,254 | 1.04 | 39,555 |
| 6/30/15 | 5,789 | N/A | 2,381 | N/A | 98,230 | 3,916,956,144 | 0.81 | 39,875 |

Schedule of Active Member Valuation Data

| Valuation Date | Number of Active Members (a) | Annual Compensation (b) | Average Compensation (b/a) | % Increase in Average Compensation |
|-------------------|---------------------------------|----------------------------|-------------------------------|---------------------------------------|
| 6/30/10 | 157,023 | 10,659,241,596 | 67,883 | 3.01 |
| 6/30/11 | 151,115 | 10,416,454,800 | 68,931 | 1.54 |
| 6/30/12 | 150,200 | 10,488,890,840 | 69,833 | 1.31 |
| 6/30/13 | 151,318 | 10,710,424,746 | 70,781 | 1.36 |
| 6/30/14 | 141,874¹ | 10,325,972,743 | 72,783 | 2.83 |
| 6/30/15 | 142,454¹ | 10,453,176,648 | 73,379 | 0.82 |

¹ Excludes noncontributory members no longer provided on active data.

Solvency Test

| | Acc | erued Liabilities ⁽¹⁾ Fo | or | | | ccrued Lial ed by Net <i>l</i> | |
|-------------------|---------------------------------------|---|----------------|--|--------|-----------------------------------|------|
| Valuation Date | (1) Active Member Contributions | (3) Active (2) Members Retirees & (Employer Deferred Vested Financed) | | Net Assets ⁽²⁾ Available for Benefits | (1) | (2) | (3) |
| 6/30/10 | 9,077,370,573 | 27,435,656,099 | 11,904,905,673 | 33,136,475,630 | 100.00 | 88.00 | 0.00 |
| 6/30/11 | 8,987,300,905 | 30,765,265,431 | 10,470,122,414 | 32,156,229,300 | 100.00 | 75.00 | 0.00 |
| 6/30/12 | 9,432,073,781 | 32,411,855,950 | 9,350,180,856 | 31,079,212,983 | 100.00 | 67.00 | 0.00 |
| 6/30/13 | 10,079,938,128 | 33,312,970,535 | 8,973,746,392 | 30,469,857,304 | 100.00 | 61.00 | 0.00 |
| 6/30/14 | 10,624,778,098 | 34,587,834,921 | 8,537,363,622 | 29,044,777,902 | 100.00 | 53.00 | 0.00 |
| 6/30/15 | 11,129,745,608 | 36,128,130,029 | 8,101,501,434 | 28,301,404,184 | 100.00 | 48.00 | 0.00 |

⁽¹⁾ Determined under the projected unit credit actuarial cost method and other actuarial assumptions as described in each respective actuarial valuation for determining Statutory Contribution.

⁽²⁾ The above table is based on Valuation Assets. As of June 30, 2015, the solvency percentages would be 1) 100%, 2) 42% and 3) 0%, respectively, if based on the market value of assets of \$26,320.7 million.

Analysis of Financial Experience Gains and Losses in Unfunded Accrued Liabilities Resulting from **Differences between Assumed Experience and Actual Experience**

| | For Valuation Period Ending (Amounts in Millions) | | | | | | | | |
|-----------------------------|---|---------------|---------------|--|--|--|--|--|--|
| Type of Activity | June 30, 2015 | June 30, 2014 | June 30, 2013 | | | | | | |
| Economic Factors: | | | | | | | | | |
| Investment Return | \$(495.2) | \$(350.4) | \$(902.6) | | | | | | |
| Salary Increases | 50.0 | 33.8 | 76.1 | | | | | | |
| Expenses | (14.3) | (12.5) | (12.8) | | | | | | |
| Demographic Factors: | | | • | | | | | | |
| Active Members* | (22.8) | (3.2) | (100.8) | | | | | | |
| New Entrants | (48.1) | (46.6) | (35.5) | | | | | | |
| Non-Contributing Members | (32.7) | (11.7) | (15.6) | | | | | | |
| Retirees and Beneficiaries* | (49.1) | (36.7) | (40.1) | | | | | | |
| Other ** | (295.9) | 0.0 | 0.0 | | | | | | |
| Total: | (908.1) | (477.8) | (937.5) | | | | | | |

^{*} Includes additional year of mortality improvement

^{**} Includes changes in method to determine gain/loss and valuation system to determine liabilities

Summary of Principal Plan Provisions as of June 30, 2015

This summary of plan provisions is intended only to describe the essential features of the plan. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

1. Type of Plan

The Plan is a contributory, defined benefit plan. Effective October 1, 2011, contributions by Members are 6.5% and increase by 1/7 of 1% each July thereafter until an ultimate rate of 7.5% is attained on July 1, 2018. As of July 1, 2015, the contribution rate is 7.06%. For members hired on or after July 1, 2007, compensation for contributions is capped at the Social Security Taxable Wage Base (\$118,500 for 2015). For compensation in excess of the Social Security Taxable Wage Base, contributions on the excess compensation are made to the Defined Contribution Retirement Program.

2. Effective Date

The Plan was established in 1919. It was reorganized and integrated with Social Security in 1955. Social Security integration was eliminated in 1966, i.e., reductions in retirement benefits based on Social Security benefits were eliminated.

3. Eligibility for Membership

Employees, appointed to positions requiring certification 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.

4. Definitions

- **a. Fiscal Year:** A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30.
- b. Credited Service: A year of Credited Service for each year an employee is a Member of the Retirement System plus service, if any, covered by a prior service liability. Class F members must be scheduled to work at least 32 hours per week, Class E members must have an annual salary of \$7,500 (indexed for inflation) and other members must have an annual salary of \$500.
- c. Final Compensation: This is the average annual compensation upon which contributions by a member are based on the period consecutive years of Creditable Service immediately preceding retirement or the period of highest fiscal years of Membership Service. The period equals three for members hired prior to May 22, 2010, and five for Class F and later members.
- d. Final Year Compensation: This is the compensation upon which contributions by a Member to the Annuity Savings Fund are based in the last year of Membership Service.

- e. Aggregate Member Contributions: This is the sum of all amounts deducted from the compensation of a Member or contributed by him or on his behalf without interest.
- f. Class A Member: Any member who contributes towards retirement allowance based on 1/64th benefit rate per year of creditable service.
- g. Class B Member: Any member hired prior to July 1, 2007, who contributes towards a retirement allowance based on 1/55th benefit rate per year of creditable service.
- h. Class D Member: Any member hired on or after July 1, 2007, and before November 2, 2008, who contributes up to the Social Security Taxable Wage Base towards a retirement allowance based on 1/55th benefit rate per year of creditable service payable at age 60.
- i. Class E Member: Any member hired after November 1, 2008, and before May 22, 2010, who contributes up to the Social Security Taxable Wage Base towards a retirement allowance based on 1/55th benefit rate per year of creditable service payable at age 62.
- j. Class F Member: Any member hired after May 21, 2010, and before June 28, 2011, who contributes up to the Social Security Taxable Wage Base towards a retirement allowance based on 1/60th benefit rate per year of creditable service payable at age 62.
- k. Class G Member: Any member hired on or after June 28, 2011, who contributes up to the Social Security Taxable Wage Base towards a retirement allowance based on 1/60th benefit rate per year of creditable service payable at age 65.

5. Cost-of-Living Adjustment

The Pension Adjustment Program provides a cost-of-living adjustment (COLA) to retirees and their survivors who receive a monthly retirement allowance from the TPAF. The first adjustment is received in the 25th month after the member's retirement. Subsequent cost-of-living adjustments are computed annually and are first reflected in February. The rate of increase is equal to 60 percent of the percentage change between the average CPI for the 12 month period ending December 31 in the year of retirement and the August 31 preceding the February adjustment. Pension adjustments to be paid on or after July 1, 2011, have been eliminated for all members unless the Target Funded Ratio is met as of the valuation date and for each of the next 30 years on a projected basis.

6. Retirement Benefits

a. Service Retirement

Service Retirement Eligibility: Eligibility means age 60 (Class A, B, and D), age 62 (Class E and F) or age 65 (Class G) with no minimum service requirement.

Summary of Principal Plan Provisions as of June 30, 2015, Continued

Service Retirement Benefit: An employee's annual service retirement allowance is equal to a member annuity plus an employer pension which together equals 1/64th of Final Compensation for each year of service for Class A members, 1/55th of Final Compensation for each year of service for Class B, D, and E members and 1/60th of Final Compensation for each year of service for Class F and G members. The member annuity is based on the member contributions credited at the valuation interest rate.

Note: See Section 12 for special benefits for veteran members.

b. Early Retirement

Early Retirement Eligibility: Class A, B, D, E, and F members may retire after completion of 25 years of Creditable Service and Class G members may retire after completion of 30 years of Creditable Service.

Early Retirement Benefit: The benefit may be either:

- the lump-sum withdrawal benefit described in 7.a. below;
- (ii) the Service Retirement Benefit reduced by 1/4 of one percent for each month the retirement date precedes age 55 for Class B members: or
- (iii) the Service Retirement Benefit reduced by 1/12 of one percent for each month the retirement date precedes age 60 but over age 55 and by 1/4 of one percent for each month the retirement date precedes age 55, for Class D members.
- (iv) the Service Retirement Benefit reduced by 1/12 of one percent for each month the retirement date precedes age 62 but over age 55 and by 1/4 of one percent for each month the retirement date precedes age 55, for Class E and F members.
- (v) the Service Retirement Benefit reduced by 1/4 of one percent for each month the retirement date precedes age 65, for Class G members.

Deferred Retirement

Eligibility: A member is eligible upon termination of service prior to age 60 (Class A, B, D), age 62 (Class E and Class F), or age 65 (Class G) and after 10 years of Creditable Service.

Deferred Retirement Benefit: The benefit may be either:

- the lump-sum withdrawal benefit described in 7.a. above;
- (ii) a deferred retirement benefit, commencing at age 60 (Class A, B, D), age 62 (Class E and Class F), or age 65 (Class G), equal to a member annuity plus an employer pension which together provide a retirement allowance equal to the service retirement benefit based on Final Compen-

sation and Creditable Service at date of termination. Member annuity based on member contributions credited at the valuation interest rate.

7. Termination Benefits

Lump Sum Withdrawal

Eligibility: A member is eligible upon termination of service.

Lump Sum Withdrawal Benefit: The benefit equals a refund of Aggregate Member Contributions plus, if the member has completed three years of service, interest accumulated at 2.0% per annum allowed thereon.

8. Death Benefits

Ordinary Death (Insured) Benefit - Lump Sum (NonContributory)

Pre-retirement Death Benefit Eligibility: Any current active member is eligible.

Pre-retirement Death Benefit: The benefit is a lumpsum benefit equal to the Aggregate Contributions with interest allowed thereon plus an amount equal to 1-1/2 times Compensation at date of death.

Post-retirement Death Benefit Prior to Age 60 (Class A, B, D), Age 62 (Class E and Class F), or Age 65 (Class G) Eligibility: Eligible if disabled or retired early.

Post-retirement Death Benefit Prior to Age 60 (Class A, B, D), Age 62 (Class E and Class F), or Age **65 (Class G) Benefit:** The benefit is as follows:

- For death while a Disabled Retiree the benefit is equal to 1-1/2 times Compensation.
- (ii) For death while an Early Retiree, the benefit is equal to 3/16 times Compensation.
- (iii) For death while vested terminated, the benefit is equal to his Aggregate Contributions with interest allowed thereon.

Post-retirement Death Benefit After Age 60 (Class A, B, D), Age 62 (Class E and F), or Age 65 (Class G) Eligibility: Eligible after attainment of service retirement, deferred and disabled retirements (if not disabled, 10 years of Creditable Service required for members enrolling on or after July 1, 1971).

Post-retirement Death Benefit After Age 60 (Class A, B, D), Age 62 (Class E and F) or Age 65 (Class G) Benefit: The benefit payable is equal to 3/16 times Compensation.

Contributory Death Benefit: An additional, employeepaid, death benefit is also available through group insurance purchased by the Board of Trustees. Contributions for this

Summary of Principal Plan Provisions as of June 30, 2015, Continued

benefit are required by Members during the first year of enrollment. Participation may be terminated after the first year. The benefit prior to retirement is 2 times compensation. The benefit after retirement is 1/4 times final year compensation (coverage at retirement, and 10 years of participation for Members enrolling on or after July 1, 1970, is required).

c. Pre-retirement Accidental Death Benefit:

Eligibility: A death resulting from injuries received from an accident during performance of duty and not a result of willful negligence is eligible.

Pre-retirement Lump-Sum Benefit: The benefit is a lump sum equal to 1-1/2 times Compensation.

Pre-retirement Accidental Death Benefit: The benefit payable is as follows:

- (i) The annuity benefit to a widow or widower is equal to 50% of Compensation, payable for life or until remarriage.
- (ii) The annuity benefit, when there is no spouse, or the spouse is remarried, is equal to 20% of Compensation for one child, 35% for two children, 50% for three or more children. The benefit is payable while the children are under age 18 and it is payable for life if they are disabled.
- (iii) The annuity benefit, when there is no spouse or children, is equal to 25% of Compensation for one dependent parent and 40% for two dependent parents.
- (iv) The benefit, when there is no relation as stated above, is equal to the Aggregate Contributions with interest allowed thereon and is payable to a beneficiary or to the Member's estate. This is also the minimum benefit payable under (i), (ii) and (iii) above.

9. Disability Benefits

a. Ordinary Disability Retirement

Eligibility: A member is eligible for Ordinary Disability Retirement if he (she) has 10 years of Creditable Service and is totally and permanently incapacitated from the performance of usual or available duties.

Ordinary Disability Retirement Benefit for Class A, B, D, and E members: The total retirement allowance is equal to the greater of:

- 1.64% of Final Compensation times the number of years of Creditable Service; or
- (ii) 43.6% of Final Compensation.

 Note: See Section 12 for special benefits for veteran mem-

Ordinary and Accidental Disability Retirement Benefit for Class F and G members: A disability benefit equal to 60% of salary reduced by the initial Social Security benefit is paid until the earlier of age 70 or commencement of a retirement benefit from a disability income policy outside of TPAF. The policy also makes employee contributions during the period of disability.

b. Accidental Disability Retirement for Class A, B, D, and E members

Eligibility: A member is eligible upon 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.

Accident Disability Retirement Benefit: The benefit payable is equal to a Member annuity plus an employer pension which together equals 72.7% of the Compensation at date of injury.

- 10. Additional Old-Plan Benefit: An additional pension is payable to any retiree who was a member of the old Teachers' Retirement Fund. This pension is the actuarial equivalent of his contributions to the old Teachers' Retirement Fund without interest.
- 11. Special Minimum Benefit: A member who retired prior to 1955 with 20 or more years of service may receive a minimum pension of \$500 a month inclusive of any amounts payable under any pension adjustments.

12. Special Benefits for Veterans:

- a. Service Retirement: Eligible if member attains age 60 and completes 20 years of service or attains age 55 and completes 25 years of service. Benefit equals 54.5% of highest 12-month contributory compensation.
- b. Chapter 97 Benefit: Eligible if age 55 and completes 35 years of service. Benefit equals 1/55th of final year compensation for each year of service.

13. Benefit and Compensation Limits

The provisions of IRC Section 415 and IRC Section 401(a)(17), which limit benefits paid and limit compensation used in determining benefits, has been reflected in this report. The IRC Section 415 limit is \$210,000 and the 401(a)(17) compensation cap is \$265,000 for 2015 and is applied on a calendar year basis.

14. Forms of Payment

- a. Maximum Option Single life annuity.
- Option 1 Single life annuity with return of reserve option.
- c. Option 2 100% joint and survivor annuity.

bers.

Summary of Principal Plan Provisions as of June 30, 2015, Continued

- d. Option 3 50% joint and survivor annuity.
- e. Option 4 Other percentage joint and survivor annuity.
- 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.
- **Option D** 25% pop-up joint and survivor annuity.

15. Contributions

- **Member Contributions:** Each member becoming a member on or after January 1, 1956, and prior to July 1, 2007, contributes at the rate of contribution applicable to Class B members. Any members hired after June 30, 2007, and prior to November 2, 2008, are Class D members. Members hired after November 1, 2008, and prior to May 22, 2010, are Class Emembers. Members hired after May 21, 2010, and prior to June 29, 2011, are Class F members. Members hired after June 28, 2011, are Class G members.
 - Class D, E, F, or G Membership: Class D, E, F, or G members contribute at their applicable contribution rate up to the Social Security Taxable Wage Base.
 - (ii) Class B Membership: Any member on December 31, 1955, may elect to be classified as a Class B member and contribute at the rate of contribution applicable to Class B members at his age at membership. Any such member may elect to increase his accumulated deductions by the amount required by the Board to receive credit as a Class B member for all or part of his service prior to such election.
 - (iii) Class A Membership: Any member who is not a veteran and does not elect to be classified as a Class B member continues to contribute at the rate of contribution applicable to his age at membership which was payable prior to the establishment of the integrated system, except that if he became a member subsequent to June 30, 1946, he will pay after January 1, 1955, at the rate of contribution in effect on June 30, 1946, applicable to his age at member-

Prior to July 1, 1979, different contribution rates were established for men and women. Effective on that date members contribute at rates intermediate between the rates previously applicable to male and female members, computed to provide the same present value of future employee contributions at each entry age on the basis of the membership as constituted on the effective date.

Local Employer Contributions

- Early Retirement Incentive Contributions: The State and Local employers which elected to participate in the early retirement incentive programs authorized by Chapters 137, 229 and 231, P.L. 1991, Chapters 48, 138 and 163, P.L. 1993, Chapter 23, P.L. 2001, and Chapters 128 and 129, P.L. 2003, pay contributions to cover the additional liability for these programs over amortization periods chosen by the employer (15 years for Chapters 128 and 129) or the amortization period for the Unfunded Accrued Liability of the system (Chapter 23, P.L. 2002, and Chapter 21, P.L. 2008). The remaining present values are re-amortized upon changes to the interest rate assumption. Effective with the revised June 30, 2011 actuarial valuation, for any local employer with an increasing payment amortization schedule, the increase factor is 3.25%
- Chapter 113 Contributions: Certain School Districts have elected to exempt a select group of employees from the compensation limit under IRC Section 401(a)(17) incorporated under Chapter 113. These school districts will pay the full cost of this exemption at a member's date of retirement.

16. Changes in Plan Provisions Since Prior Valuation

None.

ACTUARIAL INFORMATION

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
POLICE AND FIREMEN'S RETIREMENT SYSTEM

CONDUENT 500 Plaza Drive

Secaucus, New Jersey 07096-1533

June 22, 2017

The Board of Trustees
Police and Firemen's Retirement System
of New Jersey

Re: Actuary's Certification Letter

Members of the Board:

An actuarial valuation of the Police and Firemen's Retirement System ("PFRS") is performed annually to measure the ongoing costs of the System (with required contributions determined separately for the State and Local employers) and the progress towards the funding goals of the System over time. In general, the financial goal of the Police and Firemen's Retirement System is a pattern of contributions, which is sufficient to cover the normal cost of the System plus the contribution towards the unfunded accrued liability. The information contained in this certification letter is based on the July 1, 2015 valuation of PFRS.

In accordance with the New Jersey statutes, employers are required to make two contributions to the System, a normal contribution and an accrued liability contribution. The normal contribution for basic allowances and cost of living adjustments (COLA's) is defined under the Projected Unit Credit funding method as the present value of the benefits accruing during the current year. Prior to the July 1, 2010 valuation, the unfunded accrued liability contribution for basic allowances and COLA's was determined as a level percentage of pay required to amortize the unfunded accrued liability over 30 years in annual payments increasing by 4% per year. The funding reform provisions of Chapter 78, P.L. 2011 changed the methodology used to amortize the unfunded accrued liability. 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, 2018 actuarial valuation, the accrued liability 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 will decrease by one year.) Beginning with the July 1, 2028 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 that valuation year using a 20 year amortization period.

Chapter 78, P.L. 2011 also increased member contributions from 8.50% to 10.00% of salary. Effective with the July 1, 2012 actuarial valuation, the determination of the State and Local employers' normal cost contributions has been revised to reflect the use of all member contributions as an offset to the gross normal cost. This was the methodology used to determine the State's normal cost contribution prior to the enactment of Chapter 78, P.L. 2011 and is consistent with the methodology typically used by contributory public-sector retirement systems to calculate the employer's normal cost contribution.

The valuation reflects the Appropriation Act of 2015 for fiscal year 2015, which allowed the State Treasurer to reduce the State normal and accrued liability contributions for fiscal year 2015 of \$414,316,953 to \$139,297,000. This amount excludes the Non-Contributory Group Insurance Premium of \$7,561,878. Accordingly, a fiscal year 2015 employer contribution of only \$139,297,000 was recognized for purposes of this valuation.

In addition, the valuation reflects the provisions of the Appropriations Act of 2016 for fiscal year 2016. The fiscal year 2016 actuarially determined State Pension contribution has been reduced from \$461,081,051 to \$138,324,315, discounted from the expected payable date of June 30, 2016 to the valuation date. This amount excludes the estimated Non-Contributory Group Insurance Premium of \$10,368,000. Accordingly, a fiscal year 2016 employer contribution of \$138,324,315 was recognized as a receivable contribution for purposes of this valuation. This amount may be subject to change per the requirements of the State's fiscal year 2016 spending plan.

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** POLICE AND FIREMEN'S RETIREMENT SYSTEM

The actuarially determined State contribution for the fiscal year beginning July 1, 2016 is \$483,877,347. This amount is comprised of an unfunded accrued liability payment of \$359,517,837 plus a normal contribution of \$124,359,510. This amount excludes the estimated Non-Contributory Group Insurance Premium of \$8,844,000. This amount may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

The valuation reflects Chapter 19, P.L. 2009, which allowed the State Treasurer to reduce Local employers' normal and accrued liability contributions to 50% of the amount certified for the State fiscal year 2009. In addition, certain Local employers who were eligible under Chapter 19, P.L. 2009 to defer 50% of their State fiscal year 2009 pension contribution but did not were permitted to defer 50% of their State fiscal year 2010 pension contribution. This 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 provides that a Local employer may pay 100% of the actuarially determined contributions for State fiscal years 2009 and 2010. Such an employer will be credited with the full payments and any such amounts will not be included in their unfunded liability.

The valuation reflects the unauthorized early retirement incentive programs offered by certain Local employers. The additional liability incurred by the System due to these programs is included as a receivable contribution.

The underlying demographic data is maintained and provided by the New Jersey Division of Pensions and Benefits. The data is analyzed by Conduent Business Services for internal completeness and consistency and compared with the prior valuation data to again ensure consistency.

As required under Chapter 255, P.L. 1944, an actuarial investigation of the demographic experience of the members and beneficiaries of the Police and Firemen's Retirement System is made once in every three-year period. The July 1, 2015 valuation was based on the actuarial assumptions that were determined from the July 1, 2010 - June 30, 2013 Experience Study (which was approved by the Board of Trustees at the February 9, 2015 Board meeting).

The valuation reflects the economic assumptions, which include a rate of investment return of 7.90% per annum and assumed future salary increases reduced by 1.00% per annum through fiscal year ending 2021. These assumptions will remain in effect for valuation purposes until such time as the Board or the Treasurer recommends revised economic assumptions.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the Board or staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Conduent should be asked to review any statement to be made on the basis of the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

In my opinion, the attached schedules of valuation results fairly represent the status of the Police and Firemen's Retirement System and present an accurate view of historical data. The underlying assumptions and methods used are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the System.

The following supporting schedules in the Actuarial Section were prepared by Conduent Business Services:

- . Summary of Actuarial Assumptions and Methods
- . Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- Schedule of Active Member Valuation Data

ACTUARIAL INFORMATION

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** POLICE AND FIREMEN'S RETIREMENT SYSTEM

- · Solvency Test
- · Analysis of Past Financial Experience Reconciliation of Employer Contribution Rates
- . Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

In addition, Conduent prepared the "Schedule of Assets and Liabilities" and the "Schedule of Employer Contributions" in the Financial Section which can be found in the July 1, 2015 valuation report for PFRS. The Schedule of Assets and Liabilities and the Schedule of Employer Contributions are provided for informational purposes only since the reporting requirements of Statements No. 67 and No. 68 became effective as of the June 30, 2014 and June 30, 2015 reporting dates, respectively.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, FSA, EA, MAAA

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Principal, Consulting Actuary

Summary of Actuarial Assumptions and Methods

Section 13, Subsection (13) of Chapter 255, P.L. 1944, as amended by Chapter 157, P.L. 1972, of the New Jersey Statutes provides that once in every three-year period the actuary shall examine in detail the demographic experience of the members and beneficiaries of the Police and Firemen's Retirement System to assure that the tables used for determining expected liabilities are consistent with recent experience.

The July 1, 2015 actuarial valuation of the Police and Firemen's Retirement System reflects the recognition of the actuarial assumptions determined from the July 1, 2010 - June 30, 2013 Experience Study which was approved by the Board of Trustees at the February 9, 2015 Board meeting and the revised economic assumptions established in the July 1, 2012 valuation.

An outline of the actuarial assumptions and methods used for the July 1, 2015 valuation is as follows:

Valuation Interest Rate: 7.90% per annum, compounded annually.

COLA: No future COLA is assumed.

Compensation Limit Increase: 401(a)(17) Limit - 3.00% per annum, Social Security Wage Base - 4.00% per annum

Separations from Service and Salary Increases: Representative values of the assumed annual rates of separation and annual rates of salary increases are as follows:

| | | Annual Rate of | | | | | | | | | | |
|-----|-----------------------|-------------------|----------|----------|--------------|------------------|--|--|--|--|--|--|
| | | Select Withdrawal | | | | | | | | | | |
| Age | Up to the 1st Year | 2nd Year | 3rd Year | 4th Year | 5 to 9 Years | After 9 Years | | | | | | |
| 25 | 6.90% | 2.03% | 1.18% | 0.60% | 0.35% | 0.00% | | | | | | |
| 30 | 9.30 | 2.75 | 1.76 | 1.31 | 0.60 | 0.24 | | | | | | |
| 35 | 9.80 | 3.17 | 1.76 | 1.57 | 0.77 | 0.24 | | | | | | |
| 40 | 13.70 | 2.25 | 1.85 | 1.74 | 0.67 | 0.27 | | | | | | |
| 45 | 3.50 | 2.25 | 1.85 | 2.32 | 1.35 | 0.28 | | | | | | |
| 50 | 0.00 | 2.25 | 1.85 | 2.00 | 1.60 | 0.30 | | | | | | |
| 55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | |

| | Annual Rates of | | | | | | | | | | |
|-------------|-------------------|---------------------|------------|------------|------------|--|--|--|--|--|--|
| | | Death | Dica | Disability | | | | | | | |
| | Ord | inary | | Disa | Dility | | | | | | |
| Age | Male ¹ | Female ¹ | Accidental | Ordinary | Accidental | | | | | | |
| 25 | .035% | .019% | .006% | .045% | .029% | | | | | | |
| 30 | .042 | .025 | .006 | .147 | .278 | | | | | | |
| 35 | .073 | .045 | .008 | .265 | .393 | | | | | | |
| 40 | .101 | .066 | .008 | .362 | .423 | | | | | | |
| 45 | .140 | .105 | .009 | .394 | .396 | | | | | | |
| 50 | .198 | .158 | .009 | .449 | .179 | | | | | | |
| 55 | .285 | .234 | .014 | .554 | .161 | | | | | | |
| 60 | .439 | .338 | .013 | 1.024 | .161 | | | | | | |
| 64 | .598 | .450 | .008 | 1.680 | .161 | | | | | | |
| 65 and over | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | | | | |

¹ RP2000 Employee Pre-Retirement mortality tables projected thirteen-years using Projection Scale BB and then projected on a generational basis using the Conduent Modified 2014 Projection Scales. The above tables are representative for the 2015 valuation.

| | | | Salary Ir | ncreases | | |
|-------------|------------------------|-----------------------|-----------|---------------------|---------------------|-----------------------|
| | | | Length o | f Service | | |
| Age | Less Than 21 Years¹ | 21 to 24 Years | 25 Years | 26 or More Years | FY2012 to FY2021 | FY2022 and thereafter |
| 25 | _ | _ | - | _ | 9.48% | 10.48% |
| 30 | - | - | _ | - | 6.47 | 7.47 |
| 35 | - | - | _ | - | 4.67 | 5.67 |
| 40 | 4.00% | 0.60% | 45.57% | 15.40% | 3.83 | 4.83 |
| 45 | 4.00 | 0.60 | 54.83 | 15.40 | 3.40 | 4.40 |
| 50 | 4.30 | 0.60 | 57.62 | 18.48 | 3.25 | 4.25 |
| 55 | 6.00 | 0.00 | 64.94 | 24.47 | 3.10 | 4.10 |
| 60 | 3.20 | 0.00 | 77.49 | 27.34 | 2.85 | 3.85 |
| 64 | 37.50 | 0.00 | 85.24 | 51.03 | 2.60 | 3.60 |
| 65 and over | 100.00 | 100.00 | 100.00 | 100.00 | _ | _ |

¹Retirement assumption prior to age 55 is for any member as of January 18, 2000, upon completion of 20 years of service.

Deaths After Retirement

RP-2000 Combined Healthy Mortality Tables projected one year using Projection Scale AA and two years using the Conduent Modified 2014 Projection Scales is the base table as of the 2015 measurement date for male service retirements and will be further projected on a generational basis using the Conduent Modified 2014 Projection Scales. RP-2000 Combined Healthy Mortality Tables projected thirteen-years using Projection Scale BB and then two years projected using the Conduent Modified 2014 Projection Scales is the base table as of the 2015 measurement date for female service retirements and beneficiaries and will be further projected on a generational basis using the Conduent Modified 2014 Projection Scales. Special mortality tables are used for the period after disability retirement. The following representative values of the assumed annual rates of mortality are effective 2015:

| | Service Retirements | | Benef | iciaries | | Disability |
|-----|---------------------|--------|--------|----------|-----|-------------|
| Age | Men | Women | Men | Women | Age | Retirements |
| 55 | 0.348% | 0.252% | 0.341% | 0.252% | 35 | 0.598% |
| 60 | 0.655 | 0.435 | 0.607 | 0.435 | 40 | 0.634 |
| 65 | 1.232 | 0.804 | 1.068 | 0.804 | 45 | 0.803 |
| 70 | 2.123 | 1.382 | 1.771 | 1.382 | 50 | 1.058 |
| 75 | 3.602 | 2.323 | 3.002 | 2.323 | 55 | 1.210 |
| 80 | 6.146 | 3.794 | 5.101 | 3.794 | 60 | 1.426 |
| 85 | 10.618 | 6.397 | 8.785 | 6.397 | 65 | 1.949 |

Marriage

Husbands are assumed to be 3 years older than wives. Among the active population, 90% of participants are assumed married. No children are assumed.

Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. 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, 2018 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 valuation, the amortization period shall decrease by one year.) Beginning with the July 1, 2028 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.

ACTUARIAL INFORMATION

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
POLICE AND FIREMEN'S RETIREMENT SYSTEM

Summary of Actuarial Assumptions and Methods, continued

Receivable Contributions

State contributions expected to be paid the June 30th following the valuation date are discounted by the valuation interest rate of 7.90% to the valuation date.

Local contributions expected to be paid the April 1st, following the valuation are discounted by the valuation interest rate of 7.90% to the valuation date.

Asset Valuation Method

A five year average of market values with write-up was used. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period.

Changes in Actuarial Assumptions and Methods

The following are changes to the actuarial assumptions and methods from those used in the prior valuation:

1. The mortality improvement scale has been changed from Scale BB to the Conduent Modified 2014 Projection Scale.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

State

| | Adde | ed to Rolls | Remove | ed from Rolls | Rolls at | Rolls at End of Year | | Average |
|-------------------|--------|---------------------|--------|---------------------|---------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 597 | \$27,506,231 | 136 | \$4,428,009 | 6,588 | \$281,941,189 | 8.85% | \$42,796 |
| 7/1/14 | 411 | 18,319,747 | 125 | 3,624,098 | 6,127 | 259,008,914 | 6.03 | 42,273 |
| 7/1/13 | 562 | 25,376,310 | 144 | 3,961,938 | 5,841 | 244,287,186 | 9.51 | 41,823 |
| 7/1/12 | 483 | 21,936,867 | 83 | 2,596,132 | 5,423 | 223,064,017 | 9.57 | 41,133 |
| 7/1/11 | 578 | 26,839,762 | 117 | 3,116,709 | 5,023 | 203,579,687 | 14.28 | 40,530 |
| 7/1/10 | 466 | 20,752,289 | 85 | 2,577,204 | 4,562 | 178,146,637 | 11.69 | 39,050 |

Local Employers

| | Adde | ed to Rolls | Remove | ed from Rolls | Rolls at End of Year | | % Increase in | Average |
|-------------------|--------|---------------------|--------|---------------------|----------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 2,223 | \$137,472,290 | 1,008 | \$34,566,655 | 37,664 | \$1,927,850,322 | 5.64% | \$51,185 |
| 7/1/14 | 2,157 | 125,562,304 | 1,061 | 37,217,915 | 36,449 | 1,824,960,208 | 5.17 | 50,069 |
| 7/1/13 | 2,126 | 123,863,237 | 1,062 | 34,299,782 | 35,353 | 1,735,172,993 | 5.50 | 49,081 |
| 7/1/12 | 2,131 | 119,315,514 | 855 | 29,526,388 | 34,289 | 1,644,739,476 | 5.88 | 47,967 |
| 7/1/11 | 2,613 | 157,395,175 | 954 | 29,687,515 | 33,013 | 1,553,435,879 | 9.94 | 47,055 |
| 7/1/10 | 2,088 | 117,656,689 | 856 | 26,753,568 | 31,354 | 1,413,047,858 | 6.85 | 45,068 |

Total System

| | Adde | ed to Rolls | Remove | ed from Rolls | Rolls a | Rolls at End of Year | | Average |
|-------------------|--------|---------------------|--------|---------------------|---------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 2,820 | \$164,978,521 | 1,144 | \$38,994,664 | 44,252 | \$2,209,791,511 | 6.04% | \$49,937 |
| 7/1/14 | 2,568 | 143,882,051 | 1,186 | 40,842,013 | 42,576 | 2,083,969,122 | 5.28 | 48,947 |
| 7/1/13 | 2,688 | 149,239,547 | 1,206 | 38,261,720 | 41,194 | 1,979,460,179 | 5.98 | 48,052 |
| 7/1/12 | 2,614 | 141,252,381 | 938 | 32,122,520 | 39,712 | 1,867,803,493 | 6.31 | 47,034 |
| 7/1/11 | 3,191 | 184,234,937 | 1,071 | 32,804,224 | 38,036 | 1,757,015,566 | 10.42 | 46,193 |
| 7/1/10 | 2,554 | 138,408,978 | 941 | 29,330,772 | 35,916 | 1,591,194,495 | 7.37 | 44,303 |

¹ These values include Domestic Relations beneficiaries in receipt but exclude deferred vested terminations.

² The benefit amounts shown are the annualized benefits as of the valuation date and are not the actual benefits paid during the fiscal year.

Schedule of Active Members Valuation Data¹

State

| Valuation Date | Number of Active Members | Annual Limited Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|-----------------------------|--------------------------------|-------------------------|--|
| 7/1/15 | 6,883 | \$518,087,705 | \$75,271 | (0.14)% |
| 7/1/14 | 7,025 | 529,501,284 | 75,374 | 0.54 |
| 7/1/13 | 7,098 | 532,147,062 | 74,971 | (0.65) |
| 7/1/12 | 7,187 | 542,344,707 | 75,462 | (0.31) |
| 7/1/11 | 7,237 | 547,809,629 | 75,696 | 4.07 |
| 7/1/10 | 7,572 | 550,731,084 | 72,733 | 5.81 |

Local Employers

| Valuation Date | Number of Active Members | Annual Limited Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|-----------------------------|--------------------------------|-------------------------|--|
| 7/1/15 | 33,476 | \$3,272,560,644 | \$97,758 | (0.38)% |
| 7/1/14 | 33,081 | 3,246,344,549 | 98,133 | 0.99 |
| 7/1/13 | 33,274 | 3,233,135,473 | 97,167 | 1.52 |
| 7/1/12 | 33,632 | 3,218,932,891 | 95,710 | 3.85 |
| 7/1/11 | 34,762 | 3,203,676,618 | 92,160 | 3.96 |
| 7/1/10 | 36,632 | 3,247,452,128 | 88,651 | 3.04 |

Total System

| Valuation Date | Number of Active Members | Annual Limited Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|-----------------------------|--------------------------------|-------------------------|--|
| 7/1/15 | 40,359 | \$3,790,648,349 | \$93,923 | (0.24)% |
| 7/1/14 | 40,106 | 3,775,845,833 | 94,147 | 0.95 |
| 7/1/13 | 40,372 | 3,765,282,535 | 93,265 | 1.22 |
| 7/1/12 | 40,819 | 3,761,277,598 | 92,145 | 3.16 |
| 7/1/11 | 41,999 | 3,751,486,247 | 89,323 | 3.96 |
| 7/1/10 | 44,204 | 3,798,183,212 | 85,924 | 3.52 |

¹ Includes all contributing and noncontributing active members.

Solvency Test

State

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$453,476,665 | \$3,068,942,554 | \$994,018,946 | \$2,004,579,109 | 100.00% | 50.54% | 0.00% | |
| 7/1/14 | 461,707,703 | 2,836,126,945 | 1,067,775,016 | 2,062,185,965 | 100.00 | 56.43 | 0.00 | |
| 7/1/13 | 446,509,394 | 2,645,278,934 | 1,096,734,709 | 2,127,491,585 | 100.00 | 63.55 | 0.00 | |
| 7/1/12 | 444,953,351 | 2,418,803,841 | 1,163,197,690 | 2,137,727,566 | 100.00 | 69.98 | 0.00 | |
| 7/1/11 | 434,353,581 | 2,240,031,414 | 1,252,140,684 | 2,173,255,647 | 100.00 | 77.63 | 0.00 | |
| 7/1/10 | 439,239,135 | 1,914,386,462 | 1,318,735,661 | 2,190,654,958 | 100.00 | 91.49 | 0.00 | |

Local Employer

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|---------|--------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$3,028,571,346 | \$19,956,349,181 | \$8,221,044,776 | \$23,935,037,150 | 100.00% | 100.00% | 11.56% | |
| 7/1/14 | 2,953,537,557 | 18,953,799,304 | 8,331,950,046 | 23,066,498,788 | 100.00 | 100.00 | 13.91 | |
| 7/1/13 | 2,842,256,925 | 17,710,792,805 | 8,258,648,542 | 22,170,221,173 | 100.00 | 100.00 | 19.58 | |
| 7/1/12 | 2,726,801,462 | 16,780,025,399 | 8,198,341,576 | 21,549,327,079 | 100.00 | 100.00 | 24.91 | |
| 7/1/11 | 2,611,348,759 | 16,074,784,440 | 8,292,498,989 | 21,051,681,692 | 100.00 | 100.00 | 28.53 | |
| 7/1/10 | 2,610,141,488 | 14,279,203,074 | 8,712,653,564 | 20,367,865,987 | 100.00 | 100.00 | 39.92 | |

Total System

| | Accrued Liabilities For | | | | _ | ercentage of Accrued Liabilities overed by Net Assets Available | | |
|-------------------|--|--|-------------------------------------|--|---------|---|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$3,482,048,011 | \$23,025,291,735 | \$9,215,063,722 | \$25,939,616,259 | 100.00% | 97.53% | 0.00% | |
| 7/1/14 | 3,415,245,260 | 21,789,926,249 | 9,399,725,062 | 25,128,684,753 | 100.00 | 99.65 | 0.00 | |
| 7/1/13 | 3,288,766,319 | 20,356,071,739 | 9,355,383,251 | 24,297,712,758 | 100.00 | 100.00 | 6.98 | |
| 7/1/12 | 3,171,754,813 | 19,198,829,240 | 9,361,539,266 | 23,687,054,645 | 100.00 | 100.00 | 14.06 | |
| 7/1/11 | 3,045,702,340 | 18,314,815,854 | 9,544,639,673 | 23,224,937,339 | 100.00 | 100.00 | 19.53 | |
| 7/1/10 | 3,049,380,623 | 16,193,589,536 | 10,031,389,225 | 22,558,520,945 | 100.00 | 100.00 | 33.05 | |

¹ Actuarial Value including receivable amounts.

Analysis of Past Financial Experience - Reconciliation of Employer Contribution Rates

State

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|--|-----------------|-----------------|---------------------|---------------------|---------------------|-----------------------------|
| Prior Year Contribution Rate | 90.94%6 | 81.12%6 | 76.94% ⁶ | 74.83% ⁶ | 70.70% ⁶ | 71.02%6 |
| Adjustment for Full Member Contributions to Offset Normal Cost | N/A | N/A | (1.61) | N/A | N/A | N/A |
| Revised Prior Year Contribution Rate | 90.94% | 81.12% | 75.33% | 74.83% | 70.70% | 71.02% |
| Net Change Due to: | | | | | | |
| Current New Entrants | 0.09 | 0.27 | 0.27 | 0.31 | 0.22 | 0.15 |
| Excess Salary Increases | 0.00 | (0.12) | 0.07 | (0.36) | (0.43) | (0.39) |
| Assumption/Method Changes | (0.55) | 0.50 | 0.00 | (1.51)5 | (2.44)4 | $(4.41)^7$ |
| COLA Increases | 0.00 | 0.00 | 0.02 | 0.04 | (0.25) | (0.41) |
| Active and Other Experience | 0.53 | (0.49) | (0.71) | (1.43) | (0.01) | 0.41 |
| Retiree Experience | 0.05 | 0.08 | 0.03 | 0.06 | 0.01 | 0.03 |
| Investment Loss/(Gain) | 0.77 | 0.48 | 1.00 | 1.32 | 0.99 | 1.30 |
| Net Effect of Chapter 8 ¹ | 0.31 | 2.98 | 1.27 | (1.13) | 0.48 | 0.68 |
| Appropriation Act ² | 5.75 | 6.12 | 3.84 | 4.81 | 5.56 | 3.99 |
| Chapter 78, P.L. 2011 | N/A | N/A | N/A | N/A | N/A | (1.67) |
| Recommended Contribution Rate: | | | | | | |
| Prior to reflecting Chapter 1, P.L. 2010 | 97.89%6 | 90.94%6 | 81.12%6 | 76.94% ⁶ | 74.83% ⁶ | 70.70%6 |
| After reflecting Chapter 1, P.L. 2010 | N/A | N/A | 46.35% ⁶ | 32.98% ⁶ | 21.38% ⁶ | 10.10 % ⁶ |

Analysis of Past Financial Experience — Reconciliation of Employer Contribution Rates

Local Employers

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|--|---------------------|---------------------|-----------------|---------------------|---------------------|---------------------|
| Prior Year Contribution Rate | 24.46% ⁶ | 23.14% ⁶ | 23.90%6 | 24.01% ⁶ | 23.08% ⁶ | 30.20% ⁶ |
| Adjustment for Full Member Contributions to Offset Normal Cost | N/A | N/A | (1.60) | N/A | N/A | N/A |
| Revised Prior Year Contribution Rate | 24.46% | 23.14% | 22.30% | 24.01% | 23.08% | 30.20% |
| | | | | | | |
| Net Change Due to: | | | | | | |
| Current New Entrants | 0.06 | 0.16 | 0.14 | 0.08 | 0.07 | 0.21 |
| Excess Salary Increases | 0.00 | (0.15) | 0.08 | (0.40) | (0.47) | (0.42) |
| Assumption/Method Changes | (0.56) | 1.18 | 0.00 | (0.90)5 | (0.05)4 | (0.66)7 |
| COLA Increases | 0.00 | 0.00 | 0.02 | 0.04 | (0.30) | (0.50) |
| Active and Other Experience | 2.31 | 2.48 | 1.50 | 1.18 | 2.47 | 1.83 |
| Retiree Experience | 0.05 | 0.09 | 0.04 | 0.07 | 0.01 | 0.04 |
| Investment Loss/(Gain) | 0.40 | (0.05) | 1.00 | 1.59 | 1.20 | 1.68 |
| Net Effect of Chapter 8 ¹ | (2.36) | (2.39) | (1.94) | (1.77) | (2.00) | (1.89) |
| Chapter 78, P.L. 2011 | N/A | N/A | N/A | N/A | N/A | (8.73) |
| Recommended Contribution Rate ³ | 24.36%6 | 24.46% ⁶ | 23.14%6 | 23.90%6 | 24.01% ⁶ | 23.08%6 |

¹ Net effect of the change in the calculation of the July 1, 1998 actuarial value of System assets and elimination of the Local Employers' accrued liability contribution for the period ending June 30, 1997.

² Net change due to Appropriation Act for July 1, 2015 includes 5.75% change due to the Fiscal Year 2016 Appropriation Act. Net change due to Appropriation Act for July 1, 2014 includes 0.96% change due to the Fiscal Year 2014 Appropriation Act and 5.16% change due to the Fiscal Year 2015 Appropriation Act. Net change for July 1, 2011, July 1, 2012 and July 1, 2013 are due to the provisions of Chapter 1, P.L. 2010. Net change due to Appropriation Act for July 1, 2010 includes 0.17% change due to the Fiscal Year 2010 Appropriation Act, 0.15% change due to the Fiscal Year 2011 Appropriation Act and 3.67% for the Fiscal Year 2012 Appropriation Act.

Includes rates attributable to Chapter 204 requirement which are billed to specific locations.

⁴ Net effect of the Board approved revised demographic assumptions based on the June 30, 2011 experience investigations and the Treasurer approved revised economic assumptions.

⁵ Net effect of the Board approved revised demographic assumptions based on the Treasurer approved revised economic assumptions.

⁶ Excludes contribution rates payable to the Non-Contributory Group Insurance Premium Fund. For State, the contribution rates are 1.79% for 2015, 2.05% for 2014, 1.51% for 2013, 1.41% for 2012, 1.64% for 2011, and 1.53% for 2010. For Local, the contribution rates are 1.11% for 2015, 1.14% for 2014, 1.09% for 2013, .86% for 2012, 1.00% for 2011, and 0.85% for 2010.

Due to the State's decision to reduce the lag period between the valuation year and the contribution from three years to two years.

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

Eligibility for Membership

Enrollment is restricted to eligible policemen and firemen who are permanent and full-time and who pass the physical and mental fitness requirements. The maximum enrollment age is 35.

1. Definitions

Plan Year

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

Credited Service

A year of service is credited for each year an employee is a Member of the Retirement System plus service, if any, covered by a prior service liability.

Average Final Compensation (AFC)

The average annual compensation for the three consecutive years of Service immediately preceding retirement or the highest three consecutive fiscal years of Membership Service.

Compensation

Base salary upon which contributions by a Member to the Annuity Savings Fund were based in the last year of Service. For Accidental Death, benefits are computed at the annual rate of salary. In accordance with Chapter 1, P.L. 2010, for members hired on or after May 22, 2010 Compensation cannot exceed the annual maximum wage contribution base for Social Security pursuant to the Federal Insurance Contribution Act.

Final Compensation (FC)

Annual compensation received by the member in the last 12 months of Credited Service preceding his retirement. In accordance with Chapter 1, P.L. 2010, for members hired on or after May 22, 2010, FC means the average annual compensation for the three fiscal years of membership providing the largest benefit.

Accumulated Deductions

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

Benefits¹

Service Retirement

Eligibility means age 55 or 20 years of credited service for an employee who was a member of the Retirement System as of January 18, 2000 and age 55 for an employee who became a member of the Retirement System after January 18, 2000; mandatory at age 65 (except that a member hired prior to January 1, 1987 may remain a member of the Retirement System until the member attains the earlier of age 68 or 25 years of creditable service). Benefit is an annual retire-

ment allowance equal to a member annuity plus an employer pension which together equals the greater of:

- (i) 1/60th of FC for each year of Credited Service; or
- (ii) 2% of FC multiplied by years of Credited Service up to 30 plus 1% of FC multiplied by years of Service over 30. (Prior to January 18, 2000, this benefit was based on AFC rather than FC. However, Policy Memorandum 4-2000, which interpreted the provisions of Chapter 428, P.L. 1999, authorized the change in the salary basis).
- (iii) 50% of FC if the member has 20 or more years of Credited Serv-

Chapter 428 also requires that, in addition to the 50% of FC benefit, any member as of January 18, 2000 who will have 20 or more years of Credited Service and is required to retire upon attaining age 65 (except that a member hired prior to January 1, 1987 may remain a member of the System until the member attains the earlier of age 68 or 25 years of creditable service), shall receive an additional benefit equal to 3% of FC for each year of Credited Service over 20 years but not over 25 years.

Special Retirement

After completion of 25 years of Credited Service. The annual retirement benefit is equal to a member annuity plus an employer pension which together equal 65% of FC plus 1% of FC for each year of Credited Service over 25. Effective for members hired after June 28, 2011, the annual retirement benefit is equal to a member annuity plus an employer pension which together equal 60% of FC plus 1% of FC for each year of Credited Service over 25. There is a maximum benefit of 70% of FC (65% of FC for members hired after June 28, 2011) except for those members with 30 or more years of Credited Service on June 30, 1979.

Vested Termination

- (A) (Eligible upon termination of service prior to age 55 and prior to 10 years of Credited Service. The benefit equals a refund of Accumulated Deductions less any outstanding loans.
- (B) Eligible upon termination of service prior to age 55 and after 10 years of Credited Service (but less than 20 years if a member on or prior to January 18, 2000 or less than 25 years of service if a member after January 18, 2000). The benefit is a deferred retirement benefit, commencing at age 55, equal to a member annuity plus an employer pension which together provide a retirement allowance equal to 2% of FC multiplied by years of Credited Service up to 30 plus 1% of FC multiplied by years of Credited Service over 30.

Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes (continued)

Death Benefits

Ordinary Death Benefit - Lump Sum

(1) If a member dies prior to retirement, the benefit payable is as fol-

A lump sum amount equal to 3-1/2 times FC payable to the member's beneficiary.

- (2) After retirement but prior to age 55, the benefit is as follows:
 - (i) For death while a Disabled Retiree the benefit is equal to 3-1/2 times Compensation.
 - (ii) For death while a Deferred Retiree the benefit is equal to his **Accumulated Deductions.**
 - (iii) For death while a Retiree who has completed 20 years of Credited Service, the benefit is equal to 1/2 times FC.
- (3) After retirement and after age 55, the benefit payable is equal to 1/2 times Compensation. (Note: If a Member is not disabled, 10 years of Credited Service is required for Members enrolling after July 1, 1971.)

Ordinary Death Benefit - Survivor Annuity

- (1) If a member dies prior to retirement, the benefit payable to a widow (widower) is equal to 50% of FC (20% of FC payable to one child, 35% of FC payable to two children or 50% of FC payable to three or more children if there is no surviving widow or widower or if the widow or widower dies or remarries or 25% of FC payable to one parent or 40% of FC payable to two parents if no surviving widow, widower or child. If no widow, widower, child or parent, the benefit payable to a beneficiary is the aggregate Accumulated Contributions at the time of death).
- (2) (For any member who retired after December 18, 1967, the benefit payable to a widow (widower) is equal to 50% of FC plus 15% of FC for one child and 25% of FC for two or more children.
 - If no spouse, or spouse remarries, the benefit is equal to 20% of FC for one child, 35% for two children, and 50% for three or more children.
 - There is also a minimum benefit payable to widows (widowers) of \$4,500 a year.
- (3) For any member who retired with an Accidental Disability Benefit, the benefit payable is equal to \$4,500 a year to the widow (widower). If there is no widow (widower) the benefit payable is \$600 a year for 1 child, \$960 a year for 2 children, and \$1,500 a year for 3 or more children. The benefit for children is payable until age 18.

Accidental Death Benefit

A death while active resulting from injuries received from an accident during performance of duty is eligible for a lump sum equal to the Accumulated Deductions plus 3-1/2 times Compensation plus an annuity benefit payable is as follows:

- The benefit to a widow or widower is equal to 70% of Compensa-
- (ii) The benefit, when there is no spouse, or spouse is remarried, is equal to 20% of Compensation for one child, 35% for two children, 50% for three or more children. The benefit is payable while the children are under age 18, or until age 24 if they are full-time students, or it is payable for life if they are disabled.
- (iii) The benefit, when there is no spouse or children, is equal to 25% of Compensation for one parent and 40% for two parents.
- (iv) The benefit, when there is no relation as stated above, is equal to the Accumulated Deductions and is payable to a beneficiary or to the Member's estate. This is also the minimum benefit payable under (i), (ii) and (iii).

Disability Benefits

Ordinary Disability Retirement

A Member is eligible for Ordinary Disability Retirement if he (she) has four years of Service and is totally and permanently incapacitated from the performance of usual or available duties. The benefit is equal to the greater of:

- (i) 1-1/2% of FC times the number of years of Credited Service; or
- (ii) 40% of FC.

In addition, a member who has at least 20 years but less than 25 years of Credited Service and who is required to retire upon application by the employer on and after January 18, 2000, shall receive a benefit equal to a member annuity plus an employer pension which together provide a total retirement allowance equal to 50% of FC plus 3% of FC multiplied by the number of years of Credited Service over 20 but not over 25.

Accidental Disability Retirement

A Member is eligible upon total and permanent incapacitation from the performance of usual or available duties as a result of injury during the performance of regular duties. The benefit payable is equal to a Member annuity plus an employer pension which together equals 2/3 of the Compensation at date of injury.

Special Disability Retirement

A member is eligible for Special Disability Retirement if he (she) has five years of Credited Service, is under age 55, and has received a heart transplant. The benefit payable is equal to a Member annuity plus an employer pension which together equals 50% of FC.

Member Contributions

Each member contributes 10.0% of Compensation.

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** STATE POLICE RETIREMENT SYSTEM



Secaucus, New Jersey 07096-1533

June 22, 2017

The Board of Trustees State Police Retirement System of New Jersey

Re: Actuary's Certification Letter

Members of the Board:

An actuarial valuation of the State Police Retirement System ("SPRS") is performed annually to measure the ongoing costs of the System and the progress towards the funding goals of the System over time. In general, the financial goals of the State Police Retirement System are a pattern of contributions, which is sufficient to cover the normal cost of the System plus the contribution towards the unfunded accrued liability. The information contained in this certification letter is based on the July 1, 2015 valuation of SPRS.

In accordance with the New Jersey statutes, employers are required to make two contributions to the System, a normal contribution and an accrued liability contribution. The normal contribution is defined under the Projected Unit Credit funding method as the present value of the benefits accruing during the current year. Prior to the July 1, 2010 valuation, the unfunded accrued liability contribution for basic allowances and cost of living adjustments was determined as a level percentage of pay required to amortize the unfunded accrued liability over 30 years in annual payments increasing by 4.0% per year. The funding reform provisions of Chapter 78, P.L. 2011 changed the methodology used to amortize the unfunded accrued liability. 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.

Chapter 78, P.L. 2011 also increased member contributions from 7.5% to 9.00% of salary, beginning October 2011. Effective with the July 1, 2012 actuarial valuation, the determination of the State's normal cost contributions has been revised to reflect the use of all member contributions as an offset to the gross normal cost. This was the methodology used to determine the State's normal cost contribution prior to the enactment of Chapter 78, P.L. 2011 and is consistent with the methodology typically used by contributory public-sector retirement systems to calculate the employer's normal cost contribution.

The valuation reflects actual fiscal year 2015 State contributions of \$37,358,000, which have been reduced from the actuarially determined pension contribution of \$108,904,703. In addition, the fiscal year 2016 actuarially determined pension contribution of \$118,600,705 has been reduced to \$32,975,255. This amount reflects the State's planned fiscal year 2016 contribution of \$35,580,300, discounted to the valuation date. This amount may be subject to change per the requirements of the State's fiscal year 2016 spending plan.

The actuarially determined contribution for the fiscal year beginning July 1, 2016 is \$133,217,662. This amount is comprised of an unfunded accrued liability payment of \$98,635,902 plus a normal contribution of \$34,581,760. This amount may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

The State of New Jersey's Division of Pensions and Benefits reported the individual data for members of the State Police Retirement System of New Jersey as of the valuation date for use in the preparation of this report. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Division of Pensions and Benefits. The accuracy of the results presented in this report is dependent on the accuracy of the data.

As required under Section 32 of Chapter 89, P.L. 1965, experience studies are performed once in every three year period. The valuation was prepared using demographic assumptions recommended on the basis of the July 1, 2011 - June 30, 2014 Experience Study and approved by the Board of Trustees at the January 26, 2016 Board meeting. These assumptions will remain in effect for valuation purposes until such time as the Board adopts revised demographic assumptions.

STATE OF NEW JERSEY DIVISION OF PENSIONS AND BENEFITS STATE POLICE RETIREMENT SYSTEM

ACTUARIAL INFORMATION

The valuation reflects economic assumptions, which include a rate of investment return of 7.90% per annum and the assumed future salary increases of 3.45% per annum through fiscal year ending 2021 and 4.45% per annum for fiscal years ending 2022 and thereafter. These assumptions will remain in effect for valuation purposes until such time the Board or the Treasurer recommends revised assumptions.

The valuation cost method used is the projected unit credit method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. The asset valuation method used was a five-year average of market values with write-up. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the Board or staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

The actuarial assumptions and methods used by the State Police Retirement System for financial reporting meet the requirements set forth in Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. Information necessary to comply with the reporting requirements of GASB Statement Nos. 67 and No. 68 were provided in separate Actuarial Reports, which are available on the Division of Pensions and Benefits web site. Please refer to the separate Actuarial Reports for supplementary information documentation and support for the actuarial analysis and information presented herein.

In my opinion, the attached schedules of valuation results fairly represent the status of the State Police Retirement System and present an accurate view of historical data. The underlying assumptions and methods used are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the System.

The following supporting schedules in the Actuarial Section were prepared by Conduent Business Services:

Summary of Actuarial Assumptions and Methods

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- Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- Schedule of Active Member Valuation Data
- · Solvency Test
- · Analysis of Past Financial Experience Reconciliation of Employer Contribution Rates
- . Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

In addition, Conduent prepared the "Schedule of Assets and Liabilities" and the "Schedule of Employer Contributions" in the Financial Section which can be found in the July 1, 2015 valuation report for SPRS. The Schedule of Assets and Liabilities and the Schedule of Employer Contributions are provided for informational purposes only since the reporting requirements of Statements No. 67 and No. 68 became effective as of the June 30, 2014 and June 30, 2015 reporting dates, respectively.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, FSA, EA, MAAA Principal, Consulting Actuary

Summary of Actuarial Assumptions and Methods

Section 32 of Chapter 89, P.L. 1965 of the New Jersey Statutes provides that once in every three-year period the actuary shall examine in detail the demographic experience of the members and beneficiaries of the State Police Retirement System to assure that the tables used for determining expected liabilities are consistent with recent experience.

The demographic assumptions used for the July 1, 2015 actuarial valuation of the State Police Retirement System were based on the results of the experience study, which covered the period from July 1, 2011 to June 30, 2014, which were approved by the Board of Trustees, and the revised economic assumptions established in the July 1, 2012 valuation.

An outline of the actuarial assumptions and methods used for the July 1, 2015 valuation is as follows:

Valuation Interest Rate: 7.90% per annum, compounded annually.

COLA: No future COLA is assumed.

Salary Increases: Salaries are assumed to increase by 3.45% per year through fiscal year ending 2021 and 4.45% per year for fiscal years ending 2022 and thereafter.

401(a)(17) Pay Limit: \$265,000 for 2015 increasing 3.00% per annum, compounded annually.

Social Security Wage Base: \$118,500 for 2015 increasing 4.00% per annum, compounded annually

Termination: Withdrawal rates vary by length of service. Illustrative rates are shown below:

| | Lives per Thousand | | | | |
|-----|------------------------------|-----------------------------------|--|--|--|
| Age | Less Than 5 Years of Service | Five to Nineteen Years of Service | | | |
| 25 | 3.8% | 0.0% | | | |
| 30 | 3.8 | 2.0 | | | |
| 35 | 8.3 | 1.4 | | | |
| 40 | 0.0 | 0.8 | | | |
| 45 | 0.0 | 1.0 | | | |
| 50 | 0.0 | 0.0 | | | |

Summary of Actuarial Assumptions and Methods, continued

Separations From Service

Representative mortality, disability and retirement rates are as follows:

| Annual Rates of ¹ | | | | | | | |
|------------------------------|---------|----------|------------|------------|------------|--|--|
| | Ordinar | y Death² | Accidental | Ordinary | Accidental | | |
| Age | Male | Female | Death | Disability | Disability | | |
| 25 | 0.4% | 0.2% | 0.3% | 0.4% | 0.2% | | |
| 30 | 0.4 | 0.3 | 0.5 | 0.6 | 0.5 | | |
| 35 | 0.5 | 0.5 | 0.5 | 1.5 | 1.9 | | |
| 40 | 0.9 | 0.7 | 0.5 | 1.7 | 2.1 | | |
| 45 | 1.2 | 1.1 | 0.7 | 2.2 | 2.1 | | |
| 50 | 1.7 | 1.6 | 0.9 | 3.8 | 2.3 | | |

¹ Per one thousand lives.

Husbands are assumed to be 3 years older than wives. Among the active population, 83.3% of participants are assumed married. No children are assumed. Neither the percentage married nor number of children assumption is individually explicit but they are considered as a single combined assumption.

Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. 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 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.

Receivable Contributions

State contributions expected to be paid the June 30th following the valuation date are discounted by the valuation interest rate of 7.90% to the valuation date.

Asset Valuation Method

A five-year average of market values with write-up. (This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period.)

RP-2000 Combined Healthy Male (set back 3 years) and RP-2000 Combined Healthy Female Mortality Tables projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB as the base table. The base tables will be further projected using the Conduent Modified MP-2014 Projection Scale. Rates shown above are unadjusted for the Conduent Modified MP-2014 Projection Scale.

Summary of Actuarial Assumptions and Methods, continued

Deaths After Retirement

For healthy inactive members and beneficiaries of deceased members the RP-2000 Combined Healthy Male (set back 3 years) and RP-2000 Combined Healthy Female Mortality tables projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB. These base tables will be further projected beyond the valuation date using the Conduent Modified MP-2014 mortality improvement scale. For disabled members the RP-2000 Combined Healthy Male (set forward 5 years) and RP-2000 Combined Healthy Female Mortality (set forward 5 years) tables are used. Illustrative rates of mortality unadjusted for the Conduent Modified MP-2014 Projection Scale are shown below:

| | Lives per Thousand | | | | | |
|-----|---|---------|----------|-----------|--|--|
| | Retired Members and Beneficiaries of Deceased Members | | Disabled | l Members | | |
| Age | Males | Females | Males | Females | | |
| 55 | 2.6% | 2.5% | 6.7% | 5.1% | | |
| 60 | 4.3 | 4.4 | 12.7 | 9.7 | | |
| 65 | 7.5 | 8.3 | 22.2 | 16.7 | | |
| 70 | 13.2 | 14.3 | 37.8 | 28.1 | | |
| 75 | 22.4 | 24.0 | 64.4 | 45.9 | | |
| 80 | 38.5 | 39.2 | 110.8 | 77.4 | | |
| 85 | 66.1 | 66.2 | 183.4 | 131.7 | | |
| 90 | 117.8 | 114.0 | 267.5 | 194.5 | | |

Rates of Retirement

Rates of retirement vary by length of service and age (if more than 24 years of service) with 100% of those remaining at age 55 retiring at age 55. The rates are shown below:

| Service | Lives per 100 |
|--------------------|---------------|
| 20% | 2.0% |
| 21 | 0.5 |
| 22 | 0.0 |
| 23 | 0.0 |
| 24 | 0.0 |
| 25 | 50.0 |
| Greater than 25: | |
| (a) through age 42 | 5.0 |
| (b) ages 43-47 | 28.0 |
| (c) ages 48-53 | 33.0 |
| (d) age 54 | 61.0 |

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** STATE POLICE RETIREMENT SYSTEM

Summary of Actuarial Assumptions and Methods, continued

Changes in Actuarial Assumptions and Methods

The following are changes to the actuarial assumptions and methods from those used in the prior valuation:

1. As required under Section 32 of Chapter 89, P.L. 1965, experience studies are performed once in every three year period. The valuation was prepared using demographic assumptions recommended on the basis of the July 1, 2011 - June 30, 2014 Experience Study and approved by the Board of Trustees at the January 26, 2016 Board meeting. These assumptions will be reviewed in a June 30, 2017 experience study and will remain in effect for valuation purposes until such time as the Board adopts revised demographic assumptions.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

| | Adde | Added to Rolls | | Removed from Rolls | | Rolls at End of Year | | Average |
|-------------------|--------|---------------------|--------|---------------------|---------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 160 | \$ 10,330,374 | 58 | \$2,732,284 | 3,511 | \$208,106,636 | 3.79% | \$59,273 |
| 7/1/14 | 201 | 14,131,655 | 45 | 1,563,031 | 3,409 | 200,508,546 | 6.69 | 58,817 |
| 7/1/13 | 291 | 20,641,305 | 68 | 2,192,736 | 3,253 | 187,939,922 | 10.88 | 57,774 |
| 7/1/12 | 256 | 17,483,694 | 44 | 1,557,365 | 3,030 | 169,491,353 | 10.81 | 55,938 |
| 7/1/11 | 232 | 14,848,311 | 66 | 2,030,490 | 2,818 | 152,950,538 | 10.14 | 54,276 |
| 7/1/10 | 107 | 6,656,153 | 40 | 1,345,937 | 2,652 | 138,873,702 | 3.97 | 52,366 |

¹ These values include beneficiaries in receipt but exclude deferred vested terminations.

Schedule of Active Members Valuation Data

| Valuation Date | Number of Active Members | Annual Compensation | Average Compensation | % Increase in Average Compensation |
|----------------|-----------------------------|------------------------|-------------------------|--|
| 7/1/15 | 2,676 | \$275,477,457 | \$102,944 | -1.09% |
| 7/1/14 | 2,522 | 262,496,289 | 104,083 | -1.46 |
| 7/1/13 | 2,481 | 262,063,829 | 105,628 | 1.48 |
| 7/1/12 | 2,721 | 283,219,927 | 104,086 | 7.56 |
| 7/1/11 | 2,844 | 275,219,752 | 96,772 | 1.12 |
| 7/1/10 | 3,030 | 289,980,657 | 95,703 | 0.48 |

Solvency Test³

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ³ | (1) | (2) | (3) | |
| 7/1/15 | \$181,536,046 | \$2,289,865,821 | \$618,818,617 | \$1,969,239,472 | 100.00% | 78.07% | 0.00% | |
| 7/1/14 | 173,529,948 | 2,173,442,158 | 616,210,014 | 1,981,376,495 | 100.00 | 83.18 | 0.00 | |
| 7/1/13 | 171,462,709 | 2,034,551,263 | 664,576,728 | 1,990,797,312 | 100.00 | 89.42 | 0.00 | |
| 7/1/12 | 180,407,372 | 1,822,707,659 | 764,653,782 | 1,995,388,133 | 100.00 | 99.58 | 0.00 | |
| 7/1/11 | 182,626,003 | 1,634,856,377 | 764,468,466 | 2,015,624,130 | 100.00 | 100.00 | 25.92 | |
| 7/1/10 | 185,587,970 | 1,466,806,024 | 844,700,143 | 2,019,350,048 | 100.00 | 100.00 | 43.44 | |

Actuarial value including receivable amounts.

² The benefit amounts shown prior to the 7/1/2013 valuation date are the annualized benefits as of the valuation date and are not the actual benefits paid during the fiscal year.

Analysis of Past Financial Experience — Reconciliation of Employer Contribution Rates

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Prior Year Contribution Rate ¹ | 45.18% | 41.56% | 37.78% | 32.53% | 30.92% | 36.11% |
| Adjustment for Full Member Contributions to Offset Normal Cost | N/A | N/A | (1.34) | N/A | N/A | N/A |
| Revised Prior Year Contribution Rate ¹ | 45.18% | 41.56% | 36.44% | 32.53% | 30.92% | 36.11% |
| Net Change Due to: | | | | | | |
| Current New Entrants | 0.71 | 0.36 | 0.00 | 0.11 | 0.00 | 0.43 |
| Excess Salary Increases | (0.26) | (0.78) | (0.35) | 1.58 | (0.64) | (1.60) |
| Assumption/Method Changes | 1.86 | 0.79 | 0.00 | 0.20 | (1.75) | N/A |
| COLA Increases | 0.00 | 0.00 | 0.00 | 0.00 | (0.39) | (0.56) |
| Retiree Mortality | (0.38) | 0.16 | 0.88 | 0.37 | 0.05 | 0.10 |
| Active and Other Experience | (1.57) | 0.38 | 1.28 | (0.88) | 0.19 | 0.59 |
| Revised State Contribution ² | (0.19) | N/A | N/A | N/A | N/A | N/A |
| Investment Loss/(Gain) | 0.55 | 0.12 | 1.33 | 1.87 | 1.61 | 1.90 |
| Appropriation Act ³ | 2.46 | 2.59 | 1.98 | 2.00 | 2.54 | 2.17 |
| Chapter 78, P.L. 2011 | N/A | N/A | N/A | N/A | N/A | (8.22) |
| Recommended Contribution Rate: | | | | | | |
| Prior to reflecting Chapter 1, P.L. 2010¹ | 48.36% | 45.18% | 41.56% | 37.78% | 32.53% | 30.92% |
| • After reflecting Chapter 1, P.L. 2010 ¹ | N/A | N/A | 23.75% | 16.18% | 9.30% | 4.42% |

Excludes contribution rates of 0.65% for 2015, 0.84% for 2014, 0.76% for 2013, 0.67% for 2012, 0.73% for 2011 and 0.62% for 2010 for premiums payable to the Non-Contributory Group Insurance Premium Fund.

² The anticipated fiscal year 2015 contribution of \$31,491,069 has been increased to \$37,358,000 to reflect the actual State contribution made during fiscal year 2015.

 $^{^{3}}$ Changes in 2011, 2012, and 2013 are due to the provisions of Chapter 1, P.L. 2010.

Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

Eligibility for Membership

All members of the former State Police and Benevolent Fund: full-time commissioned officers, non-commissioned officers, or troopers of the Division of State Police. Membership is a condition of employment.

1. Definitions

Plan Year

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

Service

Service rendered while a member as described above.

Credited Service

A year is credited for each year of service as an officer or trooper in the State Police. Service with other State Retirement Systems is included in the calculation of the retirement benefit at the rate of 1% of final compensation for each year of service credit.

Compensation

Based on contractual salary, including maintenance allowance, received by the member in the last 12 months of credited service preceding retirement, termination or death. Compensation does not include individual salary adjustments granted primarily in anticipation of the retirement or for temporary or extracurricular duties beyond the ordinary work day. (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 System 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.)

Final Compensation

Average compensation received by member in 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 salary 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. Such term shall include the value of the member's maintenance allowance.)

Aggregate Contributions

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf. For contribution purposes, compensation does not include overtime, bonuses, maintenance, or any adjustments before retirement.

Adjusted Final Compensation

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.

2. Benefits

Service Retirement

Mandatory retirement at age 55. Voluntary retirement prior to age 55 with 20 years of credited service. 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 or more years 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.
- (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 as defined in (a) above plus 3% for each year of service in excess of 20 years.

Vested Termination

Termination of service prior to age 55. Benefit for 10 to 20 years of service - Refund of aggregate contributions, or a deferred life annuity beginning at age 55 equal to 2% of final compensation for each year of service up to 20 years.

Ordinary Death

Before Retirement

Death of an active member of the plan. Benefit is equal to:

- (a) Lump sum payment equal to 3-1/2 times final compensation, 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%, or 50% of final compensation payable to one, two, or three dependent children. If there is no surviving spouse (or dependent children), an amount equal to 25% or 40% of final compensation to one or two dependent parents.

Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes, continued

Minimum ordinary death benefit

Aggregate contributions

After Retirement

Death of a retired member of the plan. The benefit is equal to:

- (a) Lump sum of 50% of final compensation, 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%, or 50% of final compensation payable to one, two or three dependent children, respectively.

Accidental Death

Death of an active member of the plan resulting during performance of duties. Benefit is equal to:

- (a) Lump sum payment equal to 3-1/2 times final compensation,
- (b) Spousal life annuity of 70% of adjusted final compensation payable until spouse's death. If there is no surviving spouse, or upon death of the surviving spouse, a total of 20%, 35%, or 50% of adjusted final compensation payable to one, two or three dependent children. If there is no surviving spouse or dependent children, 25% or 40% of adjusted final compensation to one or two dependent parents.

Ordinary Disability Retirement

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.

- (a) The benefit for members with less than four years of service is a refund of the member's aggregate contributions.
- (b) For members with at least four years of service, the benefit is an immediate life annuity equal to 40% of final compensation plus 1-1/2% of final compensation for years of creditable service in excess of 26-2/3.

(c) For members who are forced to retire with 20 but less than 25 years of service, the benefit is 50% of the member's final compensation plus 3% of final compensation for each year of service in excess of 20 years, to a maximum of 65% of final compensation.

For death following disability retirement, a lump sum equal to 3-1/2 times final compensation if death occurs prior to age 55 or 1/2 of final compensation after age 55.

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. Benefit is an immediate life annuity equal to 2/3 of final compensation. Upon death after disability retirement, lump sum benefit of 3-1/2 times final compensation if death occurs before age 55 and 1/2 times final compensation if death occurs after age 55.

Loan Provision

Eligible if an active member of the State Police Retirement System with at least three years of contributory service. If eligible, a member may borrow an amount, which is greater than \$50, but not more than 50% of aggregate contributions. The loan accrues at a rate set by the State Treasurer, which is based on a commercially reasonable rate as required by the Internal Revenue Service. An administrative fee may be charged by for the loan.

Member Contributions

Each member contributes 9.0% of Compensation.

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
JUDICIAL RETIREMENT SYSTEM



Secaucus, New Jersey 07096-1533

June 22, 2017

State House Commission
Judicial Retirement System
of New Jersey

Re: Actuary's Certification Letter

Members of the Commission:

An actuarial valuation of the Judicial Retirement System ("JRS") is performed annually to measure the ongoing costs of the System and the progress towards the funding goals of the System over time. In general, the financial goals of the Judicial Retirement System are a pattern of contributions, which is sufficient to cover the normal cost of the System plus the contribution towards the unfunded accrued liability. The information contained in this certification letter is based on the July 1, 2015 valuation of JRS.

In accordance with the New Jersey statutes, employers are required to make two contributions to the System, a normal contribution and an accrued liability contribution. The normal contribution is defined under the Projected Unit Credit funding method as the present value of the benefits accruing during the current year. Prior to the July 1, 2010 valuation, the unfunded accrued liability contribution for basic allowances and cost of living adjustments was determined as a level percentage of pay required to amortize the unfunded accrued liability over 30 years in annual payments increasing by 4.0% per year. The funding reform provisions of Chapter 78, P.L. 2011 changed the methodology used to amortize the unfunded accrued liability. 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.

Chapter 78, P.L. 2011 also increased member contributions by 9% of salary phased-in over a period of seven years, beginning October 2011. The increase in member contributions will be fully phased-in by July 2017. Effective with the July 1, 2012 actuarial valuation, the determination of the State's normal cost contributions has been revised to reflect the use of all member contributions as an offset to the gross normal cost. This was the methodology used to determine the State's normal cost contribution prior to the enactment of Chapter 78, P.L. 2011 and is consistent with the methodology typically used by contributory public-sector retirement systems to calculate the employer's normal cost contribution.

The valuation reflects actual fiscal year 2015 State contributions of \$16,506,000, which have been reduced from the actuarially determined pension contribution of \$44,334,504. In addition, the fiscal year 2016 actuarially determined pension contribution of \$46,502,819 has been reduced to \$12,929,472. This amount reflects the State's planned fiscal year 2016 contribution of \$13,950,900, discounted to the valuation date. This amount may be subject to change per the requirements of the State's fiscal year 2016 spending plan.

The actuarially determined contribution for the fiscal year beginning July 1, 2016 is \$ 44,156,771. This amount is comprised of an unfunded accrued liability payment of \$ 31,544,682 plus a normal contribution of \$12,612,089. This amount may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

The State of New Jersey's Division of Pensions and Benefits reported the individual data for members of the Judicial Retirement System of New Jersey as of the valuation date for use in the preparation of this report. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Division of Pensions and Benefits. The accuracy of the results presented in this report is dependent on the accuracy of the data.

As required under Chapter 140, P.L. 1973, experience studies are performed once in every three year period. The valuation was prepared on the basis of the demographic assumptions that were determined from the July 1, 2011 – June 30, 2014 Experience Study and approved by the State House Commission. These assumptions will remain in effect for valuation purposes until such time as the State House Commission adopts revised demographic assumptions.

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** JUDICIAL RETIREMENT SYSTEM

ACTUARIAL INFORMATION

The valuation reflects economic assumptions, which include a rate of investment return of 7.90% per annum and the assumed future salary increases of 2.50% per annum through fiscal year ending 2021 and 3.50% per annum for fiscal years ending 2022 and thereafter. These assumptions will remain in effect for valuation purposes until such time the State House Commission or the Treasurer recommends revised assumptions.

The valuation cost method used is the projected unit credit method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. The asset valuation method used was a five-year average of market values with write-up. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the State House Commission or staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

The actuarial assumptions and methods used by the Judicial Retirement System for financial reporting meet the requirements set forth in Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. Information necessary to comply with the reporting requirements of GASB Statement Nos. 67 and No. 68 were provided in separate Actuarial Reports, which are available on the Division of Pensions and Benefits web site. Please refer to the separate Actuarial Reports for supplementary information documentation and support for the actuarial analysis and information presented herein.

In my opinion, the attached schedules of valuation results fairly represent the status of the Judicial Retirement System and present an accurate view of historical data. The underlying assumptions and methods used are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the System.

The following supporting schedules in the Actuarial Section were prepared by Conduent Business Services:

Summary of Actuarial Assumptions and Methods

awron Shaporo

- Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- Schedule of Active Member Valuation Data
- Solvency Test
- Analysis of Past Financial Experience Reconciliation of Employer Contribution Rates
- . Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

In addition, Conduent prepared the "Schedule of Assets and Liabilities" and the "Schedule of Employer Contributions" in the Financial Section which can be found in the July 1, 2015 valuation report for JRS. The Schedule of Assets and Liabilities and the Schedule of Employer Contributions are provided for informational purposes only since the reporting requirements of Statements No. 67 and No. 68 became effective as of the June 30, 2014 and June 30, 2015 reporting dates, respectively.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, FSA, EA, MAAA Principal, Consulting Actuary

Summary of Actuarial Assumptions and Methods

Section 31 of Chapter 140, P.L. 1973 of the New Jersey Statutes provides that once in every three-year period the actuary shall examine in detail the demographic experience of the members and beneficiaries of the Judicial Retirement System to assure that the tables used for determining expected liabilities are consistent with recent experience.

The demographic assumptions used for the July 1, 2015 actuarial valuation of the Judicial Retirement System were based on the results of the experience study, which covered the period from July 1, 2011 to June 30, 2014, which were approved by the State House Commission, and the revised economic assumptions established in the July 1, 2012 valuation.

An outline of the actuarial assumptions and methods used for the July 1, 2015 valuation is as follows:

Valuation Interest Rate: 7.90% per annum, compounded annually.

COLA: No future COLA is assumed.

Salary Increases: Salaries are assumed to increase by 2.50% per year through fiscal year ending 2021 and 3.50% per year for fiscal years ending 2022 and thereafter.

401(a)(17) Pay Limit: \$265,000 for 2015 increasing 3.00% per annum, compounded annually.

Separations from Service: Representative mortality and disability rates are as follows:

| | Lives per Thousand | | | | | |
|-----|--------------------|--------------------|------------|--|--|--|
| | | Death ¹ | | | | |
| Age | Male | Female | Disability | | | |
| 30 | 0.43% | 0.38% | 0.22% | | | |
| 35 | 0.74 | 0.58 | 0.26 | | | |
| 40 | 1.04 | 0.90 | 0.33 | | | |
| 45 | 1.45 | 1.38 | 0.64 | | | |
| 50 | 2.06 | 2.12 | 1.14 | | | |
| 55 | 3.49 | 3.68 | 1.97 | | | |
| 60 | 6.16 | 6.71 | 3.26 | | | |
| 65 | 10.89 | 11.49 | 4.73 | | | |

PRP-2000 Combined Healthy Male and RP-2000 Combined Healthy Female Mortality Tables (unadjusted for males and set forward 3 years for females) projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the Conduent Modified MP-2014 Projection scale. The above rates are unadjusted for the Conduent Modified MP-2014 Projection Scale.

Summary of Actuarial Assumptions and Methods, continued

Deaths after Retirement

RP-2000 Combined Healthy Mortality Tables (unadjusted for males and set forward 3 years for females) for service retirement and beneficiaries of former members projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the Conduent Modified MP-2014 Projection scale. The RP-2000 Disability Mortality Tables (set forward 2 years for males and females) are used to value disabled retirees. Representative values of the annual rates of mortality unadjusted for the Conduent Modified MP-2014 Projection Scale are as follows:

| | Lives per Thousand | | | | | |
|-----|---|---------|----------|-----------|--|--|
| | Retired Members and Beneficiaries of Deceased Members | | Disabled | l Members | | |
| Age | Males | Females | Males | Females | | |
| 55 | 3.49% | 3.68% | 38.03% | 18.65% | | |
| 60 | 6.16 | 6.71 | 44.98 | 24.08 | | |
| 65 | 10.89 | 11.49 | 54.45 | 31.32 | | |
| 70 | 18.25 | 19.63 | 69.41 | 42.85 | | |
| 75 | 31.09 | 32.13 | 92.15 | 59.54 | | |
| 80 | 52.89 | 53.43 | 121.88 | 82.30 | | |
| 85 | 91.00 | 91.72 | 155.23 | 114.51 | | |
| 90 | 158.84 | 147.61 | 216.61 | 159.92 | | |

Retirement

| Age | Age 60 with 20 Years Judicial Service or Age 65 with 15 Years Judicial Service | After Age 59 with less than 12 Years Judicial Service | After Age 59 with 12 or more Years Judicial Service (but have not attained 60/20 JS or 65/15 JS) | Prior to Age 60 with 5 Years Judicial Service and 25 Years Public Service |
|-----|--|--|--|---|
| 50 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 51 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 53 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 54 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 55 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 56 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 57 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 58 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 59 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 60 | 0.30000 | 0.02500 | 0.00000 | 0.00000 |
| 61 | 0.20000 | 0.02500 | 0.00000 | 0.00000 |
| 62 | 0.20000 | 0.02500 | 0.00000 | 0.00000 |
| 63 | 0.30000 | 0.02500 | 0.00000 | 0.00000 |
| 64 | 0.30000 | 0.02500 | 0.00000 | 0.00000 |
| 65 | 0.37500 | 0.02500 | 0.10000 | 0.00000 |
| 66 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |
| 67 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |
| 68 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |
| 69 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
JUDICIAL RETIREMENT SYSTEM

Summary of Actuarial Assumptions and Methods, continued

Marriage

Husbands are assumed to be 3 years older than wives. Among the active population, 90% of participants are assumed married. No children are assumed. Neither the percentage married nor the number of children assumption is individually explicit but are considered reasonable as a single combined assumption.

Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. 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.

Receivable Contributions

State contributions expected to be paid the June 30th following the valuation date are discounted by the valuation interest rate of 7.90% to the valuation date.

Asset Valuation Method

A five year average of market values with write-up was used. (This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period).

Changes in Actuarial Assumptions and Methods

The following are changes to the actuarial assumptions and methods from those used in the prior valuation:

1. As required under Chapter 140, P.L. 1973, experience studies are performed once in every three year period. The valuation was prepared using demographic assumptions recommended on the basis of the July 1, 2011 – June 30, 2014 Experience Study and approved by the State House Commission on October 26, 2015. These assumptions will be reviewed in a June 30, 2017 experience study and will remain in effect for valuation purposes until such time as the State House Commission adopts revised assumptions.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

| | Adde | d to Rolls | Remove | d from Rolls | Rolls at End of Year | | % Increase in | Average |
|-------------------|--------|---------------------|--------|---------------------|----------------------|----------------------------------|---------------------|---------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number ¹ | Annual Allowance ² | Annual Allowance | Annual Allowance |
| 7/1/15 | 43 | \$4,254,340 | 18 | \$1,234,963 | 586 | \$52,965,770 | 6.05% | \$90,385 |
| 7/1/14 | 34 | 3,165,378 | 22 | 1,456,153 | 561 | 49,946,393 | 3.54 | 89,031 |
| 7/1/13 | 48 | 4,091,470 | 34 | 2,021,915 | 549 | 48,237,168 | 4.48 | 87,864 |
| 7/1/12 | 34 | 3,723,186 | 21 | 1,423,636 | 535 | 46,167,613 | 5.24 | 86,295 |
| 7/1/11 | 41 | 3,699,618 | 24 | 1,442,965 | 522 | 43,868,063 | 6.35 | 84,038 |
| 7/1/10 | 47 | 4,424,782 | 24 | 1,659,228 | 505 | 41,250,479 | 7.22 | 81,684 |

¹ These values include beneficiaries in receipt but exclude deferred vested terminations.

Schedule of Active Members Valuation Data

| Valuation Date | Number of Active Members | Annual Compensation | Average Compensation | % Increase (Decrease) in Average Compensation |
|----------------|-----------------------------|------------------------|-------------------------|---|
| 7/1/15 | 404 | \$67,097,166 | \$166,082 | -0.14% |
| 7/1/14 | 397 | 66,028,491 | 166,319 | 0.32 |
| 7/1/13 | 409 | 67,810,110 | 165,795 | -0.13 |
| 7/1/12 | 407 | 67,497,660 | 165,842 | -0.16 |
| 7/1/11 | 406 | 67,437,125 | 166,101 | 0.01 |
| 7/1/10 | 432 | 71,746,413 | 166,080 | -0.07 |

Solvency Test

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-------|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ³ | (1) | (2) | (3) | |
| 7/1/15 | \$26,322,768 | \$430,541,499 | \$145,499,933 | \$243,864,022 | 100.00% | 50.53% | 0.00% | |
| 7/1/14 | 23,058,086 | 444,577,573 | 165,044,278 | 258,101,497 | 100.00 | 52.87 | 0.00 | |
| 7/1/13 | 20,588,967 | 435,970,958 | 163,816,367 | 276,966,331 | 100.00 | 58.81 | 0.00 | |
| 7/1/12 | 19,799,227 | 417,423,315 | 167,958,092 | 290,191,842 | 100.00 | 64.78 | 0.00 | |
| 7/1/11 | 18,353,365 | 394,760,527 | 172,586,895 | 310,724,782 | 100.00 | 74.06 | 0.00 | |
| 7/1/10 | 17,967,938 | 354,390,110 | 182,182,355 | 329,030,387 | 100.00 | 87.77 | 0.00 | |

³ Actuarial value including receivable amounts.

² The benefit amounts shown are the annualized benefits as of the valuation date and are not the actual benefits paid during the fiscal year.

Analysis of Past Financial Experience — Reconciliation of Employer Contribution Rates

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Prior Year Contribution Rate ¹ | 70.43% | 65.38% | 66.20% | 60.43% | 53.45% | 49.41% |
| Adjustment for Full Member Contributions to Offset Normal Cost | N/A | N/A | (2.42)% | N/A | N/A | N/A |
| Revised Prior Year Contribution Rate ¹ | 70.43% | 65.38% | 63.78% | 60.43% | 53.45% | 49.41% |
| Net Change Due to: | | | | | | |
| Current New Entrants | 1.97 | 0.68 | 1.93 | 1.73 | 0.20 | 2.61 |
| Excess Salary Increases | (0.62) | (0.34) | (0.91) | (0.97) | (1.37) | (1.38) |
| Assumption/Method Changes | (8.54) | 1.03 | 0.00 | 0.61 | (3.87) | 0.00 |
| COLA Increases | N/A | N/A | N/A | N/A | (0.19) | (0.46) |
| Retiree Mortality | (0.14) | 0.36 | 0.19 | 0.12 | 0.04 | (0.04) |
| Active and Other Experience | (1.84) | (1.16) | (3.86) | (1.05) | 6.37 | (1.46) |
| Revised State Contribution ² | (0.31) | N/A | N/A | N/A | N/A | N/A |
| Investment Loss/(Gain) | 0.59 | 0.45 | 1.06 | 1.52 | 1.37 | 1.43 |
| Appropriation Act ³ | 4.27 | 4.03 | 3.19 | 3.81 | 4.43 | 2.94 |
| Chapter 78, P.L. 2011 | N/A | N/A | N/A | N/A | N/A | 0.40 |
| Recommended Contribution Rate: | | | | | | |
| Prior to reflecting Chapter 1, P.L. 2010¹ | 65.81% | 70.43% | 65.38% | 66.20% | 60.43% | 53.45% |
| After reflecting Chapter 1, P.L. 2010¹ | N/A | N/A | 37.36% | 28.37% | 17.27% | 7.63% |

¹ Excludes contribution rates of 0.97% for 2015, 1.22% for 2014, 1.18% for 2013, 1.29% for 2012, 1.34% for 2011, and 1.34% for 2010 for premiums payable to the Non-Contributory Group Insurance Premium Fund.

² The anticipated fiscal year 2015 contribution of \$14,117,622 has been increased to \$16,506,000 to reflect the actual State contribution made during fiscal year 2015.

³ Changes in 2011, 2012 and 2013 are due to the provisions of Chapter 1, P.L. 2010.

Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

Eligibility for Membership

Chief Justice and associate justices of the Supreme Court, judges of the Superior Court and tax courts of the State of New Jersey.

1. Definitions

Plan Year

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

Service

A year is credited for each year of service as a public employee in the State of New Jersey. Any service, for which member did not receive annual salary of at least \$500, shall be excluded.

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.)

Accumulated Deductions

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf.

Retirement Allowance

Pension derived from contributions of the State plus the annuity derived from employee contributions.

2. Benefits

Service Retirement

- (A) Mandatory retirement at age 70. Voluntary retirement prior to age 70 as follows:
 - (a) Age 70 and 10 years of judicial service;
 - (b) Age 65 and 15 years of judicial service; or
 - (c) Age 60 and 20 years of judicial service.
 - Benefit is an annual retirement allowance equal to 75% of fina salary.
- (B) Age 65 while serving as a judge, five consecutive years of judicial service and 15 years in the aggregate of public service; or
 - Age 60 while serving as a judge, five 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.
- (C) Age 60 while serving as a judge, five 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 in excess of 25 years.
- (D) 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 in excess of 25 years.

Early Retirement

Prior to age 60 while serving as a judge, five 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.

Vested Termination

Termination of service prior to age 60, with five 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% for service in excess of 25 years.

Death Benefits

Before Retirement

Death of an active member of the plan. Benefit is equal to:

- (a) Lump sum payment equal to 1-1/2 times final salary, 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 (children). 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 (children). If there is no surviving spouse (or dependent children), 20% or 30% of final salary to one or two dependent parents.

After Retirement

Death of a retired member of the plan. Benefit is equal to:

- (a) Lump sum of 25% of final salary for a member retired under normal or early retirement. If a member were receiving a disability benefit, a lump sum 1-1/2 times final salary if death occurred before the member attained age 60 and ¼ times final salary if death occurred after age 60, 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 (children). 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 (children).

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
JUDICIAL RETIREMENT SYSTEM

Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes, continued

Disability Retirement

Physically or otherwise incapacitated for a 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.

Member Contributions

Any member enrolled prior to January 1, 1996, contributes 3% of the difference between current salary and salary for that position on January 18, 1982. Members enrolled on and 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 will be fully phased-in by July

2017.)

- (a) For members enrolled prior to January 1, 1996:
 - i. Member Contributions of 9% (phased-in over a period of seven years beginning October 2011) of the salary for that position on January 18, 1982.
 - Member Contributions increase from 3% to 12% (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 Contributions increase from 3% to 12% of full salary phased-in over a period of seven years beginning October 2011.

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
CONSOLIDATED POLICE AND FIREMEN'S PENSION FUND

500 Plaza Drive
Secaucus, New Jersey 07096-1533

June 22, 2017

The Board of Trustees

Consolidated Police and Firemen's Pension Fund
of New Jersev

Re: Actuary's Certification Letter

Members of the Board:

An actuarial valuation of the Consolidated Police and Firemen's Pension Fund ("CPFPF") is performed annually to measure the ongoing costs of the Fund and the progress towards the funding goals of the Fund over time. Since the Pension Fund is closed to new entrants and there are no active participants, the financial goals of the Consolidated Police and Firemen's Pension Fund are to ensure that the combination of future State appropriations and current Trust assets, both projected forward with expected investment earnings, are sufficient to provide for all future benefit payments. The information contained in this certification letter is based on the July 1, 2015 valuation of CPFPF.

The unfunded accrued liability for basic allowances was initially determined as of June 30, 1990 and was to be amortized over a nine-year period. However, the provisions of Chapter 115, P.L. 1997 of the Pension Security Legislation permitted the State to pay off the unfunded accrued liabilities from the proceeds of pension obligation bonds.

The actuarially determined contribution for the fiscal year beginning July 1, 2016 was based on the method described above using an interest rate of 2.00% per annum. In accordance with actuarial standards of practice, the mortality assumption for service retirements and beneficiaries was updated to the RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and the tables will be further projected beyond the valuation date using the Conduent Modified MP-2014 projection scale. The asset valuation method used was a five-year average of market values with write-up. This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income.

The State of New Jersey's Division of Pensions and Benefits reported the individual data for members of the Consolidated Police and Firemen's Pension Fund of New Jersey as of the valuation date to the actuaries. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Division of Pensions and Benefits. The accuracy of the results presented in this report is dependent on the accuracy of the data.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the Commission or staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

The actuarial assumptions and methods used by the Consolidated Police and Firemen's Pension Fund for financial reporting meet the requirements set forth in Governmental Accounting Standards Board (GASB) Statement No. 67. Information necessary to comply with the reporting requirements of GASB Statement No. 67 was provided in a separate Actuarial Report, which is available on the Division of Pensions and Benefits web site. Please refer to that separate Actuarial Report for supplementary information documentation and support for the actuarial analysis and information presented herein.

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
CONSOLIDATED POLICE AND FIREMEN'S PENSION FUND

In my opinion, the attached schedules of valuation results fairly represent the status of the Consolidated Police and Firemen's Pension Fund and present an accurate view of historical data. The underlying assumptions and methods used are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the Fund.

The following supporting schedules in the Actuarial Section were prepared by Conduent Business Services:

- . Summary of Actuarial Assumptions and Methods
- . Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- · Schedule of Active Member Valuation Data
- · Solvency Test
- Analysis of Past Financial Experience Reconciliation of Unfunded Accrued Liability/(Surplus)
- Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

In addition, Conduent prepared the "Schedule of Assets and Liabilities" and the "Schedule of Employer Contributions" in the Financial Section which can be found in the July 1, 2015 valuation report for CPFPF. The Schedule of Assets and Liabilities and the Schedule of Employer Contributions are provided for informational purposes only since the reporting requirements of Statement No. 67 became effective as of the June 30, 2014 reporting date.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, F.S.A., E.A., M.A.A.A.

awron Shapvio

Principal, Consulting Actuary

Summary of Actuarial Assumptions and Methods

An outline of the actuarial assumptions and methods used for the July 1, 2015 valuation is as follows:

Valuation Interest Rate: 2.00% per annum, compounded annually for development of costs.

Deaths after Retirement: RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and the tables will be further projected beyond the valuation date using the Conduent Modified MP-2014 projection scale. Representative values of the assumed annual rates of mortality unadjusted for the Conduent Modified MP-2014 projection scale are as follows:

| | Service Pensioners and Beneficiaries | | | | | |
|-----|--------------------------------------|--------|--|--|--|--|
| Age | Men | Women | | | | |
| 60 | 0.612% | 0.439% | | | | |
| 65 | 1.076 | 0.820 | | | | |
| 70 | 1.797 | 1.414 | | | | |
| 75 | 3.062 | 2.374 | | | | |
| 80 | 5.209 | 3.875 | | | | |
| 85 | 8.964 | 6.540 | | | | |
| 90 | 15.710 | 11.279 | | | | |

Marriage

Males are assumed to be four years older than females, no assumption was made as to children.

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 benefit 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.).

Actuarial Method

The unfunded accrued liability was measured as of June 30, 1990 and the accrued liability contribution rate was then determined such that the unfunded accrued liability was to be amortized over a period of 9 years with contributions expected to remain constant.

In determining the unfunded accrued liability and the contribution rate, the actuarial value of assets as of June 30, 1990 was based upon 100% of the market value of system assets. For subsequent actuarial valuations, the actuarial value of assets is adjusted to reflect actual contributions and benefit payments, an assumed rate of return on the previous year's assets and current year's cash flow at an annual rate of 2.00% with an adjustment to reflect 20% of the difference between the resulting value and the actual market value of System assets.

In developing the unfunded accrued liability contribution rate as of June 30, 1991 and subsequent years, the contribution rate is adjusted to amortize any gains or losses over the remainder of the 9-year period. (Without additional guidance, we have assumed that the unfunded accrued liability determined as of June 30, 2015 will be amortized over 1 year.)

Schedule of Retirement Members and Beneficiaries Added to and Removed from Rolls

| | Adde | ed to Rolls | Remove | d from Rolls | Rolls at | End of Year | % Increase | |
|-------------------|--------|---------------------|--------|---------------------|----------|----------------------------------|--------------------------------------|--------------------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number | Annual Allowance ¹ | (Decrease) in Annual Allowance | Average Annual Allowance |
| 7/1/15 | 0 | \$0 | 25 | \$210,952 | 124 | \$822,873 | (20.41)% | \$6,636 |
| 7/1/14 | 0 | 0 | 36 | 268,424 | 149 | 1,033,825 | (20.61) | 6,938 |
| 7/1/13 | 0 | 0 | 56 | 414,903 | 185 | 1,302,249 | (24.16) | 7,039 |
| 7/1/12 | 3 | 46,595 | 72 | 478,997 | 241 | 1,717,152 | (20.12) | 7,125 |
| 7/1/11 | 1 | 6,861 | 87 | 572,894 | 310 | 2,149,554 | (20.84) | 6,934 |
| 7/1/10 | 0 | 0 | 50 | 356,230 | 396 | 2,715,587 | (11.60) | 6,858 |

¹ The benefit amounts shown are the annualized benefit as of the valuation date and are not the actual benefits paid during the fiscal year.

Schedule of Active Member Valuation Data

There have been no active participants in the Fund since July 1, 1992.

Solvency Test

| | Ac | Accrued Liabilities For | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|--------|-----|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$0 | \$4,208,241 | \$0 | \$3,340,908 | N/A | 79.39% | N/A | |
| 7/1/14 | 0 | 4,848,499 | 0 | 4,366,457 | N/A | 90.06 | N/A | |
| 7/1/13 | 0 | 6,102,292 | 0 | 6,445,847 | N/A | 100.00 | N/A | |
| 7/1/12 | 0 | 8,026,421 | 0 | 7,179,322 | N/A | 89.45 | N/A | |
| 7/1/11 | 0 | 9,179,981 | 0 | 8,300,684 | N/A | 90.42 | N/A | |
| 7/1/10 | 0 | 11,824,904 | 0 | 10,632,228 | N/A | 89.91 | N/A | |

¹ Actuarial value including receivable amount.

Analysis of Past Financial Experience — Reconciliation of Unfunded Accrued Liability/(Surplus)

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Prior Year Unfunded/(Surplus) | \$482,042 | \$(343,555) | \$847,099 | \$879,297 | \$1,192,676 | \$144,183 |
| Net Change Due to: | | | | | | |
| Interest on Prior Year Unfunded/(Surplus) | 9,641 | (6,871) | 16,942 | 17,586 | 23,854 | 2,884 |
| Investment Loss/(Gain) | 228,240 | 265,707 | 306,998 | 355,895 | 408,804 | 467,873 |
| Retiree Experience | (201,179) | (314,561) | (650,553) | (515,459) | (572,247) | 206,204 |
| State Appropriations | 0 | 0 | (864,041) | (896,883) | (173,790) | 0 |
| Appropriation Act | N/A | 881,322 | N/A | N/A | N/A | 371,532 |
| Assumption, Benefit or Method Changes | 348,589 | N/A | N/A | 1,006,663 | N/A | N/A |
| Actual Unfunded/(Surplus) | \$867,333 | \$482,042 | \$(343,555) | \$847,099 | \$8 | 1,192,676 |

Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

Eligibility for Membership

Member of a municipal police department, municipal paid or part-paid fire department or 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.

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.

Employee Member: Any member who is not subject to active service or duty.

1. Definitions

Plan Year

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

Service

Service rendered while a member as described above.

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 work day. (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.)

Final Compensation

Compensation Compensation received during the last 12 months of service preceding retirement or termination of service.

Average Salary

Salary averaged over the last three years prior to retirement or other termination of service.

2. Benefits

Service Retirement

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 service 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.

Death Benefit 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 and 35% (50%) of final compensation will be payable, to two (three) surviving children. If there is no surviving spouse or child, 25% (40%) of final compensation will be payable to one (two) surviving dependent parent(s). The minimum spousal annuity is \$4,500 per annum.

Death Benefit while not on duty after retirement

Life annuity equal to 50% of the member's average salary payable to the spouse, plus 15% (25%) to one (two or more) surviving child (children). If there is no surviving spouse or if the surviving spouse dies or remarries, 20% (35%, 50%) of the member's average salary to one (two, three or more) surviving child (children). In the event that there is no surviving spouse or child, 25% (40%) of the member's average salary will be payable to one (two) dependent parent(s). The minimum spousal annuity is \$4,500 per annum.

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 duty. Benefit is an immediate life annuity equal to 1/2 of average salary.

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.

STATE OF NEW JERSEY DIVISION OF PENSIONS AND BENEFITS PRISON OFFICERS' PENSION FUND

ACTUARIAL INFORMATION

CONDUENT
500 Plaza Drive
Secaucus, New Jersey 07096-1533

June 22, 2017

The Board of Trustees
Prison Officers' Pension Fund
of New Jersev

Re: Actuary's Certification Letter

Office of the Division:

An actuarial valuation of the Prison Officers' Pension Fund ("POPF") is performed annually to measure the ongoing costs of the Fund and the progress towards the funding goals of the Fund over time. Since the pension fund is closed to new entrants and there are no active participants, the financial goals of the Prison Officers' Pension Fund are to ensure that the combination of future State appropriations and current Trust assets, both projected forward with expected investment earnings, are sufficient to provide for all future benefit payments. The information contained in this certification letter is based on the July 1, 2015 valuation of POPF.

The unfunded accrued liability for basic allowances was initially determined as of July 1, 1989 and was to be amortized over the 14-year period beginning July 1, 1989 and ending on July 1, 2002. However, the provisions of Chapter 115, P.L. 1997 of the Pension Security Legislation permitted the State to pay off the unfunded accrued liability from the proceeds of pension obligation bonds. The net effect of this legislation and plan experience was that no contributions were required for the fiscal year beginning July 1, 2016. (There were no required unfunded accrued liability payments due to the fact that a net surplus existed as of July 1, 2015.)

The underlying demographic data is maintained and provided by the New Jersey Division of Pensions and Benefits. The data is analyzed by Conduent for internal completeness and consistency and compared with the prior valuation data to again ensure consistency.

The actuarially determined contribution for the fiscal year beginning July 1, 2016 was based on the method described above using an interest rate of 5.00%. In accordance with actuarial standards of practice, the mortality assumption for service retirements and beneficiaries reflects the RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and the tables will be further projected beyond the valuation date using the Conduent Modified MP-2014 projection scale. Assets are valued at book value, which is equivalent to market value.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

The actuarial assumptions and methods used by the Prison Officers' Pension Fund for financial reporting meet the requirements set forth in Governmental Accounting Standards Board (GASB) Statements No. 67 and No 68. Information necessary to comply with the reporting requirements of GASB Statements No. 67 and No. 68 were provided in separate Actuarial Reports, which are available on the Division of Pensions and Benefits web site. Please refer to the separate Actuarial Reports for supplementary information documentation and support for the actuarial analysis and information presented herein.

In my opinion, the attached schedules of valuation results fairly represent the status of the Prison Officers' Pension Fund and present an accurate view of historical data. The underlying assumptions and methods used are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the Fund.

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
PRISON OFFICERS' PENSION FUND

The following supporting schedules in the Actuarial Section were prepared by Conduent Business Services:

- . Summary of Actuarial Assumptions and Methods
- . Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- . Schedule of Active Member Valuation Data
- · Solvency Test
- Analysis of Past Financial Experience Reconciliation of Unfunded Accrued Liability/(Surplus)
- . Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

In addition, Conduent prepared the "Schedule of Assets and Liabilities" and the "Schedule of Employer Contributions" in the Financial Section which can be found in the July 1, 2015 valuation report for POPF. The Schedule of Assets and Liabilities and the Schedule of Employer Contributions are provided for informational purposes only since the reporting requirements of Statements No. 67 and No. 68 became effective as of the June 30, 2014 and June 30, 2015 reporting dates, respectively.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, F.S.A., E.A., M.A.A.A.

awron Shaporo

Principal, Consulting Actuary

Summary of Actuarial Assumptions and Methods

An outline of the actuarial assumptions and methods used for the July 1, 2015 valuation is as follows:

Valuation Interest Rate: 5.00% per annum, compounded annually.

Deaths After Retirement: RP-2000 Combined Healthy Mortality Tables projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and the tables will be further projected beyond the valuation date using the Conduent Modified MP-2014 projection scale. RP-2000 disabled retiree mortality table is used for the period after disability retirement for disability retirements. Representative values of the assumed annual rates of mortality unadjusted for the Conduent Modified MP-2014 projection scale are as follows:

| | Service Pensioner | s and Beneficiaries | Disability | Pensioners |
|-----|-------------------|---------------------|------------|------------|
| Age | Men | Women | Men | Women |
| 60 | 0.612% | 0.439% | 4.204% | 2.184% |
| 65 | 1.076 | 0.820 | 5.017 | 2.803 |
| 70 | 1.797 | 1.414 | 6.258 | 3.764 |
| 75 | 3.062 | 2.374 | 8.207 | 5.223 |
| 80 | 5.209 | 3.875 | 10.937 | 7.231 |
| 85 | 8.964 | 6.540 | 14.160 | 10.020 |
| 90 | 15.710 | 11.279 | 18.341 | 14.005 |

Marriage: Husbands are assumed to be three years older than wives.

Valuation Method: The unfunded accrued liability (the difference between the present value of benefits and the valuation assets) was determined as of July 1, 1988 and was amortized over the 14-year period beginning July 1, 1989, and ending on July 1, 2002. Each year the amortization payments were adjusted to reflect any experience gains or losses that occurred during the previous plan year. All gains and losses were amortized over the remaining original amortization period. (Without any guidance, we have assumed that any unfunded accrued liability that develops after the July 1, 2001 valuation will be amortized over 1 year.)

Asset Valuation Method: Assets are valued at book value, which is equivalent to market value.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

| | Adde | d to Rolls | Remove | d from Rolls | Rolls at End of Year | | % Increase | |
|-------------------|--------|---------------------|--------|---------------------|----------------------|----------------------------------|--------------------------------------|--------------------------------|
| Valuation Date | Number | Annual Allowance | Number | Annual Allowance | Number | Annual Allowance ¹ | (Decrease) in Annual Allowance | Average Annual Allowance |
| 7/1/15 | 2 | \$11,794 | 14 | \$152,980 | 98 | \$651,881 | (17.80)% | \$6,652 |
| 7/1/14 | 1 | 7,671 | 12 | 71,652 | 110 | 793,067 | (7.47) | 7,210 |
| 7/1/13 | 1 | 2,856 | 15 | 82,854 | 121 | 857,048 | (8.54) | 7,083 |
| 7/1/12 | 3 | 20,252 | 10 | 76,496 | 135 | 937,046 | (5.66) | 6,941 |
| 7/1/11 | 2 | 11,391 | 9 | 66,709 | 142 | 993,290 | (5.28) | 6,995 |
| 7/1/10 | 3 | 10,962 | 9 | 52,842 | 149 | 1,048,608 | (3.84) | 7,038 |

¹ The benefit amounts shown are the annualized benefit as of the valuation date and are not the actual benefits paid during the fiscal year.

Schedule of Active Member Valuation Data

There have been no active participants in the Fund since July 1, 1994.

Solvency Test

| | Accrued Liabilities For | | | | Percentage of Accrued Liabilities Covered by Net Assets Available | | | |
|-------------------|--|--|-------------------------------------|--|--|---------|-----|--|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | Net Assets Available for Benefits ¹ | (1) | (2) | (3) | |
| 7/1/15 | \$0 | \$3,889,524 | \$0 | \$6,704,568 | N/A | 100.00% | N/A | |
| 7/1/14 | 0 | 4,301,307 | 0 | 7,383,201 | N/A | 100.00 | N/A | |
| 7/1/13 | 0 | 4,748,938 | 0 | 8,171,920 | N/A | 100.00 | N/A | |
| 7/1/12 | 0 | 5,395,505 | 0 | 9,044,236 | N/A | 100.00 | N/A | |
| 7/1/11 | 0 | 5,096,792 | 0 | 9,997,650 | N/A | 100.00 | N/A | |
| 7/1/10 | 0 | 5,635,024 | 0 | 11,018,367 | N/A | 100.00 | N/A | |

¹ Market value including receivable amount.

Analysis of Past Financial Experience — Reconciliation of Unfunded Accrued Liability/(Surplus)

| Valuation Year | July 1, 2015 | July 1, 2014 | July 1, 2013 | July 1, 2012 | July 1, 2011 | July 1, 2010 |
|---|---------------|----------------|---------------|---------------|---------------|---------------|
| Prior Year Unfunded/(Surplus) | \$(3,081,894) | \$(3,422,9982) | \$(3,648,731) | \$(4,900,858) | \$(5,383,343) | \$(5,850,478) |
| Net Change Due to: | | | | | | |
| Interest on Prior Year Unfunded/(Surplus) | (154,095) | (171,149) | (182,437) | (245,043) | (269,167) | (292,524) |
| Investment Loss/(Gain) | 345,889 | 381,569 | 421,375 | 473,239 | 492,481 | 520,553 |
| Retiree Experience | (275,405) | 130,668 | (13,189) | 210,511 | 259,171 | 239,106 |
| Assumption/Method Changes | 350,461 | N/A | N/A | 813,420 | N/A | N/A |
| Actual Unfunded/(Surplus) | \$(2,815,044) | \$(3,081,894) | \$(3,422,982) | \$(3,648,731) | \$(4,900,858) | \$(5,383,343) |

Summary of the Benefit and Contribution Provision as Interpreted for Valuation Purposes

Eligibility for 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.

1. Definitions

Plan Year

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

Service

A year is credited for each year an employee is a member of the retirement system.

Average Final Compensation (AFC)

Average annual compensation (or base salary) for 3 years of Service 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.)

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.

2. Benefits

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 (A), (B), and (C) below:

- (A) 2% of AFC up to 30 years of service plus 1% for each year in excess of 30 and prior to age 65;
- (B) 50% of final pay; and
- (C) For member with 25 years of service, 2% of AFC up to 30 years of service plus 1% for each year in excess of 30.

Vested Retirements

Eligible upon termination of employment. Benefits are summarized as follows:

Termination with 10 or more years of service: Benefit is a deferred life annuity equal to 2% of AFC for service up to 30 years plus 1% for service over 30 years.

Termination with less than 10 years of service: Refund of accumulated deductions.

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.

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 equal to 2/3 of AFC.

Death Benefits

Death of member of system. Spouse must be married to member prior to retirement, or at least five years before member's death. Benefit is an annuity equal to 25% of member's AFC plus an additional 15% (25%) for one (two or more) surviving dependent child (children). If there is no spouse or if the spouse dies or remarries, 20% (35%, 50%) of AFC to one (two, three or more) surviving child (children). If there is no surviving spouse or children, 25% (40%) of AFC to one (two) dependent parent(s). The provision for a survivor annuity payable to dependent parents does not apply in the death of a retired member of the system.

Minimum benefits: Minimum spousal annuity is \$1,600 per annum. If no other benefit is payable prior to retirement, the member's beneficiary shall receive the accumulated deductibles.

STATE OF NEW JERSEY **DIVISION OF PENSIONS AND BENEFITS** SUPPLEMENTAL ANNUITY COLLECTIVE TRUST

ACTUARIAL INFORMATION



June 22, 2017

Council **Supplemental Annuity Collective Trust** of New Jersey

Re: Actuary's Certification Letter

Members of the Council:

An actuarial valuation of the Supplemental Annuity Collective Trust ("SACT") is performed at least once in every three-year period to measure the ongoing costs of the Trust and the progress towards the funding goals of the Trust over time. The financial goals of the Supplemental Annuity Collective Trust are to ensure that current Trust assets are sufficient to provide for all future annuity payments. The information contained in this certification letter is based on the July 1, 2015 valuation of SACT.

The Supplemental Annuity Collective Trust of New Jersey was established under the provisions of Chapter 123, P.L. 1963, which was approved July 1, 1963. The act permits active members of the following retirement systems administered by the State of New Jersey to make voluntary additional contributions through their retirement systems to purchase either a variable or fixed annuity to supplement the benefits provided by their systems.

Public Employees' Retirement System

Teachers' Pension and Annuity Fund

The Police and Firemen's Retirement System

Consolidated Police and Firemen's Pension Fund

Prison Officers' Pension Fund

State Police Retirement System

Judicial Retirement System

As of the July 1, 2015 valuation, only the variable annuity program was in operation. It was inaugurated July 1, 1964. Chapter 123, P.L. 1963 was amended June 6, 1965 by Chapter 90, P.L. 1965, to permit eligible employees to enter into an agreement with their employers to reduce their salaries and purchase annuities on their behalf which will qualify for the tax sheltered treatment permitted under Section 403(b) of the Internal Revenue Code of 1954, as amended. The rules were revised in 1982 to permit contributions in the form of qualified voluntary employee contributions. These contributions are treated as IRA contributions for tax purposes.

The underlying demographic data is maintained and provided by the New Jersey Division of Pensions and Benefits. The data is analyzed by Conduent for internal completeness and consistency and compared with the prior valuation data to again ensure consistency.

The Trust status as of the fiscal year beginning July 1, 2015 was based on the actuarial assumptions and methods summarized on the following page. The mortality assumptions used for male and female service retirements and dependents of active and retired members were changed based on the results of an investigation of mortality experience covering the period July 1, 2012 to June 30, 2015. Based on the results of the study, the mortality assumptions for female service retirements, disability retirements and female beneficiaries of active and retired members were revised to better reflect actual plan experience. In addition, we have provided for future improvements in mortality for service retirements and beneficiaries of active and retired members using a generational approach. There were no other changes in actuarial assumptions and methods since the previous valuation.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. An analysis of the potential range of future results is beyond the scope of this valuation.

STATE OF NEW JERSEY
DIVISION OF PENSIONS AND BENEFITS
SUPPLEMENTAL ANNUITY COLLECTIVE TRUST

Use of this report for any other purpose or by anyone other than the Council or staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

In our opinion, the attached schedules of valuation results fairly represent the status of the Supplemental Annuity Collective Trust and present an accurate view of historical data. The underlying assumptions and methods used for the valuation are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the Trust.

This report was prepared under my supervision. I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification Standards to issue this Statement of Actuarial Opinion. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

Respectfully submitted,

Aaron Shapiro, F.S.A., E.A., M.A.A.A.

awron Shapvio

Principal, Consulting Actuary

Summary of Actuarial Assumptions and Methods

An outline of the actuarial assumptions and methods used for the July 1, 2015 valuation is as follows:

In valuing the liabilities of the Variable Benefit Account, an interest rate of 4% per year was used.

In addition, the valuation used the RP-2000 Combined Healthy Male and Female Mortality Tables projected to 2014 using Scale BB for service retirement and dependent beneficiaries projected on a generational basis from the base year of 2014 using the Conduent modified 2014 projection scale. The RP-2000 Disability Mortality Tables are used to value disabled retirees. Illustrative rates of mortality unadjusted for the Conduent Modified 2014 projection scale used for valuation purposes are as follows:

| | | Rate Pe | er 1,000 | |
|-----|-----------|-----------|----------|--------|
| Age | Service R | etirement | Disa | bility |
| | Male | Female | Male | Female |
| 40 | 1.04 | 0.68 | 22.57 | 7.45 |
| 45 | 1.45 | 1.08 | 22.57 | 7.45 |
| 50 | 2.05 | 1.61 | 28.98 | 11.53 |
| 55 | 3.48 | 2.53 | 35.44 | 16.54 |
| 60 | 6.12 | 4.39 | 42.04 | 21.84 |
| 65 | 10.76 | 8.20 | 50.17 | 28.03 |
| 70 | 17.97 | 14.14 | 62.58 | 37.63 |
| 75 | 30.62 | 23.74 | 82.07 | 52.23 |
| 80 | 52.09 | 38.75 | 109.37 | 72.31 |
| 85 | 89.64 | 65.40 | 141.60 | 100.20 |
| 90 | 157.10 | 112.79 | 183.41 | 140.05 |
| 95 | 245.88 | 178.79 | 267.49 | 194.51 |

Based on the results of an investigation of the mortality experience covering the period from July 1, 2012 to June 30, 2015, the mortality tables used for female service retirements and beneficiaries of active and retired members and male and female disability retirements were changed. In addition, for service retirements and beneficiaries of active and retired members, provision is made for future improvements in mortality by using a generational approach using the Conduent Modified 2014 projection scale.

Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls

| | Add | ed to Rolls | Remove | ed from Rolls | Rolls a | t End of Year | % Increase | Average |
|-------------------|--------|---|--------|---|---------|--|---|---|
| Valuation Date | Number | Number of Annual Variable Equity Units | Number | Number of Annual Variable Equity Units | Number | Number of Annual Variable Equity Units* | (Decrease) in Annual Variable Equity Units | Number of Annual Variable Equity Units |
| 6/30/15 | 41 | 3,786.0852 | 94 | 9,951.7512 | 401 | 34,876.9704 | (15.02)% | \$86.9750 |
| 6/30/12 | 25 | 2,353.8420 | 97 | 9,841.6716 | 454 | 41,042.6364 | (15.43) | 90.4023 |
| 6/30/09 | 36 | 3,512.0064 | 113 | 11,157.3420 | 526 | 48,530.4660 | (13.61) | 92.2632 |
| 6/30/06 | 35 | 2,435.0580 | 100 | 9,824.2776 | 603 | 56,175.8016 | (11.62) | 93.1605 |
| 6/30/03 | 47 | 6,040.8276 | 118 | 10,755.7560 | 668 | 63,565.0212 | (6.91) | 95.1572 |
| 6/30/00 | 57 | 5,584.7820 | 122 | 10,275.5556 | 739 | 68,279.9496 | (6.43) | 92.3951 |

^{*}The monthly number of variable equity units shown are the benefits on the valuation date and are not the actual benefits paid during the succeeding three fiscal years.

Schedule of Active Member Valuation Data**

| Valuation Date | Number of Active Members | Equity Shares | Average Units Per Person | Percentage Increase in Average Equity Units |
|-------------------|-----------------------------|------------------|-----------------------------|--|
| 6/30/15 | 2,402 | 1,673,916.6458 | 696.8845 | 2.92% |
| 6/30/12 | 2,729 | 1,847,879.8189 | 677.1271 | 14.52 |
| 6/30/09 | 3,317 | 1,961,173.8340 | 591.2493 | 11.41 |
| 6/30/06 | 3,576 | 1,897,693.2350 | 530.6748 | 9.09 |
| 6/30/03 | 3,910 | 1,902,053.0982 | 486.4586 | (9.34) |
| 6/30/00 | 4,023 | 2,158,681.7328 | 536.5851 | (21.74) |

^{**}These values exclude suspended members.

Solvency Test

| | Prese | nt Value of Benefi | ts For | | _ | e of Accrued y Net Assets | |
|-------------------|--|--|-------------------------------------|----------------------|---------|------------------------------|---------|
| Valuation Date | (1) Aggregate Member Contributions | (2) Current Retirees & Beneficiaries | (3) Active & Inactive Members | (4) Fund Balances | (1) | (2) | (3) |
| 6/30/15 | \$66,300,552 | \$26,859,498 | \$103,650,135 | \$206,729,868 | 100.00% | 100.00% | 100.00% |
| 6/30/12 | 69,131,827 | 22,239,231 | 54,761,622 | 149,840,256 | 100.00 | 100.00 | 100.00 |
| 6/30/09 | 69,792,459 | 18,294,318 | 28,783,838 | 120,414,735 | 100.00 | 100.00 | 100.00 |
| 6/30/06 | 61,417,327 | 30,688,847 | 70,384,314 | 159,612,705 | 100.00 | 100.00 | 95.91 |
| 6/30/03 | 52,666,675 | 26,582,925 | 48,099,954 | 127,186,109 | 100.00 | 100.00 | 99.66 |
| 6/30/00 | 45,026,249 | 46,341,126 | 124,548,634 | 216,985,359 | 100.00 | 100.00 | 100.00 |

Analysis of Past Financial Experience — Reconciliation of Unfunded Accrued Liability/(Surplus)

| Valuation Year | July 1, 2015 | July 1, 2012 | July 1, 2009 | July 1, 2006 | July 1, 2003 | July 1, 2000 |
|-------------------------------------|---------------|---------------|---------------|--------------|---------------|---------------|
| Prior Valuation Deficit/(Surplus) | \$(3,707,577) | \$(3,544,120) | \$2,877,783 | \$163,445 | \$(1,069,350) | \$(758,284) |
| Net Change Due to: | | | | | | |
| Retiree Experience | (4,347,567) | (947,053) | (6,421,903) | 1,128,887 | 1,232,795 | 1,919,537 |
| Assumption/Method Changes | (1,864,539) | 783,596 | N/A | 1,585,451 | N/A | (2,230,603) |
| Current Valuation Deficit/(Surplus) | \$(9,919,683) | \$(3,707,577) | \$(3,544,120) | \$2,877,783 | \$163,445 | \$(1,069,350) |

Summary of the Benefit and Contribution Provision as Interpreted for Valuation Purposes

A summary of the benefit and contribution provisions of the Trust in effect on the valuation date is presented in the following digest. Participants' accounts are expressed in terms of equity units. The value of an equity unit was initially set at \$10. The dollar value of the unit is computed at the end of each month. It varies as a result of mortality experience and gains and losses and dividend earnings on the Variable Division's investments.

Eligibility for Membership

Member of a State-administered retirement system may become a participant upon filing an application for enrollment.

Participant Accounts

Although contributions are permitted in either fixed or variable accounts, only the variable system is currently in place.

- (a) Three optional participant accounts:
 - (1) Variable annuity account.
 - (2) Tax sheltered annuity account under Section 403(b) of the Internal Revenue Code.
 - (3) Qualified voluntary employee contribution account (QVEC) eliminated January 1, 1987.
- (b) Value of Account: The total number of equity units in force in the variable account at the end of each month shall be determined as follows:
 - The number of equity units in force at the start of the month; plus
 - (2) The 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) The number of equity units paid out in the current month on account of terminations for death or withdrawal during the preceding month; less
 - (4) The 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.

Benefits

Retirement

Upon retirement a participant is paid a life annuity which is the fixed number of variable equity units per month computed as the actuarial equivalent of the number of equity units in his account at the close of the month of retirement, multiplied by the value of each unit as of the end of the quarter preceding the month of payment.

At retirement the participant may elect in lieu of the variable life annuity either (1) a single cash payment, or (2) an equivalent reduced annuity with the provision that:

- (a) In case of death prior to 5 years from the effective date of the annuity, the annuity will be continued to his designated beneficiary for the remainder of the 5-year period, or
- (b) In case of death prior to 10 years from the effective date of the annuity, the annuity will be continued to his designated beneficiary for the remainder of the 10-year period, or
- (c) At the death of the participant, his variable annuity will be continued throughout the life of such other person as the participant shall have designated at the time of retirement, or
- (d) At the death of the participant, one-half of his variable annuity will be continued throughout the life of such other person as the participant shall have designated at the time of retirement.

In the event the value of the participant's account at retirement results in an annuity with initial monthly payments of less than \$10, the benefit shall be paid in a single cash payment.

Death Before Retirement

If a participant dies before retirement, a lump sum payment equal to the value of his account on the last day of the month of his death is paid to his designated beneficiary or to his estate. If the beneficiary is a natural person, he may elect, in lieu of a lump sum payment, an annuity under any of the methods of settlement available to a retirant.

Withdrawal

Withdrawal is permitted only if membership in the basic State administered retirement system is terminated. However, the Council may terminate an inactive account if the value of the account is less than \$100. The amount paid on withdrawal is the value of the participant's account as of the end of the month of termination.

Contributions

Participants

Each participant contributes through payroll deductions integral dollar amounts not in excess of 10% of his salary. He may also make lump sum contributions by direct payments in integral dollar amounts of not less than \$50, provided that total contributions for any one year may not exceed 10% of his annual salary.

Employers

Employers may contribute, on behalf of eligible employees who agree to a salary reduction equivalent to the amount of the contribution, even dollar amounts which shall be from 1% to 10% of base salary.

The amounts by which the employee's salary is reduced must be within the exclusion allowance provided under Section 403(b) of the Internal Revenue Code.

STATISTICAL SECTION

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Schedule of Retired Members by Type of Benefit

(Based on the most recent actuarial valuation prepared as of 6/30/15)

| \$1,235,775,751 \$1,515,477,811 \$1,215,775,751 \$1,515,477,811 \$1,515,477,811 \$1,515,477,811 \$1,515,478,811 \$1,517,228 \$1,177,430,336 \$1,177,430,368 \$1,177,430,368 \$1,177,430,368 \$1,177,430,368 \$1,177,430,368 \$1,177,430,376 \$1,109,070 | Group | PERS (State) | PERS (Local) | TPAF | PFRS | SPRS | JRS | СРЕРЕ | POPF | Total |
|---|---------------------------------|-----------------|-----------------|-----------------|-----------------|---------------|--------------|-----------|-----------|-----------------|
| 4,935 93,765 89,092 29,044 28,24 427 2 1 1,235,770,757 \$1,615,427,871 \$5,613,500,726 \$1,174,430,368 \$180,701,015 \$44,201,394 \$44,214 \$504,838 \$52,527,501 4,528 \$17,228 \$41,233 \$61,095 \$63,988 \$103,516 \$21,572 \$13,393 4,528 7,738 \$1,344,295 \$2,001 \$13,394 \$21,572 \$13,393 \$18,804,018 \$131,09,070 \$22,248 \$22,282 \$46,185,04 \$818,564 — \$15,356 \$19,391 \$131,402 \$22,288 \$34,618 \$4,618,504 \$818,564 — \$15,356 \$19,391 \$1,120,393 \$27,142 \$2,228 \$14,618,504 \$116,938 — \$15,356 \$18,616,18 \$11,20,393 \$42,633 \$84,618 \$24,436 \$24,436 \$14,436 \$15,356 \$18,616,15 \$110,003 \$44,784 \$23,443,464 \$2,413,96 \$24,436 \$14,681 \$10,416 \$110,003 | Service Retirements | | | | | | | | | |
| 1,238, 77,501 \$1,7128 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,368 \$1,774,303,374 \$1,774,303 \$1,774,304< | Number | 44,935 | 93,765 | 89,092 | 29,044 | 2,824 | 427 | 2 | 19 | 260,108 |
| 4528 \$17,228 \$41,233 \$61,095 \$63,988 \$103,516 \$21,572 \$13,939 \$4528 7,950 3,043 2,901 133 7 — \$15,392 \$19,391 \$114,09,070 \$82,622,486 \$82,059,974 \$46,18,504 \$816,564 — \$15,356 \$19,391 \$116,492 \$27,152 \$28,282 \$27,39 \$147 — \$15,366 \$14,678,323 \$21,492,497 \$10,876,409 \$134,296,632 \$8,079,033 — — — \$15,669 \$248,694 \$27,309 \$143,292 \$849,032 \$840,032 \$24,999 — — \$19,649 \$248,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,396 \$534,065 \$46,681 \$33,001 \$16,615 \$11,120,393 \$41,784 \$23,434,64 \$24,41,44 \$33,334 \$4,681 \$3,600 \$66,994,118 \$11,303 \$14,994 \$21,236,446 \$14,494 \$14,607 \$4,681 \$3,600 \$16,41 </td <td>Annual Allowance</td> <td>\$1,235,770,757</td> <td>\$1,615,427,871</td> <td>\$3,673,500,726</td> <td>\$1,774,430,368</td> <td>\$180,701,015</td> <td>\$44,201,394</td> <td>\$43,144</td> <td>\$264,838</td> <td>\$8,524,340,113</td> | Annual Allowance | \$1,235,770,757 | \$1,615,427,871 | \$3,673,500,726 | \$1,774,430,368 | \$180,701,015 | \$44,201,394 | \$43,144 | \$264,838 | \$8,524,340,113 |
| 4,528 7,950 3,043 2,901 133 7 - 2 \$19,391 \$10,402 \$82,022,486 \$82,059,974 \$4,618,504 \$818,564 - \$15,356 \$19,391 \$16,492 \$27,152 \$22,287 \$34,726 \$116,338 - \$15,378 \$08 787 255 2,739 \$44,786 \$116,338 - - \$1,678 \$14,678,323 \$21,492,497 \$10,876,409 \$134,299,632 \$80,79,033 - - - - \$1,649 \$28,894 \$27,309 \$42,653 \$49,032 \$54,959 - - - \$10,649 \$28,894 \$21,20,393 \$41,784 \$23,434,464 \$2,471,396 \$534,395 \$46,681 \$35,001 \$16,615 \$19,317 \$20,892 \$36,789 \$44,944 \$23,3394 \$4,681 \$35,001 \$16,615 \$11,932 \$219,567,073 \$12,236,148 \$7,411,507 \$60,7784 \$31,001 \$16,412 \$11,93 | Average Annual Allowance | \$27,501 | \$17,228 | \$41,233 | \$61,095 | \$63,988 | \$103,516 | \$21,572 | \$13,939 | \$32,772 |
| 4,528 7,950 3,043 2,901 133 7 — 2 \$81,804,081 \$131,109,070 \$82,622,486 \$82,059,974 \$4,618,504 \$818,564 — \$15,356 \$19,391 \$16,492 \$27,152 \$28,287 \$34,726 \$116,938 — \$1,6356 \$14,678,323 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — \$1,6649 \$28,88,934 \$21,730 \$42,653 \$49,032 \$86,936 \$16 — \$19,649 \$28,88,934 \$21,730 \$41,784 \$23,434,464 \$24,71,936 \$534,305 \$88,945 \$10,604 \$16,615 \$110,003 \$41,784 \$23,434,464 \$24,71,936 \$44,944 \$4,681 \$3,500 \$16,615 \$110,003 \$10,317 \$10,40,914,739 \$195,67,703 \$14,944 \$13,41,64 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14,944 \$14 | Ordinary Disability Retirements | | | | | | | | | |
| \$87,804,081 \$131,109,070 \$82,022,486 \$22,059,374 \$4,618,504 \$818,564 — \$15,356 \$19,391 \$16,492 \$27,152 \$22,287 \$34,726 \$116,938 — \$15,356 \$10,803 \$13,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — \$1,678 \$28,884 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — — \$1,678 \$28,884 \$21,492,497 \$10,876,409 \$134,299,632 \$8,649,59 — — — \$1,649 \$28,884 \$21,20,393 \$41,784 \$23,471,936 \$534,305 \$88,945 \$33,500 \$16,615 \$110,003 \$41,784 \$21,471,936 \$44,944 \$33,394 \$4,681 \$35,500 \$16,412 \$110,337,847 \$149,547,395 \$12,236,148 \$14,944 \$33,394 \$4,681 \$35,500 \$16,412 \$11,935 \$14,944 \$13,41,507 \$136,649 \$10,607 \$10,607 \$10,607 \$10,607 <td>Number</td> <td>4,528</td> <td>7,950</td> <td>3,043</td> <td>2,901</td> <td>133</td> <td>7</td> <td>I</td> <td>2</td> <td>18,564</td> | Number | 4,528 | 7,950 | 3,043 | 2,901 | 133 | 7 | I | 2 | 18,564 |
| \$19,391 \$16,492 \$27,152 \$28,287 \$34,726 \$116,938 — \$7,678 508 787 255 2,739 147 — — 2,549 \$14,678,323 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — — — 2 \$28,894 \$21,492,497 \$142,653 \$49,032 \$54,959 — — — — \$19,649 \$28,894 \$1,120,393 \$41,784 \$23,434,464 \$2,471,336 \$58,945 \$35,001 \$16,615 \$19,317 \$20,892 \$44,944 \$23,434 \$44,681 \$35,001 \$4,082 \$19,317 \$20,892 \$44,494 \$33,394 \$4,681 \$35,001 \$4,082 \$11,003 \$14,739 \$195,567,073 \$12,236,148 \$7,411,507 \$60,777 \$4,877 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$1,4148 \$10,061 \$15,006 \$20 | Annual Allowance | \$87,804,081 | \$131,109,070 | \$82,622,486 | \$82,059,974 | \$4,618,504 | \$818,564 | I | \$15,356 | \$389,048,035 |
| 508 787 255 2,739 147 — — 2 \$14,678,323 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — \$19,649 \$28,894 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — — \$19,649 \$28,894 \$27,309 \$42,653 \$49,032 \$54,959 — — — \$10,649 \$348,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$583,455 \$83,601 \$16,615 \$19,317 \$20,892 \$36,789 \$44,944 \$33,394 \$4,681 \$3,500 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 — \$45,877 — — \$14,148 \$10,061 | Average Annual Allowance | \$19,391 | \$16,492 | \$27,152 | \$28,287 | \$34,726 | \$116,938 | I | \$7,678 | \$20,957 |
| 508 787 255 2,739 147 — — 2 \$14,678,323 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — \$19,649 \$28,894 \$22,894 \$42,653 \$49,032 \$54,959 — — \$19,649 \$28,894 \$24,965 \$44,967 \$24,41,936 \$534,305 \$88,945 \$35,001 \$348,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$534,305 \$88,945 \$35,001 \$16,615 \$19,317 \$20,892 \$36,784 \$44,944 \$33,334 \$4,681 \$35,001 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$21,689 \$21,289 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 \$1,038,708 \$1,038,708 \$1,038,708 \$1,038,708 \$1,038,708 \$1,038,708 \$1,038,708 | Accidental Disability Retiremen | ts | | | | | | | | |
| \$14,678,323 \$21,492,497 \$10,876,409 \$134,299,632 \$8,079,033 — — \$19,649 \$28,894 \$21,492,497 \$49,032 \$54,959 — — \$9,825 \$28,894 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$534,305 \$88,945 \$35,001 \$16,615 \$19,317 \$20,892 \$36,789 \$44,944 \$33,394 \$4,681 \$35,001 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$20,892 \$10,001 \$10,003 <td< td=""><td>Number</td><td>208</td><td>787</td><td>255</td><td>2,739</td><td>147</td><td>ı</td><td>ı</td><td>2</td><td>4,438</td></td<> | Number | 208 | 787 | 255 | 2,739 | 147 | ı | ı | 2 | 4,438 |
| \$28,894 \$27,309 \$42,653 \$49,032 \$54,959 — — \$9,825 \$348,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$534,305 \$88,945 \$35,001 \$16,615 \$11,20,393 \$41,784 \$23,434,464 \$2,471,936 \$534,305 \$88,945 \$35,001 \$4,082 \$10,003 \$5,838 \$36,789 \$44,944 \$33,394 \$4,681 \$35,500 \$66,994,115 \$119,357,847 \$149,914,739 \$195,67,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 — 445,875 — — — \$4,444 \$10,061 \$15,006 \$20,167 \$1,085,707 — — — — — — \$1,097 | Annual Allowance | \$14,678,323 | \$21,492,497 | \$10,876,409 | \$134,299,632 | \$8,079,033 | ı | I | \$19,649 | \$189,445,543 |
| 21 58 2 637 55 16 19 10 \$348,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$534,305 \$88,945 \$35,001 \$16,615 \$19,317 \$20,892 \$36,789 \$44,944 \$33,394 \$4,681 \$35,001 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - 4 4 - - \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - - | Average Annual Allowance | \$28,894 | \$27,309 | \$42,653 | \$49,032 | \$54,959 | I | I | \$9,825 | \$42,687 |
| 21 58 2 637 55 16 19 10 \$348,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$634,305 \$88,945 \$35,001 \$16,615 \$19,317 \$20,892 \$36,789 \$44,944 \$33,394 \$4,681 \$35,001 \$4,082 \$10,003 \$,838 \$,931 \$35 \$136 \$4,681 \$35,001 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - 445,875 - - \$14,148 \$10,061 \$10,061 \$20,167 - \$45,875 - - | ctive Members' Death Benefit | s | | | | | | | | |
| \$348,918 \$1,120,393 \$41,784 \$23,434,464 \$2,471,936 \$534,305 \$88,945 \$35,001 \$16,615 \$19,317 \$20,892 \$36,778 \$44,944 \$33,394 \$4,681 \$35,001 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 \$20,167 \$45,875 \$45,875 \$14,48 \$10,061 \$15,006 \$20,167 \$45,875 \$20,670 \$20,167 \$20,670 \$20,6 | Number | 21 | 58 | 2 | 637 | 55 | 16 | 19 | 10 | 818 |
| \$16,015 \$19,317 \$20,892 \$36,789 \$44,944 \$33,394 \$4,681 \$3,500 4,082 10,003 5,838 8,931 352 136 103 65 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 204 499 \$3,151,200 \$1,028,508 - 4183,500 - - \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - - | Annual Allowance | \$348,918 | \$1,120,393 | \$41,784 | \$23,434,464 | \$2,471,936 | \$534,305 | \$88,945 | \$35,001 | \$28,075,746 |
| 4,082 10,003 5,838 8,931 352 136 103 65 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - 4 - - - - \$14,148 \$10,061 \$10,061 \$20,167 - \$45,875 - | Average Annual Allowance | \$16,615 | \$19,317 | \$20,892 | \$36,789 | \$44,944 | \$33,394 | \$4,681 | \$3,500 | \$34,322 |
| 4,082 10,003 5,838 8,931 352 136 103 65 \$66,994,115 \$119,357,847 \$149,914,739 \$195,567,073 \$12,236,148 \$7,411,507 \$690,784 \$317,037 e \$16,412 \$11,932 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 x 204 499 210 51 - 4 - - x \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - \$45,875 - - x \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - - | letired Members' Death Benef | ts | | | | | | | | |
| \$66,994,115 \$11,932 \$125,679 \$12,236,148 \$7,411,507 \$690,784 \$317,037 :e \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,877 :e \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - 4 - - - :e \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - - - | Number | 4,082 | 10,003 | 5,838 | 8,931 | 352 | 136 | 103 | 65 | 29,510 |
| ee \$16,412 \$11,932 \$25,679 \$21,898 \$34,762 \$54,496 \$6,707 \$4,87 204 499 210 51 - 4 - - 4 - \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - \$183,500 - - e \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - | Annual Allowance | \$66,994,115 | \$119,357,847 | \$149,914,739 | \$195,567,073 | \$12,236,148 | \$7,411,507 | \$690,784 | \$317,037 | \$552,489,250 |
| 204 499 210 51 – 4 – 4 – 82,886,240 \$5,020,296 \$3,151,200 \$1,028,508 – \$183,500 – 814,148 \$10,061 \$15,006 \$20,167 – \$45,875 – | Average Annual Allowance | \$16,412 | \$11,932 | \$25,679 | \$21,898 | \$34,762 | \$54,496 | \$6,707 | \$4,877 | \$18,722 |
| 204 499 210 51 — 4 — Allowance \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 — \$183,500 — Annual Allowance \$14,148 \$10,061 \$15,006 \$20,167 — \$45,875 — | Deferred Terminated Vested | | | | | | | | | |
| \$2,886,240 \$5,020,296 \$3,151,200 \$1,028,508 - \$183,500 - \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - | Number | 204 | 499 | 210 | 51 | I | 4 | I | I | 896 |
| \$14,148 \$10,061 \$15,006 \$20,167 - \$45,875 - | Annual Allowance | \$2,886,240 | \$5,020,296 | \$3,151,200 | \$1,028,508 | I | \$183,500 | I | I | \$12,269,744 |
| | Average Annual Allowance | \$14,148 | \$10,061 | \$15,006 | \$20,167 | I | \$45,875 | I | I | \$12,675 |

Note: See "Schedule of Retired Members and Beneficiaries Added to and Removed from Rolls" in the Actuarial Section for Average Annual Allowance for the last five fiscal years.

Schedule of Revenues by Source

| | Fiscal Year | Member Contributions | Employer (1)Contributions (2) | Pension Adjustment Contributions ⁽³⁾ | Other (4) | Percentage of Annual Covered Compensation (5) | Investment Income ⁽⁶⁾ | Total |
|------------|----------------|-------------------------|-------------------------------|---|--------------|--|-------------------------------------|-----------------|
| PUBLIC | 2007 | 654,493,521 | 674,629,437 | _ | _ | 6.14 | 3,810,965,382 | 5,140,088,340 |
| EMPLOYEES' | 2008 | 705,903,439 | 812,356,103 | _ | _ | 7.11 | (391,708,689) | 1,126,550,853 |
| RETIREMENT | 2009 | 741,911,166 | 774,672,945 | _ | _ | 6.56 | (3,787,350,299) | (2,270,766,188) |
| SYSTEM | 2010 | 743,486,792 | 919,999,429 | _ | _ | 7.67 | 2,696,305,650 | 4,359,791,871 |
| | 2011 | 728,602,461 | 925,626,097 | _ | _ | 7.73 | 3,813,641,343 | 5,467,869,901 |
| | 2012 | 793,993,077 | 997,437,885 | _ | _ | 8.59 | 628,573,598 | 2,420,004,560 |
| | 2013 | 790,456,229 | 1,141,876,707 | _ | \$55,543,296 | 9.99 | 2,687,826,583 | 4,675,702,815 |
| | 2014 | 797,818,225 | 917,689,000 | _ | 55,641,713 | 8.02 | 4,103,472,982 | 5,874,621,920 |
| | 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 | 1,273,373,756 | _ | 3,977,639 | 11.25 | (237,215,643) | 1,861,441,539 |
| TEACHERS' | 2007 | 523,997,776 | 693,759,318 | _ | _ | 7.93 | 4,874,924,850 | 6,092,681,944 |
| PENSION | 2008 | 585,800,133 | 701,584,600 | _ | _ | 7.73 | (766,377,094) | 521,007,639 |
| AND | 2009 | 616,222,799 | 102,472,305 | _ | _ | 1.09 | (5,071,848,719) | (4,353,153,615) |
| ANNUITY | 2010 | 615,862,621 | 42,850,384 | _ | _ | 0.44 | 3,277,424,465 | 3,936,137,470 |
| FUND | 2011 | 593,587,972 | 36,117,717 | _ | _ | 0.36 | 4,364,388,191 | 4,994,093,880 |
| | 2012 | 685,608,357 | 323,100,685 | _ | _ | 3.34 | 640,982,289 | 1,649,691,331 |
| | 2013 | 686,872,383 | 653,704,602 | _ | 39,651,455 | 6.68 | 2,865,390,916 | 4,245,619,356 |
| | 2014 | 716,183,306 | 427,700,146 | _ | 40,469,573 | 4.26 | 4,100,453,466 | 5,284,806,491 |
| | 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 |
| POLICE | 2007 | 307,335,360 | 825,687,477 | _ | _ | 25.18 | 2,777,158,696 | 3,910,181,533 |
| AND | 2008 | 310,259,367 | 886,871,720 | _ | _ | 25.63 | (339,212,149) | 857,918,938 |
| FIREMEN'S | 2009 | 326,491,066 | 913,302,011 | _ | _ | 23.40 | (2,735,834,439) | (1,496,041,362) |
| RETIREMENT | 2010 | 330,951,798 | 1,001,223,223 | _ | _ | 27.25 | 2,008,239,281 | 3,340,414,302 |
| SYSTEM | 2011 | 327,357,244 | (216,914,092) | _ | _ | (5.83) | 3,071,480,855 | 3,181,924,007 |
| | 2012 | 374,688,168 | 842,084,854 | _ | _ | 23.07 | 371,496,172 | 1,588,269,194 |
| | 2013 | 387,775,184 | 898,531,390 | _ | _ | 24.58 | 2,191,780,555 | 3,478,087,129 |
| | 2014 | 385,660,096 | 858,047,628 | _ | _ | 23.32 | 3,381,553,869 | 4,625,261,593 |
| | 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 |
| STATE | 2007 | 17,861,043 | 29,285,276 | _ | _ | 11.13 | 291,531,439 | 338,677,758 |
| POLICE | 2008 | 18,306,246 | 36,506,782 | _ | _ | 13.26 | (34,109,753) | 20,703,275 |
| RETIREMENT | 2009 | 18,652,049 | 5,644,059 | _ | _ | 2.01 | (298,475,097) | (274,178,989) |
| SYSTEM | 2010 | 18,825,131 | 1,235,580 | _ | _ | 0.43 | 214,479,134 | 234,539,845 |
| | 2011 | 18,164,837 | 2,208,340 | _ | _ | 0.76 | 280,447,557 | 300,820,734 |
| | 2012 | 23,233,207 | 13,578,328 | _ | _ | 4.93 | 48,915,745 | 85,727,280 |
| | 2013 | 21,875,233 | 27,781,894 | _ | _ | 9.81 | 191,873,254 | 241,530,381 |
| | 2014 | 24,034,496 | 36,436,923 | _ | _ | 13.90 | 287,098,217 | 347,569,636 |
| | 2015 | 22,315,431 | 38,527,297 | _ | 222,557 | 14.68 | 75,532,779 | 136,598,064 |
| | 2016 | 22,818,295 | 37,435,541 | _ | 54,000 | 13.59 | (19,284,054) | 41,023,782 |

Schedule of Revenues by Source

| | Fiscal Year | Member Contributions ⁽¹⁾ Ce | Employer ontributions ⁽²⁾ | Pension Adjustment Contributions ⁽³⁾ | Other (4) | Percentage of Annual Covered Compensation ⁽⁵⁾ | Investment Income ⁽⁶⁾ | Total |
|-------------|----------------|---|---|---|-----------|---|-------------------------------------|--------------|
| JUDICIAL | 2007 | 2,201,527 | 12,741,898 | _ | _ | 20.39 | 52,215,397 | 67,158,822 |
| RETIREMENT | 2008 | 1,825,726 | 12,913,986 | _ | _ | 20.45 | (1,268,945) | 13,470,767 |
| SYSTEM | 2009 | 3,032,945 | 1,696,891 | _ | _ | 2.53 | (56,230,261) | (51,500,425) |
| | 2010 | 3,054,881 | 2,308,854 | _ | _ | 3.29 | 37,131,556 | 42,495,291 |
| | 2011 | 2,575,318 | 1,693,412 | _ | _ | 2.36 | 42,358,462 | 46,627,192 |
| | 2012 | 2,476,205 | 6,061,953 | _ | _ | 8.99 | 4,954,214 | 13,492,372 |
| | 2013 | 3,402,807 | 12,308,419 | _ | _ | 18.24 | 25,932,027 | 41,643,253 |
| | 2014 | 5,096,577 | 15,874,857 | _ | _ | 23.41 | 34,448,036 | 55,419,470 |
| | 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 |
| CONSOLIDATE | D 2007 | _ | 1,809,773 | 7,362,588 | _ | _ | 611,939 | 9,784,300 |
| POLICE AND | 2008 | - | 550,881 | 6,515,308 | _ | _ | 438,349 | 7,504,538 |
| FIREMEN'S | 2009 | _ | 1,276,151 | 5,641,890 | _ | _ | 142,184 | 7,060,225 |
| PENSION | 2010 | _ | 13,236 | 4,830,461 | _ | _ | 35,223 | 4,878,920 |
| FUND | 2011 | . – | 8,199 | 4,033,257 | _ | _ | 17,256 | 4,058,712 |
| | 2012 | . – | 193,183 | 3,234,585 | _ | _ | 210 | 3,427,978 |
| | 2013 | - | 911,150 | 2,477,987 | _ | _ | 217 | 3,389,354 |
| | 2014 | _ | 11,740 | 1,889,091 | _ | _ | 585 | 1,901,416 |
| | 2015 | - | _ | 1,568,185 | 9,566 | _ | 198 | 1,577,949 |
| | 2016 | · – | 148,000 | 1,196,017 | 8,003 | _ | 2,853 | 1,354,873 |
| PRISON | 2007 | | _ | 1,138,138 | _ | - | 712,185 | 1,850,323 |
| OFFICERS' | 2008 | | _ | 1,104,335 | _ | _ | 546,188 | 1,650,523 |
| PENSION | 2009 | | _ | 1,088,687 | _ | _ | 197,755 | 1,286,442 |
| FUND | 2010 | | _ | 1,046,590 | _ | _ | 53,572 | 1,100,162 |
| | 2011 | | _ | 1,064,245 | _ | _ | 32,429 | 1,096,674 |
| | 2012 | | _ | 994,367 | _ | _ | 9,945 | 1,004,312 |
| | 2013 | | _ | 889,542 | _ | _ | 9,070 | 898,612 |
| | 2014 | | _ | 793,175 | _ | _ | 7,368 | 800,543 |
| | 2015 | | _ | 698,360 | _ | _ | 6,355 | 704,715 |
| | 2016 | - - | _ | 634,217 | _ | _ | 18,067 | 652,284 |
| CENTRAL | 2007 | | 426,071 | 28,234 | _ | _ | 6,264 | 460,569 |
| PENSION | 2008 | | 403,163 | 24,690 | _ | _ | 8,973 | 436,826 |
| FUND | 2009 | | 376,688 | 21,861 | _ | _ | 3,642 | 402,191 |
| | 2010 | | 179,863 | 22,018 | _ | _ | 484 | 202,365 |
| | 2011 | | 199,451 | 21,677 | _ | _ | 211 | 221,339 |
| | 2012 | | 168,000 | 22,155 | _ | _ | 119 | 190,274 |
| | 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 |

Schedule of Revenues by Source

| | Fiscal Year | Member Contributions (1) | Employer Contributions (2) | Pension Adjustment Contributions ⁽³⁾ | Other ⁽⁴⁾ | Covered Compensation (5) | Percentage Of Annual Investment Income ⁽⁶⁾ | Total |
|--------------|----------------|-----------------------------|-------------------------------|---|----------------------|-----------------------------|--|---------------|
| SUPPLEMENT | AL 2007 | 7,764,788 | _ | _ | _ | _ | 32,563,751 | 40,328,539 |
| ANNUITY | 2008 | 8,271,028 | _ | _ | _ | _ | (17,688,152) | (9,417,124) |
| COLLECTIVE | 2009 | 7,866,241 | _ | _ | _ | _ | (33,470,754) | (25,604,513) |
| TRUST | 2010 | 7,119,188 | _ | _ | _ | _ | 16,061,568 | 23,180,756 |
| | 2011 | 5,882,012 | _ | _ | _ | _ | 34,723,580 | 40,605,592 |
| | 2012 | 6,346,823 | _ | _ | _ | _ | 5,941,424 | 12,288,247 |
| | 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 |
| DEFERRED | 2007 | 173,352,442 | _ | _ | _ | _ | 248,778,286 | 422,130,728 |
| COMPENSATION | ON 2008 | 185,234,570 | _ | _ | _ | _ | (170,242,308) | 14,992,262 |
| PLAN | 2009 | 172,895,622 | _ | _ | _ | _ | (334,762,381) | (161,866,759) |
| | 2010 | 171,382,135 | _ | _ | _ | _ | 169,072,944 | 340,455,079 |
| | 2011 | 185,334,980 | _ | _ | _ | _ | 383,783,797 | 569,118,777 |
| | 2012 | 178,243,724 | _ | _ | _ | _ | 19,834,685 | 198,078,409 |
| | 2013 | 177,296,365 | _ | _ | _ | _ | 302,069,484 | 479,365,849 |
| | 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 |
| DEFINED | 2007 | _ | _ | _ | _ | _ | _ | _ |
| CONTRIBUTIO | N 2008 | _ | _ | _ | _ | _ | _ | _ |
| RETIREMENT | 2009 | _ | _ | _ | _ | _ | _ | _ |
| PROGRAM | 2010 | _ | _ | _ | _ | _ | _ | _ |
| | 2011 | _ | \$289,483 | _ | _ | _ | \$110 | \$289,593 |
| | 2012 | _ | 487,559 | _ | _ | _ | 765 | 488,324 |
| | 2013 | _ | 1,482,976 | _ | _ | _ | 1,761 | 1,484,737 |
| | 2014 | _ | 1,409,544 | _ | _ | _ | 2,250 | 1,411,794 |
| | 2015 | _ | 2,046,770 | _ | _ | _ | 3,497 | 2,050,267 |
| | 2016 | _ | 2,750,910 | - | - | _ | 14,104 | 2,765,014 |
| ALTERNATE | 2007 | _ | 2,613,675 | | | _ | 146,526 | 2,760,201 |
| BENEFIT | 2008 | _ | 2,000,000 | _ | _ | _ | 128,401 | 2,128,401 |
| LONG-TERM | 2009 | _ | 2,685,591 | _ | _ | _ | 42,876 | 2,728,467 |
| DISABILITY | 2010 | _ | 2,766,031 | _ | _ | _ | 12,970 | 2,779,001 |
| FUND | 2010 | _ | 2,885,119 | _ | _ | _ | 8,175 | 2,893,294 |
| . 5110 | 2011 | _ | 3,323,165 | _ | _ | _ | 4,132 | 3,327,297 |
| | 2012 | _ | 3,037,116 | _ | _ | _ - | 2,875 | 3,039,991 |
| | 2013 | | 1,382,696 | - | _ | _ | 1,622 | 1,384,318 |
| | 2014 | _ | | _ | _ | _ | | |
| | | _ | 1,550,000 | _ | _ | _ | 1,631 | 1,551,631 |
| | 2016 | _ | 1,738,668 | _ | _ | _ | 3,465 | 1,742,133 |

Schedule of Revenues by Source

| | Fiscal Year | Member Contributions | Employer (1) Contributions (2) | Pension Adjustment Contributions ⁽³⁾ | Other (4) | Percentage Of Annual Covered Compensation ⁽⁵⁾ | Investment Income ⁽⁶⁾ | Total |
|----------------|----------------|-------------------------|--------------------------------|---|------------|---|-------------------------------------|-----------------|
| STATE | 2007 | 161,113,500 | 3,386,507,653 | _ | _ | _ | 50,207,956 | 3,597,829,109 |
| HEALTH | 2008 | 199,319,910 | 3,479,317,116 | _ | _ | _ | 43,386,656 | 3,722,023,682 |
| BENEFIT | 2009 | 198,176,549 | 3,474,413,647 | _ | _ | _ | 16,370,148 | 3,688,960,344 |
| PROGRAM | 2010 | 217,154,537 | 4,144,906,282 | _ | _ | _ | 4,269,124 | 4,366,329,943 |
| FUNDS (7) | 2011 | 233,187,835 | 4,607,439,545 | _ | _ | _ | 2,777,355 | 4,843,404,735 |
| | 2012 | 244,680,394 | 4,721,637,111 | _ | _ | _ | 1,361,300 | 4,967,678,805 |
| | 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 | 538,527,119 | 6,139,366,463 | _ | _ | _ | 2,800,150 | 6,680,693,732 |
| PENSION | 2007 | 1,848,119,957 | 5,627,460,578 | 8,528,960 | _ | _ | 12,139,822,671 | 19,623,932,166 |
| TRUST | 2008 | 2,014,920,419 | 5,932,504,351 | 7,644,333 | _ | _ | (1,676,098,523) | 6,278,970,580 |
| AND | 2009 | 2,085,248,437 | 5,276,540,288 | 6,752,438 | _ | _ | (12,301,215,345) | (4,932,674,182) |
| STATE | 2010 | 2,107,837,083 | 6,115,482,882 | 5,899,069 | _ | _ | 8,423,085,971 | 16,652,305,005 |
| HEALTH | 2011 | 2,094,692,659 | 5,359,553,271 | 5,119,179 | _ | _ | 11,993,659,321 | 19,453,024,430 |
| BENEFIT | 2012 | 2,309,269,955 | 6,908,072,723 | 4,251,107 | _ | _ | 1,722,074,598 | 10,943,668,383 |
| PROGRAM | 2013 | 2,379,173,599 | 7,902,569,981 | 3,389,743 | 95,194,751 | _ | 8,297,254,619 | 18,677,582,693 |
| FUNDS | 2014 | 2,515,059,384 | 7,738,101,825 | 2,704,480 | 96,111,286 | _ | 12,374,632,568 | 22,726,609,543 |
| TOTAL (7) | 2015 | 2,651,633,067 | 8,516,578,669 | 2,288,759 | 44,249,393 | _ | 3,341,282,108 | 14,556,031,996 |
| | 2016 | 2,728,399,275 | 9,231,457,456 | 1,852,448 | 13,422,359 | _ | (648,672,622) | 11,326,458,916 |

⁽¹⁾ Indicates contributions from active members.

⁽²⁾ Includes contributions both from State and local employers.

⁽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/ Approproations, Retro billing, 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 net appreciation/depreciation of fair value, dividends, and interest.

⁽⁷⁾ GASB No. 43 became implemented in fiscal year 2007. Fiscal years before 2007 other than the restated 2006 were presented otherwise.

Schedule of Expenses by Type

(based on Comprehensive Annual Financial Reports for relevant years)

| PUBLIC 3007 1,646,496,269 217,380,305 109,556,173 67,679,883 - 15,506,750 9,665,453 2,07 PUBLIC 2007 1,648,496,268 241,1380,304 1,556,21188 241,141,412 15,53,904 1,506,718 2,506,719 | | Fiscal | Retirement Benefits ⁽¹⁾ | Cost-of-Living Adjustments ⁽²⁾ | Death Benefits ⁽³⁾ | Withdrawal (4) | Other Refunds ⁽⁵⁾ | Admin and Misc ⁽⁶⁾ | Transfer to Other Retirement Systems (7) | Total |
|--|--------------------|--------|---------------------------------------|--|----------------------------------|----------------|---------------------------------|----------------------------------|--|---------------|
| OYNERS 2008 11,824,92238 241,149,147 12,869,087 77,447,624 — 20,869,279 15,844,752 FRENT 2009 1,936,521,138 270,085,562 100,487,729 77,447,624 — 20,195,796 18,340,013 2010 2,056,220,733 286,356,523 110,078,539 82,566,666 — 15,447,573 11,427,567 2011 2,566,51,098 283,610,108 12,106,529 110,605,218 110,605,108 11,100,974 — 22,844,654 11,427,661 2014 2,566,51,098 296,362,021 13,603,827 10,238,137 — 22,844,654 11,430,974 — 22,844,654 15,603,908 2014 2,266,51,098 29,541,844 77,192,795 111,009,794 — 22,844,647 13,778,475 11,009,794 — 22,846,847 13,778,475 11,1009,794 — 22,346,847 13,778,475 11,1009,794 — 22,846,847 13,778,475 11,1009,794 — 22,846,847 13,778,475 11,1009,794 — 22,846,87 | PUBLIC | 2007 | 1,649,495,269 | 217,980,305 | 109,559,172 | 67,679,883 | ı | 19,506,750 | 9,665,453 | 2,073,886,832 |
| EMENT 2009 1396,521,188 270,085,565 100,78,729 17,747,624 - 20,195,796 15,344,711 1,205,629,773 1,326,71,620 25,01,170,979 288,176,282 110,078,229 282,566,995 - 17,212,705 15,344,711 1,341,795 2012 25,01,170,979 288,170,289 288,299 288, | EMPLOYEES ' | 2008 | 1,782,422,238 | 241,149,747 | 125,809,087 | 78,543,399 | I | 21,669,271 | 15,047,572 | 2,264,641,314 |
| EM 2000 2.058.29.2073 286.356.823 116.0076.829 82.666.856 - 17.212.705 15.244.71 19.26.661 15.244.71 19.26.661 15.244.71 19.26.661 15.244.71 19.26.661 15.244.71 19.26.661 15.244.71 19.26.661 19.26.6 | RETIREMENT | 2009 | 1,936,521,198 | 270,085,565 | 100,487,729 | 77,747,624 | I | 20,195,796 | 18,340,013 | 2,423,377,925 |
| 2011 2.273.8777 660 288.610,268 115,056,23,866 - 55,475,377 115,906,661 2013 2.273.8777 660 288,610,268 116,056,23,866 - 55,446,634 115,41,723 115,41,41,423 115,41,41,423 115,41,41,423 | SYSTEM | 2010 | 2,058,292,073 | 286,355,823 | 110,078,829 | 82,566,955 | I | 17,212,705 | 15,384,771 | 2,569,891,156 |
| 2012 2,546,551,099 281,170,159 281,170,159 281,170,159 281,170,159 281,170,159 281,170,159 281,175 31,181,179 31,111,170 4 2,284,551,098 281,170,176 4 2,284,551,098 281,170,176 4 2,284,651,098 281,170,176 3,186,588,835 2,298,839,116 2,248,890,286 17,192,796 111,1969,794 - 2,376,1859 2,145,094 3,178,610 3,178,710 3,178,710 3,178,710 3,178,710 3,178,710 3,178,710 3,178,710 </td <td></td> <td>2011</td> <td>2,273,677,650</td> <td>283,610,268</td> <td>115,035,218</td> <td>66,423,856</td> <td>I</td> <td>55,475,327</td> <td>11,926,661</td> <td>2,806,148,980</td> | | 2011 | 2,273,677,650 | 283,610,268 | 115,035,218 | 66,423,856 | I | 55,475,327 | 11,926,661 | 2,806,148,980 |
| 2013 2.646,551,098 266,367,024 138,033,87 102,381,275 — 2176,019 13,778,475 2014 2.016 3,186,588,835 226,541,844 77,492,795 111,001,794 — 21,766,019 13,778,475 2015 2,186,588,835 222,541,844 77,492,795 117,027,599 — 23,285,920 13,778,475 2016 3,186,588,835 229,541,844 77,492,795 117,027,599 — 23,285,920 13,778,475 A 2008 2,295,94,794 311,308,906 70,448,959 39,444,733 — 12,343,928 30,4379 A 2009 2,455,071,751 311,308,906 70,448,959 39,543,649 — 12,746,711 4,007,407 A 2010 2,573,053,407 378,442,120 76,697,906 39,543,649 — 12,746,711 4,007,407 A 2011 2,875,071,781 378,473,106 66,473,646 39,743,649 — 12,746,771 4,007,472 A 2011 3,786,752,22 37,441,120 73,432,949 39,433,949 — 12,746,771 4,007,472 | | 2012 | 2,510,170,979 | 281,708,154 | 108,660,771 | 97,076,504 | I | 21,841,723 | 11,541,759 | 3,030,999,890 |
| 2014 2.986,43414 265,307,998 127,100,559 111,909,794 — 21,756,019 13,778,475 2015 2.986,839,116 242,800,286 173,430,296 116,431,42 — 23,76,1899 21,456,094 2016 2.986,839,116 242,800,286 173,430,296 117,027,599 — 23,45,859 19,430,042 10N 2008 2,296,534,794 311,386,896 32,20,617 33,464,753 — 12,343,928 3,044,379 20,443,774 4,057,851 1,00,443,79 1,00,464,79 1,00,464,79 1,00,464,79 1,00,464,79 1,00,464,79 1,00,464,79 1,00,464,79 | | 2013 | 2,646,551,098 | 269,362,021 | 138,033,827 | 102,381,327 | I | 22,814,654 | 15,603,908 | 3,194,746,835 |
| 2015 2,986,839,116 242,890,285 73,430,329 116,431,242 — 23,761,859 21,455,094 PERS' 2007 2,116,588,835 229,541,844 77,192,795 117,027,599 — 23,285,920 19,300,842 30,44379 10N 2008 2,295,924,794 311,308,900 70,448,959 36,50,781 — 12,346,751 4,057,861 30,44379 10N 2,009 2,453,071,751 36,826,484 37,139,492 — 12,346,751 4,057,861 4,057,861 10N 2,009 2,453,071,751 36,266,8308 63,825,481 37,139,492 — 12,346,751 4,057,861 2,401,574 10N 2,000 2,453,071,751 36,663,326 38,434,330 68,044,466 38,034,439 — 12,346,741 4,042,880 2,401,574 4,402,880 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,0 | | 2014 | 2,806,343,114 | 256,307,998 | 127,100,559 | 111,909,794 | I | 21,756,019 | 13,778,475 | 3,337,195,959 |
| 2016 3,186,588,355 229,544,844 77,192,795 117,027,599 - 23,285,920 19,300,842 3 HERS 2007 2,117,640,036 277,692,327 58,220,617 33,464,733 - 12,434,928 3,044,379 2 10N 2009 2,295,924,794 311,308,906 70,448,959 36,510,781 - 12,787,441 4,205,762 30,44379 11TY 2009 2,453,017,751 378,442,120 76,697,906 38,543,649 - 12,323,809 2,401,574 4,205,762 11TY 2010 2,573,053,407 378,442,120 76,697,906 38,543,649 - 12,323,309 2,401,574 4,205,762 2011 2,897,547,945 381,128,401 64,782,346 38,789,526 - 12,321,344 4,842,890 2,401,574 4,205,762 2,401,574 4,905,061 3,442,890 2,401,574 4,205,762 4,422,890 2,401,574 4,205,762 4,205,762 4,422,890 4,422,890 4,422,890 4,422,890 4,422,890 4,422,890 | | 2015 | 2,986,839,116 | 242,890,285 | 73,430,329 | 116,431,242 | I | 23,761,859 | 21,455,094 | 3,464,807,925 |
| HERS' 2007 2,117,640,036 277,692,327 58,220,617 33,464,753 — 12,343,928 3,044,379 2,008 2,295,524,794 311,308,900 70,448,999 36,510,781 — 13,787,41 4,205,761 4,057,861 2,2095,294,794 311,308,900 70,448,999 39,543,649 — 12,343,809 2,401,574 4,205,762 2,009 2,453,071,751 352,668,308 68,325,481 37,139,492 — 12,323,809 2,401,574 4,842,890 2,401,574 3,039,099,999 381,473,106 68,044,66 38,031,499 — 12,323,399 — 12,323,399 2,880,016 3,230,673,226 370,347,130 7347,130 7342,297 42,299,299 — 12,423,399 — 12,423,399 2,880,016 3,745,129 745,129 742,129,299 — 12,422,090 66,345,52 4,407,788 2,201 3,745,667,146 34,252,116 36,283,535 51,161,238 — 12,170,972 6,467,788 2,201 3,745,667,146 34,252,116 36,283,535 51,161,238 — 13,890,080 66,345,52 4,407,789 2,407,747,789 2,407,747,740,740,740,740,740,740,740,740 | | 2016 | 3,186,588,835 | 229,541,844 | 77,192,795 | 117,027,599 | I | 23,285,920 | 19,300,842 | 3,652,937,835 |
| 100 | TEACHERS' | 2007 | 2,117,640,036 | 277,692,327 | 58,220,617 | 33,464,753 | ı | 12,343,928 | 3,044,379 | 2,502,406,040 |
| 11 11 11 11 11 11 11 1 | PENSION | 2008 | 2,295,924,794 | 311,308,960 | 70,448,959 | 36,510,781 | I | 13,787,441 | 4,205,762 | 2,732,186,697 |
| Y 2010 2,573,053,407 378,442,120 76,697,906 39,543,649 — 12,323,809 2,401,574 3 2011 2,897,547,945 381,128,401 64,782,346 39,769,526 — 12,321,344 4,842,890 2,80,016 2012 3,089,089,919 381,473,106 68,044,466 38,031,439 — 11,523,396 2,880,016 2013 3,230,673,226 37,451,129 74,229,067 42,289,299 — 12,482,060 4,926,204 2014 3,397,559,391 344,252,116 36,283,535 51,161,238 — 12,482,060 6,946,7788 5,467,788 2015 3,744,665,145 344,252,116 36,283,535 51,161,238 — 12,170,972 6,401,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,380 6,636,455 4,41,364 | AND | 2009 | 2,453,071,751 | 352,668,308 | 63,825,481 | 37,139,492 | I | 12,746,751 | 4,057,851 | 2,923,509,634 |
| 2011 2,897,547,945 381,128,401 64,782,346 39,769,526 — 12,321,344 4,842,890 280,016 2012 3,089,099,91 381,473,106 68,044,466 38,031,439 — 11,523,396 2,880,016 2013 3,206,673,226 370,347,130 73,122,997 42,299,299 — 12,482,060 4,926,204 2014 3,397,589,391 357,481,129 74,929,067 43,101,723 — 12,482,060 4,926,204 2015 3,376,667,146 344,282,116 74,289,067 51,56,638 — 12,109,72 5,467,788 AND 2016 3,744,665,145 344,282,116 36,580,277 51,526,638 — 13,768,112 6,401,380 NS 2006 1,129,947,758 39,637,126 5,580,277 51,526,638 — 5,588,36 491,009 NS 2008 1,129,947,758 39,637,126 35,643,652 — 5,588,36 — 6,281,677 394,592 — 2010 1,129,440,83,372 23,362,208 | ANNUITY | 2010 | 2,573,053,407 | 378,442,120 | 906'269'92 | 39,543,649 | I | 12,323,809 | 2,401,574 | 3,082,462,465 |
| 2012 3,089,099,919 381,473,106 68,044,466 38,031,439 - 11,523,396 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 2,880,016 3,937,559,391 370,347,130 73,132,997 42,299,299 - 12,482,060 4,926,204 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3,926,903 3 | FUND | 2011 | 2,897,547,945 | 381,128,401 | 64,782,346 | 39,769,526 | I | 12,321,344 | 4,842,890 | 3,400,392,452 |
| 2013 3,230,673,226 370,347,130 73,132,997 42,299,299 — 12,482,060 4,926,04 3 2014 3,397,559,391 357,451,129 74,929,067 43,101,723 — 12,170,972 5,467,788 3 2015 3,576,672,146 344,252,116 36,283,535 51,161,238 — 13,890,080 6,634,552 6,401,380 AND 2016 3,744,665,145 330,897,322 35,580,277 51,526,638 — 13,768,112 6,401,380 6,634,552 6,401,380 6,634,677 394,592 7,768,703 — 5,558,936 491,009 7,768,703 — 6,281,677 394,592 7,768,703 — 6,281,677 394,592 7,768,703 — 6,526,511 55,269,517 5,238,618 — 6,526,511 55,268,917 3,444,481 5,768,703 — 6,526,511 34,552 2,23,552 4,115,476 2,31,457 2,31,457 2,31,457 2,31,457 2,31,457 2,31,457 2,31,457 2,31,457 2,31,457 2,31,457 | | 2012 | 3,089,099,919 | 381,473,106 | 68,044,466 | 38,031,439 | I | 11,523,396 | 2,880,016 | 3,591,052,342 |
| 2014 3,397,559,391 357,451,129 74,929,067 43,101,723 — 12,170,972 5,467,788 3 2015 3,576,672,146 344,252,116 36,283,535 51,161,238 — 13,890,080 6,634,552 6,640,380 AND 2016 3,744,665,145 330,897,322 35,580,277 51,526,638 — 13,768,112 6,401,380 AND 2007 1,047,270,962 173,429,553 32,643,052 5,590,973 — 5,958,936 491,009 N'S 2008 1,129,947,758 192,527,105 30,634,136 6,899,520 — 6,281,677 394,592 AND 201 1,129,947,758 192,527,105 31,484,481 5,768,703 — 6,281,677 394,592 AND 1,1310,546,315 230,715,014 32,249,526 5,238,615 — 6,080,087 376,544 201 1,454,083,372 232,440,1519 34,058,970 7,197,736 — 3,919,438 353,727 201 1,706,252,607 229,131,950 <td></td> <td>2013</td> <td>3,230,673,226</td> <td>370,347,130</td> <td>73,132,997</td> <td>42,299,299</td> <td>I</td> <td>12,482,060</td> <td>4,926,204</td> <td>3,733,860,916</td> | | 2013 | 3,230,673,226 | 370,347,130 | 73,132,997 | 42,299,299 | I | 12,482,060 | 4,926,204 | 3,733,860,916 |
| 2015 3,576,672,146 344,252,116 36,283,535 51,161,238 – 13,890,080 6,634,552 2 AND 2016 3,744,665,145 330,897,322 35,580,277 51,526,638 – 13,768,112 6,401,380 6,634,552 AND 2007 1,047,270,962 173,429,553 32,643,052 5,590,973 – 6,281,677 394,592 N'S 2008 1,129,947,758 192,527,105 30,634,136 6,899,520 – 6,281,677 394,592 N'S 2008 1,120,947,758 192,527,105 31,484,481 5,768,703 – 6,281,677 394,592 N'S 2010 1,216,141,979 215,793,951 31,484,481 5,768,703 – 6,286,511 531,253 ALIST 2011 1,454,083,372 232,362,028 35,107,319 7,467,889 – 4,115,476 237,855 ALIST 2012 1,593,941,123 234,401,519 34,084,179 6,735,054 – 3,984,342 42,064,77 | | 2014 | 3,397,559,391 | 357,451,129 | 74,929,067 | 43,101,723 | I | 12,170,972 | 5,467,788 | 3,890,680,070 |
| AND 2007 1,047,270,962 173,429,553 32,643,052 5,590,973 — 13,768,112 6,401,380 AND 2007 1,047,270,962 173,429,553 32,643,052 5,590,973 — 5,958,936 491,009 1,216,141,979 215,7105 30,634,136 6,899,520 — 6,281,677 394,592 1,231,244,81 5,768,703 — 6,281,677 394,592 1,231,244,81 5,768,703 — 6,080,087 376,544 2011 1,454,083,372 232,362,028 35,107,319 7,467,889 — 4,115,476 233,41,123 234,401,519 34,084,179 6,735,054 — 3,881,457 148,902 2013 1,706,252,607 229,131,950 34,084,179 6,735,054 — 3,884,342 420,647 2016 1,945,006,485 216,641,361 38,372,031 7,712,880 — 4,531,012 — 4,523,012 602,550 22016 2,067,836,471 209,926,511 38,372,031 7,712,880 — 4,292,891 328,060 2 | | 2015 | 3,576,672,146 | | 36,283,535 | 51,161,238 | ı | 13,890,080 | 6,634,552 | 4,028,893,667 |
| AND 2007 1,047,270,962 173,429,553 32,643,052 5,590,973 — 5,958,936 491,009 N'S 2008 1,129,947,758 192,527,105 30,634,136 6,899,520 — 6,281,677 394,592 AENT 2009 1,216,141,979 215,793,951 31,484,481 5,768,703 — 6,526,511 531,253 2010 1,310,546,315 230,715,014 32,249,526 5,238,615 — 6,526,511 531,53 2011 1,454,083,372 232,362,028 35,107,319 7,467,889 — 4,115,476 237,855 2012 1,593,941,123 234,01,519 34,058,970 7,197,736 — 3,919,438 353,727 2013 1,706,252,607 229,131,950 34,084,179 6,735,054 — 3,884,342 420,647 2014 1,831,032,076 220,131,361 35,424,340 7,789,561 — 4,531,012 602,550 2 2015 1,945,006,485 216,641,361 38,372,031 7,712,880 | | 2016 | 3,744,665,145 | 330,897,322 | 35,580,277 | 51,526,638 | I | 13,768,112 | 6,401,380 | 4,182,838,874 |
| N'S 2008 1,129,947,758 192,527,105 30,634,136 6,899,520 — 6,281,677 394,592 MENT 2009 1,216,141,979 215,793,951 31,484,481 5,768,703 — 6,526,511 531,253 2010 1,310,546,315 230,715,014 32,249,526 5,238,615 — 6,080,087 376,544 2011 1,454,083,372 232,362,028 35,107,319 7,467,889 — 4,115,476 237,855 2012 1,593,941,123 234,401,519 34,058,970 7,197,736 — 3,919,438 353,727 2013 1,706,252,607 229,131,950 34,084,179 6,735,054 — 3,814,457 148,902 2014 1,831,032,076 223,111,212 42,612,105 8,652,971 — 3,884,342 420,647 2015 1,945,006,485 216,641,361 38,372,031 7,712,880 — 4,292,891 328,060 238,060 | POLICE AND | 2007 | 1,047,270,962 | 173,429,553 | 32,643,052 | 5,590,973 | ı | 5,958,936 | 491,009 | 1,265,384,485 |
| MENT 2009 1,216,141,979 215,793,951 31,484,481 5,768,703 — 6,526,511 531,253 2010 1,310,546,315 230,715,014 32,249,526 5,238,615 — 6,080,087 376,544 2011 1,454,083,372 232,362,028 35,107,319 7,467,889 — 4,115,476 237,855 2012 1,593,941,123 234,401,519 34,084,179 6,735,054 — 3,919,438 353,727 2013 1,706,552,607 229,131,950 34,084,179 6,735,054 — 3,881,457 148,902 2014 1,831,032,076 229,131,91 42,612,105 8,652,971 — 3,884,342 420,647 2015 1,945,006,485 216,641,361 35,424,340 7,712,880 — 4,531,012 602,550 2 2016 2,067,836,471 209,926,511 38,372,031 7,712,880 — 4,292,891 38,060 2 | FIREMEN'S | 2008 | 1,129,947,758 | 192,527,105 | 30,634,136 | 6,899,520 | I | 6,281,677 | 394,592 | 1,366,684,788 |
| 2010 1,310,546,315 230,715,014 32,249,526 5,238,615 - 6,080,087 376,544 2011 1,454,083,372 232,362,028 35,107,319 7,467,889 - 4,115,476 237,855 2012 1,593,941,123 234,401,519 34,084,179 6,735,054 - 3,919,438 353,727 2013 1,706,252,607 229,131,950 34,084,179 6,735,054 - 3,881,457 148,902 2014 1,831,032,076 223,111,212 42,612,105 8,652,971 - 3,884,342 420,647 2015 1,945,006,485 216,641,361 35,424,340 7,712,880 - 4,531,012 602,550 2 2016 2,067,836,471 209,926,511 38,372,031 7,712,880 - 4,292,891 386,060 2 | RETIREMENT | 2009 | 1,216,141,979 | 215,793,951 | 31,484,481 | 5,768,703 | I | 6,526,511 | 531,253 | 1,476,246,878 |
| 1,454,083,372 232,362,028 35,107,319 7,467,889 - 4,115,476 237,855 1,593,941,123 234,401,519 34,058,970 7,197,736 - 3,919,438 353,727 1,706,252,607 229,131,950 34,084,179 6,735,054 - 3,881,457 148,902 1,831,032,076 223,111,212 42,612,105 8,652,971 - 3,884,342 420,647 1,945,006,485 216,641,361 35,424,340 7,789,561 - 4,531,012 602,550 2 2,067,836,471 209,926,511 38,372,031 7,712,880 - 4,292,891 328,060 2 | SYSTEM | 2010 | 1,310,546,315 | 230,715,014 | 32,249,526 | 5,238,615 | I | 6,080,087 | 376,544 | 1,585,206,101 |
| 1,593,941,123 234,401,519 34,058,970 7,197,736 — 3,919,438 353,727 1,706,252,607 229,131,950 34,084,179 6,735,054 — 3,881,457 148,902 1,831,032,076 223,111,212 42,612,105 8,652,971 — 3,884,342 420,647 1,945,006,485 216,641,361 35,424,340 7,789,561 — 4,531,012 602,550 2,067,836,471 209,926,511 38,372,031 7,712,880 — 4,292,891 328,060 | | 2011 | 1,454,083,372 | 232,362,028 | 35,107,319 | 7,467,889 | ı | 4,115,476 | 237,855 | 1,733,373,939 |
| 1,706,252,607 229,131,950 34,084,179 6,735,054 — 3,881,457 148,902 1,831,032,076 223,111,212 42,612,105 8,652,971 — 3,884,342 420,647 1,945,006,485 216,641,361 35,424,340 7,789,561 — 4,531,012 602,550 2,067,836,471 209,926,511 38,372,031 7,712,880 — 4,292,891 328,060 | | 2012 | 1,593,941,123 | 234,401,519 | 34,058,970 | 7,197,736 | I | 3,919,438 | 353,727 | 1,873,872,513 |
| 1,831,032,076 223,111,212 42,612,105 8,652,971 — 3,884,342 420,647 1,945,006,485 216,641,361 35,424,340 7,789,561 — 4,531,012 602,550 2,067,836,471 209,926,511 38,372,031 7,712,880 — 4,292,891 328,060 | | 2013 | 1,706,252,607 | 229,131,950 | 34,084,179 | 6,735,054 | I | 3,881,457 | 148,902 | 1,980,234,149 |
| 1,945,006,485 216,641,361 35,424,340 7,789,561 - 4,531,012 602,550 2,067,836,471 209,926,511 38,372,031 7,712,880 - 4,292,891 328,060 | | 2014 | 1,831,032,076 | 223,111,212 | 42,612,105 | 8,652,971 | I | 3,884,342 | 420,647 | 2,109,713,353 |
| 2,067,836,471 209,926,511 38,372,031 7,712,880 – 4,292,891 328,060 | | 2015 | 1,945,006,485 | 216,641,361 | 35,424,340 | 7,789,561 | I | 4,531,012 | 602,550 | 2,209,995,309 |
| | | 2016 | 2,067,836,471 | 209,926,511 | 38,372,031 | 7,712,880 | I | 4,292,891 | 328,060 | 2,328,468,844 |

Schedule of Expenses by Type

(based on Comprehensive Annual Financial Reports for relevant years)

| Year | Ketirement Benefits ⁽¹⁾ | Cost-or-Living Adjustments ⁽²⁾ | Death Benefits ⁽³⁾ | Withdrawal (4) | Other Refunds ⁽⁵⁾ | Admin and Misc ⁽⁶⁾ | Other Retirement Systems (7) | Total |
|-------------------|---------------------------------------|--|----------------------------------|----------------|---------------------------------|----------------------------------|---------------------------------|-------------|
| 2007 | 92,445,253 | 18,175,665 | 291,981 | 176,844 | ı | 531,130 | ı | 111,620,873 |
| 2008 | 99,990,185 | 19,922,390 | 1,525,502 | 196,139 | I | 531,982 | I | 122,166,198 |
| 2009 | 107,778,693 | 21,999,191 | 2,196,860 | 158,163 | ı | 585,686 | ı | 132,718,593 |
| 2010 | 114,055,702 | 23,448,600 | 1,018,200 | 194,956 | I | 527,871 | ı | 139,245,329 |
| 2011 | 122,990,229 | 23,741,072 | 2,201,604 | 153,756 | I | 300,802 | ı | 149,387,463 |
| 2012 | 138,282,207 | 24,047,555 | 735,607 | 143,316 | ı | 298,961 | 4 | 163,507,650 |
| 2013 | 156,528,482 | 23,695,185 | 2,195,047 | 38,884 | ı | 294,886 | ı | 182,752,484 |
| 2014 | 173,264,302 | 23,198,162 | 1,148,273 | 348,201 | I | 280,026 | I | 198,238,964 |
| 2015 | 182,540,341 | 22,700,036 | 1,169,297 | 83,950 | ı | 351,724 | ı | 206,845,348 |
| 2016 | 189,392,434 | 22,058,752 | 1,855,541 | 129,423 | I | 334,630 | I | 213,770,780 |
| 2007 | 29,173,626 | 3,621,923 | 145,643 | 1 | ı | 159,340 | ı | 33,100,532 |
| 2008 | 30,653,458 | 3,992,612 | 956,890 | \$9,642 | I | 212,923 | ı | 35,825,525 |
| 2009 | 32,742,280 | 4,382,884 | 539,843 | ı | I | 202,022 | ı | 37,867,029 |
| 2010 | 35,634,276 | 4,565,378 | 1,032,857 | 174,362 | I | 192,762 | I | 41,599,635 |
| 2011 | 38,075,562 | 4,470,753 | 651,718 | 91,258 | I | 157,525 | ı | 43,446,816 |
| 2012 | 41,022,857 | 4,441,976 | 490,713 | 45,641 | I | 159,888 | ı | 46,161,075 |
| 2013 | 42,972,345 | 4,047,296 | 665,227 | I | I | 163,233 | I | 47,848,101 |
| 2014 | 45,079,634 | 3,930,547 | 540,681 | 53,218 | I | 162,372 | ı | 49,766,452 |
| 2015 | 48,077,475 | 3,827,515 | 525,026 | ı | I | 168,762 | ı | 52,598,778 |
| 2016 | 50,226,767 | 3,615,980 | 843,774 | I | I | 168,008 | I | 54,854,529 |
| CONSOLIDATED 2007 | 4,511,339 | 7,362,588 | I | ı | ı | 27,884 | ı | 11,901,811 |
| 2008 | 3,883,291 | 6,515,308 | ı | ı | ı | 20,152 | ı | 10,418,751 |
| 2009 | 3,202,401 | 5,641,890 | I | ı | I | 13,234 | ı | 8,857,525 |
| 2010 | 2,664,607 | 4,830,461 | I | I | I | 8,200 | I | 7,503,268 |
| 2011 | 2,275,329 | 4,033,256 | I | I | I | 19,182 | I | 6,327,767 |
| 2012 | 1,812,059 | 3,234,585 | I | I | I | 14,153 | ı | 5,060,797 |
| 2013 | 1,404,672 | 2,477,987 | I | I | I | 11,739 | I | 3,894,398 |
| 2014 | 1,052,944 | 1,889,091 | I | I | I | 9,566 | I | 2,951,601 |
| 2015 | 877,442 | 1,568,185 | ı | ı | I | 8,003 | ı | 2,453,630 |
| 2016 | 685,235 | 1.196.017 | I | 1 | I | 6.643 | ı | 1,887,895 |

Schedule of Expenses by Type

(based on Comprehensive Annual Financial Reports for relevant years)

| Total | 2,365,680 | 2,259,443 | 2,189,963 | 2,068,714 | 2,117,392 | 1,957,726 | 1,770,929 | 1,589,261 | 1,383,348 | 1,245,619 | 460,569 | 436,826 | 402,191 | 202,365 | 221,340 | 190,274 | 190,312 | 227,053 | 253,461 | 302,890 | 20,670,715 | 12,918,042 | 10,330,455 | 9,955,917 | 18,312,488 | 17,890,338 | 12,238,930 | 17,638,584 | 20,710,344 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|------------|------------|-----------|------------|------------|------------|------------|------------|
| Transfer to Other Retirement Systems (7) | ı | ı | ı | ı | ı | I | ı | I | I | I | ı | ı | ı | I | ı | ı | I | I | ı | I | 1 | I | I | ı | I | ı | I | I | I |
| Admin and Misc ⁽⁶⁾ | 9,297 | 9,403 | 8,341 | 5,591 | 7,377 | 6,922 | 6,965 | 5,853 | 5,843 | 5,312 | I | I | ı | I | I | ı | I | ı | ı | I | 1 | I | ı | ı | I | I | I | I | ı |
| Other Refunds (5) | ı | I | ı | ı | ı | ı | ı | I | I | I | 33,769 | 21,794 | 14,961 | 3,071 | 32,673 | 793 | 772 | 15,013 | 20,171 | 6,043 | 1 | ı | ı | ı | ı | ı | ı | I | ı |
| Withdrawal (4) | ı | ı | ı | ı | ı | ı | ı | I | ı | I | I | ı | ı | I | ı | ı | ı | ı | ı | I | 1 | ı | ı | ı | ı | ı | ı | I | I |
| Death Benefits ⁽³⁾ | ı | I | I | I | I | I | I | I | I | I | I | I | ı | I | I | ı | I | I | ı | I | 1 | I | I | I | I | I | I | I | ı |
| Cost-of-Living Adjustments (2) | 1,138,138 | 1,104,335 | 1,088,687 | 1,046,590 | 1,064,245 | 994,367 | 889,542 | 793,174 | 698,360 | 634,217 | 28,234 | 24,690 | 21,862 | 22,018 | 21,677 | 22,155 | 22,214 | 22,214 | 22,214 | 22,214 | 1 | ı | ı | ı | ı | ı | ı | I | ı |
| Retirement Benefits (1) | 1,218,245 | 1,145,705 | 1,092,935 | 1,016,533 | 1,045,770 | 956,437 | 874,422 | 790,234 | 679,145 | 060'909 | 398,566 | 390,342 | 365,368 | 177,276 | 166,990 | 167,326 | 167,326 | 189,826 | 211,076 | 274,633 | 20,670,715 | 12,918,042 | 10,330,455 | 9,955,917 | 18,312,488 | 17,890,338 | 12,238,930 | 17,638,584 | 20,710,344 |
| Fiscal Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | TAL 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| | PRISON | OFFICERS' | PENSION | FUND | | | | | | | CENTRAL | PENSION | FUND | | | | | | | | SUPPLEMENTAL | ANNUITY | COLLECTIVE | TRUST | | | | | |

Schedule of Expenses by Type

| | Tear | Benefits ⁽¹⁾ | Adjustments (2) | Benefits (3) | Withdrawal (4) | Refunds (5) | and Misc (6) | Systems (7) | Total |
|----------------|------|-------------------------|-----------------|--------------|----------------|-------------|--------------|-------------|-------------|
| DEFERRED | 2007 | 61,812,001 | I | I | I | I | 511,416 | I | 62,323,417 |
| COMPENSATION | 2008 | 65,013,841 | I | I | I | ı | 455,696 | ı | 65,469,537 |
| PLAN | 2009 | 75,870,854 | ı | I | I | I | 511,311 | ı | 76,382,165 |
| | 2010 | 70,838,765 | I | I | I | I | 456,124 | ı | 71,294,889 |
| | 2011 | 110,598,362 | ı | ı | I | ı | 460,327 | ı | 111,058,689 |
| | 2012 | 118,211,742 | ı | ı | I | ı | 465,127 | ı | 118,676,869 |
| | 2013 | 124,062,368 | I | I | I | I | 454,350 | ı | 124,516,718 |
| | 2014 | 149,393,111 | ı | ı | I | ı | 482,277 | ı | 149,875,388 |
| | 2015 | 175,989,352 | ı | ı | I | ı | 464,130 | ı | 176,453,482 |
| | 2016 | 163,247,570 | I | I | I | I | 190,880 | I | 163,438,450 |
| DEEINED | 2006 | | | I | | I | l | I | |
| CONTRIBILITION | 2000 | I | I | I | I | I | I | I | I |
| CONTRIBUTION | 2002 | I | ı | I | ı | I | I | I | I |
| RETIREMENT | 2009 | ı | I | ı | I | ı | ı | ı | I |
| PROGRAM | 2010 | ı | ı | I | I | I | I | ı | I |
| | 2011 | I | I | ı | I | I | ı | I | I |
| | 2012 | \$85,280 | ı | ı | ı | ı | ı | I | \$85,280 |
| | 2013 | 1,207,760 | I | I | I | I | I | ı | 1,207,760 |
| | 2014 | 359,385 | I | I | ı | I | I | I | 359,385 |
| | 2015 | 844,050 | I | I | I | I | I | I | 844,050 |
| | 2016 | 889,089 | I | I | I | I | I | I | 889,089 |
| ALTERNATE | 2007 | 2,641,791 | 1 | 1 | ı | 1 | ı | ı | 2,641,791 |
| BENEFIT | 2008 | 2,554,019 | ı | ı | I | ı | ı | ı | 2,554,019 |
| LONG-TERM | 2009 | 2,685,591 | ı | ı | I | ı | ı | ı | 2,685,591 |
| DISABILITY | 2010 | 2,766,031 | ı | ı | I | ı | ı | ı | 2,766,031 |
| FUND | 2011 | 2,885,114 | I | I | I | I | I | ı | 2,885,114 |
| | 2012 | 3,323,165 | I | I | I | I | I | I | 3,323,165 |
| | 2013 | 2,949,360 | I | I | I | I | I | I | 2,949,360 |
| | 2014 | 1,400,000 | I | I | I | ı | I | I | 1,400,000 |
| | 2015 | 1,550,000 | I | I | I | I | I | I | 1,550,000 |
| | 2016 | 1,500,000 | ı | I | I | I | I | ı | 1,500,000 |

Schedule of Expenses by Type

| STATE HEALTH 2007 | Ketirement Benefits ⁽¹⁾ | Cost-of-Living Adjustments ⁽²⁾ | Death Benefits ⁽³⁾ | Withdrawal (4) | Other Refunds ⁽⁵⁾ | Admin and Misc ⁽⁶⁾ | Other Retirement Systems (7) | Total |
|-------------------|---------------------------------------|--|----------------------------------|----------------|---------------------------------|----------------------------------|---------------------------------|----------------|
| 5 | 3,601,096,822 | I | ı | I | ı | 7,353,509 | ı | 3,608,450,331 |
| 2008 | 3,563,196,052 | I | I | I | I | 8,867,578 | I | 3,572,063,630 |
| 2009 | 3,895,577,809 | ı | I | ı | ı | 10,036,535 | ı | 3,905,614,344 |
| 2010 | 4,382,156,209 | ı | I | ı | ı | 13,697,892 | ı | 4,395,854,101 |
| 2011 | 4,750,880,105 | I | I | I | I | 9,030,035 | I | 4,759,910,140 |
| 2012 | 5,266,242,035 | ı | ı | ı | ı | 8,268,671 | ı | 5,274,510,706 |
| 2013 | 5,395,752,981 | ı | ı | ı | ı | 9,361,600 | ı | 5,405,114,581 |
| 2014 | 5,918,951,153 | I | I | ı | ı | 9,359,616 | ı | 5,928,310,769 |
| 2015 | 6,290,847,391 | I | I | ı | ı | 9,142,428 | ı | 6,299,989,819 |
| 2016 | 6,892,406,433 | ı | I | ı | I | 10,501,476 | I | 6,902,907,909 |
| | | | | | | | | |
| 2007 | 8,628,374,625 | 699,428,733 | 200,860,465 | 106,912,453 | 33,769 | 46,402,190 | 13,200,841 | 9,695,213,076 |
| 2008 | 8,988,039,725 | 776,545,147 | 229,374,574 | 122,159,481 | 21,794 | 51,836,123 | 19,647,926 | 10,187,624,770 |
| 2009 | 9,735,381,314 | 871,682,338 | 198,534,394 | 120,813,982 | 14,961 | 50,826,187 | 22,929,117 | 11,000,182,293 |
| 2010 | 10,561,157,111 | 929,426,004 | 221,077,318 | 127,718,537 | 3,071 | 50,505,041 | 18,162,889 | 11,908,049,971 |
| 2011 | 11,672,538,916 | 930,431,700 | 217,778,205 | 113,906,285 | 32,673 | 81,887,395 | 17,007,406 | 13,033,582,580 |
| 2012 | 12,781,205,467 | 930,323,417 | 211,990,527 | 142,494,636 | 793 | 46,498,279 | 14,775,506 | 14,127,288,625 |
| 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 |
| 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 |
| 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 | 16,318,661,651 | 797,892,857 | 153,844,418 | 176,396,540 | 6,043 | 52,553,872 | 26,030,282 | 17,525,385,663 |

⁽¹⁾ Indicates benefits from retirement (regular, early, or disability) other than death.

Indicates supplement benefit as cost of living adjustment (pension adjustment) benefit.

Previously, indicated both Contributory Group Insurance (CGI) and Noncontributory (NCGI) benefits; however, now, indicates only NCGI. Starting FY 2015, based on GASB No. 67, we are taking out CGI items from our financial statements.

Indicates members' withdrawal of their contributions; that is, a type of refund.

⁽⁵⁾ Indicates refund to State with excess of revenues and expenses.

⁽⁶⁾ Indicates administration expenses of pension plans/systems plus petty misc adjustment items.

Indicates transfers of member/employer contributions to other pension plans/systems.

GASB No. 43 became implemented in fiscal year 2007. Fiscal years before 2007 other than the restated 2006 were presented otherwise.

Schedule of Changes in Net Position

| | | | | | Net Position | lon |
|-------------|----------------|------------------|------------------|---------------------------------|----------------------|----------------|
| | Fiscal Year | Additions (3) | Deductions (2) | Total Change in Net Position | Beginning of Year | End of Year |
| PUBLIC | 2007 | 5,140,088,340 | 2,073,886,832 | 3,066,201,508 | 25,308,844,756 | 28,375,046,264 |
| EMPLOYEES' | 2008 | 1,126,550,853 | 2,264,641,314 | (1,138,090,461) | 28,375,046,264 | 27,236,955,803 |
| RETIREMENT | 2009 | (2,270,766,187) | 2,423,377,925 | (4,694,144,112) | 27,236,955,803 | 22,542,811,691 |
| SYSTEM | 2010 | 4,359,791,871 | 2,569,891,156 | 1,789,900,715 | 22,542,811,691 | 24,332,712,406 |
| | 2011 | 5,467,869,901 | 2,806,148,979 | 2,661,720,922 | 24,332,712,406 | 26,994,433,328 |
| | 2012 | 2,420,004,560 | 3,030,999,890 | (610,995,330) | 26,994,433,328 | 26,383,437,998 |
| | 2013 | 4,675,702,815(4) | 3,194,746,835(4) | 1,480,955,980 | 24,981,199,832(4) | 26,462,155,812 |
| | 2014 | 5,874,621,920 | 3,337,195,959 | 2,537,425,961 | 26,462,155,812 | 28,999,581,773 |
| | 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 |
| TEACHERS' | 2007 | 6,092,681,944 | 2,502,406,040 | 3,590,275,904 | 30,936,387,231 | 34,526,663,135 |
| PENSION | 2008 | 521,007,639 | 2,732,186,697 | (2,211,179,058) | 34,526,663,135 | 32,315,484,077 |
| AND ANNUITY | 2009 | (4,353,153,615) | 2,923,509,634 | (7,276,663,249) | 32,315,484,077 | 25,038,820,828 |
| FUND | 2010 | 3,936,137,470 | 3,082,462,465 | 853,675,005 | 25,038,820,828 | 25,892,495,833 |
| | 2011 | 4,994,093,881 | 3,400,392,453 | 1,593,701,428 | 25,892,495,833 | 27,486,197,261 |
| | 2012 | 1,649,691,331 | 3,591,052,342 | (1,941,361,011) | 27,486,197,261 | 25,544,836,250 |
| | 2013 | 4,245,619,356(4) | 3,733,860,915(4) | 511,758,441 | 25,376,367,599(4) | 25,888,126,040 |
| | 2014 | 5,284,806,491 | 3,890,680,070 | 1,394,126,421 | 25,888,126,040 | 27,282,252,461 |
| | 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 |
| POLICE | 2007 | 3,910,181,533 | 1,265,384,485 | 2,644,797,048 | 18,925,186,657 | 21,569,983,705 |
| AND | 2008 | 857,918,938 | 1,366,684,788 | (508,765,850) | 21,569,983,705 | 21,061,217,855 |
| FIREMEN'S | 2009 | (1,496,041,362) | 1,476,246,878 | (2,972,288,240) | 21,061,217,855 | 18,088,929,615 |
| RETIREMENT | 2010 | 3,340,414,302 | 1,585,206,101 | 1,755,208,201 | 18,088,929,615 | 19,844,137,816 |
| | 2011 | 3,181,924,007 | 1,733,373,939 | 1,448,550,068 | 19,844,137,816 | 21,292,687,884 |
| | 2012 | 1,588,269,194 | 1,873,872,513 | (285,603,319) | 21,292,687,884 | 21,007,084,565 |
| | 2013 | 3,478,087,129 | 1,980,234,149 | 1,497,852,980 | 21,007,084,565 | 22,504,937,545 |
| | 2014 | 4,625,261,593 | 2,109,713,353 | 2,515,548,240 | 22,504,937,545 | 25,020,485,785 |
| | 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 |
| | | | | | | |

Schedule of Changes in Net Position

(based on Comprehensive Annual Financial Reports for relevant years)

| | Fiscal Year | Additions (1) | Deductions (2) | Total Change in Net Position | Beginning of Year | End of Year |
|--------------|----------------|---------------|----------------|---------------------------------|----------------------|----------------|
| | 2007 | 338,677,758 | 111,620,873 | 227,056,885 | 1,842,204,029 | 2,069,260,914 |
| POLICE | 2008 | 20,703,275 | 122,166,199 | (101,462,924) | 2,069,260,914 | 1,967,797,990 |
| RETIREMENT | 2009 | (274,178,989) | 132,718,593 | (406,897,582) | 1,967,797,990 | 1,560,900,408 |
| SYSTEM | 2010 | 234,539,845 | 139,245,329 | 95,294,516 | 1,560,900,408 | 1,656,194,924 |
| | 2011 | 300,820,734 | 149,387,463 | 151,433,271 | 1,656,194,924 | 1,807,628,195 |
| | 2012 | 85,727,280 | 163,507,650 | (77,780,370) | 1,807,628,195 | 1,729,847,825 |
| | 2013 | 241,530,381 | 182,752,484 | 58,777,897 | 1,729,847,825 | 1,788,625,722 |
| | 2014 | 347,569,636 | 198,238,964 | 149,330,672 | 1,788,625,722 | 1,937,956,394 |
| | 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 |
| JUDICIAL | 2007 | 67,158,822 | 33,100,532 | 34,058,290 | 338,292,258 | 372,350,548 |
| RETIREMENT | 2008 | 13,470,767 | 35,825,525 | (22,354,758) | 372,350,548 | 349,995,790 |
| SYSTEM | 2009 | (51,500,425) | 37,867,029 | (89,367,454) | 349,995,790 | 260,628,336 |
| | 2010 | 42,495,291 | 41,599,635 | 895,656 | 260,628,336 | 261,523,992 |
| | 2011 | 46,627,192 | 43,446,816 | 3,180,376 | 261,523,992 | 264,704,368 |
| | 2012 | 13,492,372 | 46,161,075 | (32,668,703) | 264,704,368 | 232,035,665 |
| | 2013 | 41,643,253 | 47,848,101 | (6,204,848) | 232,035,665 | 225,830,817 |
| | 2014 | 55,419,470 | 49,766,452 | 5,653,018 | 225,830,817 | 231,483,835 |
| | 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 |
| CONSOLIDATED | 2007 | 9,784,300 | 11,901,811 | (2,117,511) | 18,214,106 | 16,096,595 |
| | 2008 | 7,504,538 | 10,418,750 | (2,914,212) | 16,096,595 | 13,182,383 |
| | 2009 | 7,060,225 | 8,857,525 | (1,797,300) | 13,182,383 | 11,385,083 |
| FIREMEN'S | 2010 | 4,878,920 | 7,503,268 | (2,624,348) | 11,385,083 | 8,760,735 |
| RETIREMENT | 2011 | 4,058,712 | 6,327,768 | (2,269,056) | 8,760,735 | 6,491,679 |
| SYSTEM | 2012 | 3,427,978 | 5,060,797 | (1,632,819) | 6,491,679 | 4,858,860 |
| | 2013 | 3,389,354 | 3,894,398 | (505,044) | 4,858,860 | 4,353,816 |
| | 2014 | 1,901,416 | 2,951,601 | (1,050,185) | 4,353,816 | 3,303,631 |
| | 2015 | 1,577,949 | 2,453,630 | (875,681) | 3,303,631 | 2,427,950 |
| | 2016 | 1 35/1 873 | 1 887 895 | (E22 023) | 0 707 050 | 1 00 / 0 0 |

Schedule of Changes in Net Position

(based on Comprehensive Annual Financial Reports for relevant years)

| Fige 24 Fige 24 Page | | | | | | Net Position | sition |
|--|------------------|----------------|---------------|----------------|---------------------------------|----------------------|----------------|
| N. 2007 1,860,323 2,365,860 (515,367) 14,014,718 1460,523 2,296,443 (616,367) 14,014,718 14,605,523 2,296,443 (616,367) 14,014,718 14,014,718 14,014,712 14,014,312 14,016,674 2,2166,714 (616,652) 14,136,920 11 | | Fiscal Year | Additions (1) | Deductions (2) | Total Change in Net Position | Beginning of Year | End of Year |
| FIRST 2008 1,566,623 2,299,432 (608,20) 13,409,361 (1,001,712) (1,001, | PRISON | 2007 | 1,850,323 | 2,365,680 | (515,357) | 14,014,718 | 13,499,361 |
| ON 2009 1,286,442 2,189,943 (905,522) 1,286,441 2010 1,1,001,622 2,068,714 (905,525) 1,108,968 2011 1,006,674 2,106,776 (1,020,718) 1,108,968 2012 1,006,432 1,570,293 (872,317) 9,997,660 2013 808,612 1,770,293 (873,41) 9,997,660 2014 800,543 1,583,348 (878,733) 7,483,201 2015 704,715 1,383,348 (878,733) 7,483,201 AN 2008 449,588 466,589 466,589 6,704,588 ON 2009 402,191 406,589 466,589 6,704,588 ON 2010 202,366 426,589 6,704,588 6,704,588 ON 2013 2013 201,349 1,905,783 6,704,588 ON 2014 227,633 221,340 | OFFICERS' | 2008 | 1,650,523 | 2,259,443 | (608,920) | 13,499,361 | 12,890,441 |
| 2010 1,100,182 2,088,744 (666,572) 11,986,820 11,086,830 | PENSION | 2009 | 1,286,442 | 2,189,963 | (903,521) | 12,890,441 | 11,986,920 |
| 2011 1,096,674 2,117,332 (1,020,718) 11,083.88 2012 1,004,312 1,795,726 (953,44) 9,997,660 2013 888,613 1,795,726 (953,44) 9,997,660 2014 888,613 1,795,317 9,947,660 2015 7,842,61 (778,7317) 9,044,236 2016 7,622,84 1,288,348 (678,633) 7,383,201 ANL 2008 446,826 466,826 466,826 467,458 ON 2008 446,826 462,191 402,191 402,191 402,191 402,191 ANL 2009 462,191 402,191 < | FUND | 2010 | 1,100,162 | 2,068,714 | (968,552) | 11,986,920 | 11,018,368 |
| 2012 1,004,312 1,987,756 (953,414) 9,997,650 2013 898,612 1,770,929 (873,17) 9,044,236 2014 800,621 1,770,929 (873,17) 9,044,236 2015 704,715 1,583,348 (678,633) 7,383,201 AN 2016 662,284 1,245,619 (678,633) 7,383,201 ON 2008 440,582 460,589 460,589 6,704,588 ON 2009 402,191 402,181 6,704,588 ON 2012 202,346 202,349 9,907,74 2013 190,274 40,218 190,274 - 2014 221,340 221,340 - - 2013 190,274 190,274 - - 2014 221,340 221,340 1,567,836 161,572,836 2015 190,274 190,274 - - - 2016 223,461 223,461 13,224,989 181,572,836 | | 2011 | 1,096,674 | 2,117,392 | (1,020,718) | 11,018,368 | 9,997,650 |
| 2013 898 612 1,70 929 (872,317) 9,044,236 2014 800 543 1,589,261 (783,137) 9,044,236 2015 704 115 1,383,261 (583,335) 6,704,568 AAL 2016 460,569 460,569 6,704,668 7,832,01 ON 2008 402,191 402,191 - - - 2010 202,365 460,569 - - - - 2011 2013 190,312 201,36 - - - 2012 190,312 221,340 221,340 - - - 2013 190,312 190,312 - - - - 2014 221,340 221,340 - - - - 2014 221,441 190,312 - - - - 2013 2014 221,441 190,312 - - - 2014 2014 40,321,81 <td< td=""><td></td><td>2012</td><td>1,004,312</td><td>1,957,726</td><td>(953,414)</td><td>9,997,650</td><td>9,044,236</td></td<> | | 2012 | 1,004,312 | 1,957,726 | (953,414) | 9,997,650 | 9,044,236 |
| 2014 800.543 1,589.261 (788,718) 8171,919 2015 622,284 1,245,619 (678,633) 7,383.201 2016 622,284 1,245,619 (693,335) 6,704,568 2007 466,589 4466 | | 2013 | 898,612 | 1,770,929 | (872,317) | 9,044,236 | 8,171,919 |
| 2015 704,715 1,383,348 (678,633) 7,382,201 2016 652,264 1,245,619 (693,335) 7,382,201 2018 436,826 446,569 460,569 6,704,568 2008 440,191 40,2191 40,2191 | | 2014 | 800,543 | 1,589,261 | (788,718) | 8,171,919 | 7,383,201 |
| 2016 652,284 1,245,619 (593,335) 6,704,568 2017 2007 460,569 460,569 460,669 402,131 1 1 1 1 1 1 1 1 1 | | 2015 | 704,715 | 1,383,348 | (678,633) | 7,383,201 | 6,704,568 |
| NAL 2007 460,569 460,569 1 | | 2016 | 652,284 | 1,245,619 | (593,335) | 6,704,568 | 6,111,233 |
| ON 2008 436,826 436,826 - - - 2009 402,191 402,191 - - - 2010 202,365 202,365 - - 2011 221,340 221,340 - - 2012 190,312 190,312 - - 2013 190,312 190,312 - - 2014 227,053 227,053 227,053 - - 2015 223,461 223,461 253,461 - - 2015 2016 25,3461 253,461 - - - 2016 2016 20,670,715 19,657,824 161,572,826 - FMENTAL 2008 (9,417,124) 10,30,455 (25,334,68) 158,995,484 2015 2016 40,605,592 18,312,488 22,293,104 136,186,355 2011 40,605,592 18,312,488 22,293,104 136,186,355 2012 22,459,449 <td>CENTRAL</td> <td>2007</td> <td>460,569</td> <td>460,569</td> <td>ı</td> <td>ı</td> <td>ı</td> | CENTRAL | 2007 | 460,569 | 460,569 | ı | ı | ı |
| 2009 402,191 402,191 402,191 — — 2010 220,365 202,365 — — — 2011 221,340 190,274 — — — 2012 190,274 190,274 — — — 2013 190,312 190,274 — — — 2014 227,053 227,063 — — — 2015 227,063 227,063 227,063 — — 2016 253,461 253,461 — — — 2016 253,461 253,461 — — — 2016 253,461 253,461 — — — 2016 40,228,539 20,670,715 19,657,824 161,572,826 ITY 2008 (3,417,124) 10,330,455 (35,334,968) 118,835,484 2011 40,605,592 18,312,488 22,293,104 136,185,355 2012 2013 3 | PENSION | 2008 | 436,826 | 436,826 | ı | ı | ı |
| 2010 202,365 202,365 — — 2011 221,340 221,340 — — 2012 190,274 190,274 — — 2013 190,312 190,312 — — 2014 227,053 227,053 — — 2015 25,461 253,461 253,461 — — 2016 25,890 302,890 302,890 — — — 2007 40,328,539 20,670,715 19,657,824 161,572,826 181,230,650 181,230,63 181,230,63 181,230,63 181,230,63 181,230,63 181,230,63 | FUND | 2009 | 402,191 | 402,191 | I | I | ı |
| 2011 221,340 221,340 — | | 2010 | 202,365 | 202,365 | I | I | I |
| 2012 190,274 190,274 190,274 — — 2013 190,312 190,312 — — — 2014 227,053 227,053 — — — 2015 253,461 253,461 — — — 2016 302,890 302,890 — — — 2007 40,328,539 20,670,715 19,657,824 161,572,826 2008 (3,417,124) 12,918,042 (22,335,166) 181,230,650 2010 23,180,756 9,955,917 13,224,839 152,960,516 2011 40,605,922 18,312,488 22,293,104 158,478,499 2013 37,624,576 17,890,338 (5,602,091) 158,478,499 2014 48,130,013 17,638,584 30,491,429 178,262,014 2015 22,459,949 20,710,344 1,749,605 208,753,443 2016 61,198,814) (9,198,814) 210,503,048 210,503,048 | | 2011 | 221,340 | 221,340 | I | I | ı |
| 2013 190,312 190,312 — | | 2012 | 190,274 | 190,274 | I | I | ı |
| 2014 227,053 227,053 — | | 2013 | 190,312 | 190,312 | I | I | I |
| 2015 253,461 253,461 253,461 - | | 2014 | 227,053 | 227,053 | I | I | I |
| 2016 302,890 302,890 — — — 2007 40,328,539 20,670,715 19,657,824 161,572,826 2008 (9,417,124) 12,918,042 (22,335,166) 181,230,650 2009 (25,604,513) 10,330,455 (35,934,968) 158,895,484 2010 23,180,756 9,955,917 13,224,839 122,960,516 2011 40,605,592 18,312,488 22,293,104 136,185,355 2012 12,288,247 17,890,338 (5,602,091) 158,478,459 2013 37,624,576 12,238,930 25,385,646 152,876,368 2014 48,130,013 17,638,584 30,491,429 178,262,014 2015 22,459,949 20,710,344 1,749,605 208,753,443 2016 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 2015 | 253,461 | 253,461 | I | I | ı |
| 2007 40,328,539 20,670,715 19,657,824 161,572,826 2008 (9,417,124) 12,918,042 (22,335,166) 181,230,650 2009 (25,604,513) 10,330,455 (35,934,968) 158,895,484 2010 23,180,756 9,955,917 13,224,839 122,960,516 2011 40,605,592 18,312,488 22,293,104 136,185,355 2012 12,288,247 17,890,338 (5,602,091) 158,478,459 2013 37,624,576 12,238,930 25,385,646 152,876,368 2014 48,130,013 17,638,584 30,491,429 1778,262,014 2015 22,459,949 20,710,344 1,749,605 208,753,443 2016 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 2016 | 302,890 | 302,890 | I | I | I |
| 2008 (9,417,124) 12,918,042 (22,335,166) 181,230,650 2009 (25,604,513) 10,330,455 (35,934,968) 158,895,484 2010 23,180,756 9,955,917 13,224,839 122,960,516 2011 40,605,592 18,312,488 22,293,104 136,185,355 2012 12,288,247 17,890,338 (5,602,091) 158,478,459 2013 37,624,576 12,238,930 25,385,646 152,876,368 2014 48,130,013 17,638,584 30,491,429 1778,262,014 2015 22,459,949 20,710,344 1,749,605 208,753,443 2016 11,144,135 20,342,949 (9,198,814) 210,503,048 | SUPPLEMENTAL | 2007 | 40,328,539 | 20,670,715 | 19,657,824 | 161,572,826 | 181,230,650 |
| 2009 (25,604,513) 10,330,455 (35,934,968) 158,895,484 2010 23,480,756 9,955,917 13,224,839 122,960,516 2011 40,605,592 18,312,488 22,293,104 136,185,355 2012 12,288,247 17,890,338 (5,602,091) 158,478,459 2013 37,624,576 12,238,930 25,385,646 152,876,368 2014 48,130,013 17,638,584 178,262,014 22,299,403 2015 22,459,949 20,710,344 1,749,605 208,753,443 2016 11,144,135 20,342,949 (9,198,814) 210,503,048 | ANNUITY | 2008 | (9,417,124) | 12,918,042 | (22,335,166) | 181,230,650 | 158,895,484 |
| 23,180,756 9,955,917 13,224,839 122,960,516 40,605,592 18,312,488 22,293,104 136,185,355 12,288,247 17,890,338 (5,602,091) 158,478,459 37,624,576 12,238,930 25,385,646 152,876,368 48,130,013 17,638,584 30,491,429 178,262,014 22,459,949 20,710,344 1,749,605 208,753,443 11,144,135 20,342,949 (9,188,814) 210,503,048 | COLLECTIVE TRUST | 2009 | (25,604,513) | 10,330,455 | (35,934,968) | 158,895,484 | 122,960,516 |
| 40,605,592 18,312,488 22,293,104 136,185,355 12,288,247 17,890,338 (5,602,091) 158,478,459 37,624,576 12,238,930 25,385,646 152,876,368 48,130,013 17,638,584 30,491,429 178,262,014 22,459,949 20,710,344 1,749,605 208,753,443 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 2010 | 23,180,756 | 9,955,917 | 13,224,839 | 122,960,516 | 136,185,355 |
| 12,288,247 17,890,338 (5,602,091) 158,478,459 37,624,576 12,238,930 25,385,646 152,876,368 48,130,013 17,638,584 30,491,429 178,262,014 22,459,949 20,710,344 1,749,605 208,753,443 11,144,135 20,342,349 (9,198,814) 210,503,048 | | 2011 | 40,605,592 | 18,312,488 | 22,293,104 | 136,185,355 | 158,478,459 |
| 37,624,576 12,238,930 25,385,646 152,876,368 48,130,013 17,638,584 30,491,429 178,262,014 22,459,949 20,710,344 1,749,605 208,753,443 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 2012 | 12,288,247 | 17,890,338 | (5,602,091) | 158,478,459 | 152,876,368 |
| 48,130,013 17,638,584 30,491,429 178,262,014 22,459,949 20,710,344 1,749,605 208,753,443 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 2013 | 37,624,576 | 12,238,930 | 25,385,646 | 152,876,368 | 178,262,014 |
| 22,459,949 20,710,344 1,749,605 208,753,443 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 2014 | 48,130,013 | 17,638,584 | 30,491,429 | 178,262,014 | 208,753,443 |
| 11,144,135 20,342,949 (9,198,814) 210,503,048 | | 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 |

Schedule of Changes in Net Position

(based on Comprehensive Annual Financial Reports for relevant years)

| Price of Additions Price o | | | | | | Net Po | Net Position |
|--|--------------|----------------|---------------|----------------|---------------------------------|----------------------|----------------|
| PRED 2007 422,130,728 62,323,417 359,807,311 | | Fiscal Year | Additions (1) | Deductions (2) | Total Change in Net Position | Beginning of Year | End of Year |
| ENSATION 2008 (161,992,202 165,469,537 (63,4275) (15,47775) (15,47 | DEFERRED | 2007 | 422,130,728 | 62,323,417 | 359,807,311 | 1,708,340,953 | 2,068,148,264 |
| 2009 (161,866,759) 76,332,165 (238,246,924) (231,246 | COMPENSATION | 2008 | 14,992,262 | 65,469,537 | (50,477,275) | 2,068,148,264 | 2,017,670,989 |
| 2010 340,455,079 71,294,889 269,160,190 2011 198,078,409 118,676,889 486,060,088 2012 198,078,409 118,676,889 79,401,540 2013 479,365,849 124,516,718 354,849,131 2014 2015 220,141,828 176,453,482 143,688,346 2015 220,1026,688 163,438,450 37,588,328 EMENT 2008 - | PLAN | 2009 | (161,866,759) | 76,382,165 | (238,248,924) | 2,017,670,989 | 1,779,422,065 |
| 101 569,118,777 111,056,689 456,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,068 196,069 | | 2010 | 340,455,079 | 71,294,889 | 269,160,190 | 1,779,422,065 | 2,048,582,255 |
| 2012 198,078,409 118,676,869 79,401,540 120,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 120,134,134 130,134,134,134 130,134,134 130,134,134,134 130,134,134 130,134,134,134 130,134,134,134 130,134,134,134 130,134,134,134,134 | | 2011 | 569,118,777 | 111,058,689 | 458,060,088 | 2,048,582,255 | 2,506,642,343 |
| ED 124,516,718 354,849,131 354,849,131 354,849,131 351,449,131 351,449,131 320,141,828 153,434,65 37,588,238 320,141,828 153,434,65 37,588,238 320,141,828 153,438,450 37,588,238 37,588,238 37,588,238 37,588,238 37,588,238 37,588,238 37,588,238 37,588,238 37,588,238 37,588,334 37,588,344 37,588,334 37,588,334 37,588,334 37,588,334 37,588,344 37,588,334 37,588,344 3 | | 2012 | 198,078,409 | 118,676,869 | 79,401,540 | 2,506,642,343 | 2,586,043,883 |
| 2014 605,199,581 149,875,388 455,324,193 12015 2015 2016 201,026,688 176,453,42 145,686,346 145,686,346 145,686,346 145,686,348 150,438,450 37,588,238 153,438,450 37,588,238 153,438,450 37,588,238 153,438,450 37,588,238 153,438,450 37,588,238 153,438,450 2010 2010 2,780,01 2,780,01 2,780,01 2,780,01 2,780,01 2,780,01 2,780,01 2,780,01 2,780,01 2,780,01 2,780,31 2,012 3,013,91 1,380,000 1,581,31 1,380,000 1,380,000 1,380,000 1,380,000 | | 2013 | 479,365,849 | 124,516,718 | 354,849,131 | 2,586,043,883 | 2,940,893,014 |
| 2015 320,141,828 176,453,482 143,688,346 3,399 2016 201,026,688 163,436 37,588,238 3,538 2017 2007 | | 2014 | 605,199,581 | 149,875,388 | 455,324,193 | 2,940,893,014 | 3,396,217,207 |
| ED 2016 201,026,688 163,438,450 37,588,238 3,538 ED 2007 | | 2015 | 320,141,828 | 176,453,482 | 143,688,346 | 3,396,217,207 | 3,539,905,553 |
| ED | | 2016 | 201,026,688 | 163,438,450 | 37,588,238 | 3,539,905,553 | 3,577,493,791 |
| EMENT 2008 | DEFINED | 2007 | 1 | 1 | ı | 1 | ı |
| EMENT 2009 — 28289,533 1,052,409 — — <td>CONTRIBUTION</td> <td>2008</td> <td>I</td> <td>I</td> <td>I</td> <td>I</td> <td>ı</td> | CONTRIBUTION | 2008 | I | I | I | I | ı |
| RAM 2010 \$289,593 — \$289,593 2011 \$289,593 \$85,280 \$289,593 2012 488,324 \$85,280 403,044 2013 1,484,737 1,207,760 276,977 2014 1,411,794 359,385 1,052,409 2015 2,765,014 889,089 1,206,217 NATE 2007 2,765,014 889,089 1,875,925 FIT 2008 2,728,401 42,876 FIT 2009 2,728,401 2,685,591 42,876 FILLY 2010 2,779,001 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2014 1,384,318 1,400,000 (15,682) 2015 1,550,000 2,42,133 2016 1,742,133 1,500,000 2,42,133 | RETIREMENT | 2009 | ı | I | I | I | ı |
| 2011 \$289,593 \$85,280 \$8289,593 \$82,280 \$8289,593 \$82,280 \$88,20 \$88,20 \$88,20 \$88,20 \$88,20 \$88,20 \$88,20 \$88,20 \$88,20 \$88,2 | PROGRAM | 2010 | I | I | I | I | I |
| 2012 488,324 \$85,280 403,044 2013 1,484,737 1,207,760 276,977 2014 1,411,794 359,385 1,052,409 2015 2,050,267 844,050 1,206,217 2016 2,765,014 889,089 1,875,925 INATE 2008 2,760,201 2,641,791 118,410 FIT 2008 2,128,401 2,554,019 (425,618) FIT 2009 2,7728,467 2,685,591 42,876 2011 2,893,294 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2013 3,039,991 2,949,360 (15,682) 2014 1,384,318 1,500,000 2,421,33 2015 1,742,133 1,550,000 242,133 | | 2011 | \$289,593 | I | \$289,593 | I | \$289,593 |
| 2013 1,484,737 1,207,760 276,977 2014 1,411,794 359,385 1,052,409 2015 2,056,267 889,089 1,206,217 2016 2,766,014 889,089 1,875,925 ENAME 2008 2,728,401 2,684,791 118,410 2172 2008 2,728,467 2,685,591 42,876 2011 2,893,294 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2014 1,384,318 1,400,000 (15,682) 2015 1,551,631 1,500,000 2,42,133 2016 1,742,133 1,150,000 2,743,33 | | 2012 | 488,324 | \$85,280 | 403,044 | \$289,593 | 692,637 |
| 2014 1,411,794 359,385 1,052,409 2015 2,050,267 844,050 1,206,217 2016 2,765,014 889,089 1,875,925 3 FINATE 2008 2,728,401 2,641,791 (425,618) 3,172,010 2,785,019 2,885,114 8,180 2011 2,893,294 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2014 1,384,318 1,400,000 (15,682) 2015 1,551,631 1,550,000 242,133 2016 1,772,133 1,500,000 242,133 | | 2013 | 1,484,737 | 1,207,760 | 276,977 | 692,637 | 969,614 |
| 2015 2,050,267 844,050 1,206,217 2,056,217 2016 2,765,014 889,089 1,875,925 3.2765,014 889,089 1,875,925 3.2760,201 2,760,201 2,641,791 118,410 42,876 42,876 2,728,467 2,728,467 2,786,031 12,970 2,779,001 2,885,114 8,180 2,012 3,327,297 3,323,165 44,132 2,949,360 2,014 1,384,318 1,400,000 1,500,000 1,501, | | 2014 | 1,411,794 | 359,385 | 1,052,409 | 969,614 | 2,022,023 |
| 2016 2,765,014 889,089 1,875,925 3 INATE 2007 2,760,201 2,641,791 118,410 FIT 2008 2,128,401 2,554,019 (425,618) TERM 2009 2,7728,467 2,685,591 42,876 2011 2,779,001 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2013 3,039,991 2,949,360 90,631 2014 1,551,631 1,500,000 1,631 2015 1,742,133 1,500,000 242,133 | | 2015 | 2,050,267 | 844,050 | 1,206,217 | 2,022,023 | 3,228,240 |
| FIT 2007 2,760,201 2,641,791 118,410 FIT 2008 2,128,401 2,554,019 (425,618) -TERM 2009 2,728,467 2,685,591 42,876 SILITY 2010 2,779,001 2,766,031 12,970 2011 2,893,294 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2013 3,039,991 2,949,360 90,631 2014 1,384,318 1,400,000 (15,682) 2015 1,551,631 1,550,000 242,133 | | 2016 | 2,765,014 | 889,089 | 1,875,925 | 3,228,240 | 5,104,165 |
| FIT 2008 2,128,401 2,554,019 (425,618) TERM 2009 2,728,467 2,685,591 42,876 ILLTY 2010 2,779,001 2,766,031 12,970 2011 2,893,294 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2013 3,039,991 2,949,360 90,631 2014 1,384,318 1,400,000 (15,682) 2015 1,551,631 1,550,000 1,631 2016 1,742,133 1,500,000 242,133 | ALTERNATE | 2007 | 2,760,201 | 2,641,791 | 118,410 | 1,795,115 | 1,913,525 |
| TERM 2009 2,728,467 2,685,591 42,876 \$ILITY 2010 2,779,001 2,766,031 12,970 \$2011 2,885,114 8,180 8,180 \$2012 3,327,297 3,323,165 4,132 \$2013 3,039,991 2,949,360 90,631 \$2014 1,384,318 1,400,000 (15,682) \$2015 1,551,631 1,550,000 242,133 \$2016 1,742,133 1,500,000 242,133 | BENEFIT | 2008 | 2,128,401 | 2,554,019 | (425,618) | 1,913,525 | 1,487,907 |
| 12,970 | LONG-TERM | 2009 | 2,728,467 | 2,685,591 | 42,876 | 1,487,907 | 1,530,783 |
| 2011 2,893,294 2,885,114 8,180 2012 3,327,297 3,323,165 4,132 2013 3,039,991 2,949,360 90,631 2014 1,384,318 1,400,000 (15,682) 2015 1,551,631 1,550,000 1,631 2016 1,742,133 1,500,000 242,133 | DISABILITY | 2010 | 2,779,001 | 2,766,031 | 12,970 | 1,530,783 | 1,543,753 |
| 3,327,297 3,323,165 4,132 3,039,991 2,949,360 90,631 1,384,318 1,400,000 (15,682) 1,551,631 1,550,000 1,631 1,742,133 1,500,000 242,133 | FUND | 2011 | 2,893,294 | 2,885,114 | 8,180 | 1,543,753 | 1,551,933 |
| 3,039,991 2,949,360 90,631 1,384,318 1,400,000 (15,682) 1,551,631 1,550,000 1,631 1,742,133 1,500,000 242,133 | | 2012 | 3,327,297 | 3,323,165 | 4,132 | 1,551,933 | 1,556,065 |
| 1,384,318 1,400,000 (15,682) 1,551,631 1,550,000 1,631 1,742,133 1,500,000 242,133 | | 2013 | 3,039,991 | 2,949,360 | 90,631 | 1,556,065 | 1,646,696 |
| 1,551,631 $1,550,000$ $1,631$ $1,742,133$ $1,500,000$ $242,133$ | | 2014 | 1,384,318 | 1,400,000 | (15,682) | 1,646,696 | 1,631,014 |
| 1,742,133 1,500,000 242,133 | | 2015 | 1,551,631 | 1,550,000 | 1,631 | 1,631,014 | 1,632,645 |
| | | 2016 | 1,742,133 | 1,500,000 | 242,133 | 1,632,645 | 1,874,778 |

Net Position

STATISTICAL INFORMATION

Schedule of Changes in Net Position

| | Fiscal Year | Additions (1) | Deductions (2) | Total Change in Net Position | Beginning of Year | End of Year |
|------------------|----------------|-------------------------------|-------------------|---------------------------------|----------------------|----------------|
| STATE HEALTH | 2007 | 3,597,829,109 | 3,608,450,331 | (10,621,222) | 561,852,322 | 551,231,100 |
| BENEFIT | 2008 | 3,722,023,682 | 3,572,063,630 | 149,960,052 | 551,231,100 | 701,191,152 |
| PROGRAM | 2009 | 3,688,960,344 | 3,905,614,344 | (216,654,000) | 701,191,152 | 484,537,152 |
| FUNDS (3) | 2010 | 4,366,329,943 | 4,395,854,101 | (29,524,158) | 484,537,152 | 455,012,994 |
| | 2011 | 4,843,404,735 | 4,759,910,140 | 83,494,595 | 455,012,994 | 538,507,589 |
| | 2012 | 4,967,678,805 | 5,274,510,706 | (306,831,901) | 538,507,589 | 231,675,688 |
| | 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 | 6,680,693,732 | 6,902,907,909 | (222,214,177) | 317,338,111 | 95,123,934 |
| PENSION TRUST | 2007 | 19,623,932,166 | 9,695,213,076 | 9,928,719,090 | 79,816,704,971 | 89,745,424,061 |
| AND STATE HEALTH | 2008 | 6,278,970,580 | 10,187,624,770 | (3,908,654,190) | 89,745,424,061 | 85,836,769,871 |
| BENEFIT | 2009 | (4,932,674,181) | 11,000,182,293 | (15,932,856,474) | 85,836,769,871 | 69,903,913,397 |
| PROGRAM | 2010 | 16,652,305,005 | 11,908,049,971 | 4,744,255,034 | 69,903,913,397 | 74,648,168,431 |
| FUNDS TOTAL (3) | 2011 | 19,453,024,432 | 13,033,582,581 | 6,419,441,851 | 74,648,168,431 | 81,067,610,282 |
| | 2012 | 10,943,668,383 | 14,127,288,625 | (3,183,620,242) | 81,067,610,282 | 77,883,990,040 |
| | 2013 | 18,677,582,693 ⁽⁴⁾ | 14,691,325,472(4) | 3,986,257,221 | 76,313,283,223(4) | 80,299,540,444 |
| | 2014 | 22,726,609,543 | 15,687,946,839 | 7,038,662,704 | 80,299,540,444 | 87,338,203,148 |
| | 2015 | 14,556,031,996 | 16,466,779,161 | (1,910,747,165) | 87,338,203,148 | 85,427,455,983 |
| | 2016 | 11,326,458,916 | 17,525,385,663 | (6,198,926,747) | 85,427,455,983 | 79,228,529,236 |

⁽¹⁾ See Schedule of Revenues by Source.

See Schedule of Expenses by Type. 3

GASB No. 43 became implemented in fiscal year 2007. Fiscal years before 2007 other than the restated 2006 were presented otherwise.

Restated due to the implementation of GASB Statement No. 67 (Financial Reporting for Pension Plans — an Amendment of GASB No. 25).

GASB No. 67 became implemented in fiscal year 2014. Fiscal years before 2014 other than the restated 2013 were presented otherwise.

Participating County and Municipal Employers

Atlantic County *
Bergen County

Burlington County/Payroll Dept

Camden Co Board of Chosen Freeholders

Cape May County Cumberland County Essex County Gloucester County

Hudson County *
Hunterdon County
Mercer County *

Middlesex County
Monmouth County/Hall of Records

Morris County
Ocean County *
Passaic County
Salem County *

Somerset County Finance Office

Sussex County Union County

Warren Co Bd of Chosen Freeholders Atlantic County Welfare Board * Bergen Co Board of Social Services Burlington Co Bd of Soc Services * Camden Co Bd of Social Services * Cape May Co Board Social Services * Cumberland Co Bd Social Services * Gloucester Co Bd of Social Services * Hunterdon Co Board Social Services Mercer Co Board of Social Service * Middlesex Co Bd of Social Services

Monmouth Co Div of Social Services Ocean Co Board of Social Services * Passaic Co Board of Social Services Salem Co Board of Social Services * Somerset Co Bd of Social Services *

Union Co Board of Social Services

NJ Assoc of Counties *

NJ School Boards Association *
NJ State League of Municipalities *
Comm Workers of America # 1034
Comm Workers of America #1037

Comm Workers of America # 1033 Aberdeen Township Absecon City * Alexandria Township * Allamuchy Township * Allendale Borough Allenhurst Borough * Allentown Borough Alloway Township Alpha Borough * Alpha Borough *

Alpine Borough
Andover Borough
Andover Township *
Asbury Park City
Atlantic City
Atlantic Highlands *
Audubon Borough *
Audubon Park Borough *

Audubon Park Borough *
Avalon Borough
Avon By The Sea

Barnegat Light Borough *

Barnegat Township Barrington Borough

Bass River Twp Municipal Bldg

Bay Head Borough *
Bayonne City *
Beach Haven Borough *
Beachwood Borough
Bedminster Township *
Belleville Township
Bellmawr Borough
Belmar Borough *
Belvidere Town *
Bergenfield Borough *

Berkeley Heights Township
Berkeley Twp Municipal Bldg *
Berlin Borough *
Berlin Township *
Bernards Township *
Bernardsville Boro *
Bethlehem Township *
Beverly City Municipal Bldg *
Blairstown Township *
Bloomfield Township
Bloomingdale Borough *
Bloomsbury Borough *

Bloomsbury Borough *
Bogota Borough *
Bogota Borough *
Boonton Town *
Boonton Township *
Bordentown City *
Bordentown Twp
Bound Brook Borough *
Bradley Beach Borough *
Branchburg Township
Branchville Borough *
Brick Township
Bridgeton City
Bridgewater Twp
Brielle Borough

Brooklawn Borough Buena Borough * Buena Vista Township * Burlington City * Burlington Township Butler Borough Byram Township

Brigantine City

Caldwell Borough
Califon Borough *
Camden City
Cape May City *

Cape May Point Borough *
Carlstadt Borough
Carneys Point Township
Carteret Borough
Cedar Grove Township *
Chatham Borough
Chatham Township
Cherry Hill Township
Chesilhurst Borough
Chester Borough *
Chester Township *
Chesterfield Township *

Cinnaminson Township

Clark Township *
Clayton Borough *
Clementon Borough *
Cliffside Park Borough *
Clifton City

Clinton Town *
Clinton Township *
Closter Borough *
Collingswood Borough *
Colts Neck Township
Commercial Township *

Cranbury Township *
Cranford Township
Cresskill Borough *
Deal Borough *
Deerfield Township *
Delanco Township *

Corbin City *

Delaware Township *
Delran Township
Demarest Borough *
Dennis Township *

Denville Township *
Deptford Township *
Dover Town
Downe Township
Dumont Borough *

Dunellen Borough *
Eagleswood Township *
East Amwell Township *
East Brunswick Township

East Greenwich Township East Hanover Township East Newark Borough

East Orange City
East Rutherford Borough *
East Windsor Township
Eastampton Township *
Eatontown Borough
Edgewater Borough
Edgewater Park Township *

Edison Township
Egg Harbor City
Egg Harbor Township *
Elizabeth City *
Elk Township *
Elmer Borough

Elmwood Park Borough *
Elsinboro Township
Emerson Borough
Englewood City *
Englewood Cliffs Borough *
Englishtown Borough
Essex Fells Borough *
Estell Manor City *
Evesham Township

Ewing Township *
Fair Haven Borough *
Fair Lawn Borough
Fairfield Township (Cumberland)
Fairfield Township (Essex)

Fairview Borough 3

Fanwood Borough

Florence Township *
Florham Park Borough
Folsom Borough *
Fort Lee Borough
Frankford Township *
Franklin Borough *
Franklin Lakes Borough *
Franklin Township (Gloucester)
Franklin Township (Hunterdon)

Far Hills Borough *

Fieldsboro Borough

Flemington Borough *

Farmingdale Borough *

Franklin Township (Somerset) Franklin Township (Warren) Fredon Township Freehold Borough * Freehold Township Frelinghuysen Twp 3 Frenchtown Borough * **Galloway Township Garfield City** Garwood Borough * Gibbsboro Borough Glassboro Borough Glen Gardner Borough * Glen Ridge Borough 3 Glen Rock Borough * **Gloucester City** Gloucester Township

Green Brook Township *

Green Township *

Greenwich Township (Cumberland) Greenwich Township (Gloucester) Greenwich Township (Warren) *

Guttenberg Town
Hackensack City
Hackettstown Town *
Haddon Heights Borough *
Haddon Township
Haddonfield Borough
Hainesport Township *
Haledon Borough *
Hamburg Borough *
Hamilton Township (Atlantic) *

Hamilton Township (Mercer)
Hammonton Town *
Hampton Borough *
Hampton Township *
Hanover Township
Harding Township
Hardwick Township *
Hardyston Township *
Harmony Township *
Harrington Park Borough *
Harrison Town (Hudson)
Harrison Township (Gloucester) *

Harvey Cedars Borough *
Hasbrouck Heights Borough *
Haworth Borough *
Hawthorne Borough
Hazlet Township

Helmetta 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

High Bridge Borough Highland Park Borough * **Highlands Borough** Hightstown Borough Hillsborough Township * Hillsdale Borough Hillside Township Hi-Nella Borough **Hoboken City** Ho-Ho-Kus Borough * Holland Township * **Holmdel Township** Hopatcong Borough Hope Township * Hopewell Borough *

Hopewell Township (Cumberland) Hopewell Township (Mercer)

Howell Township

Independence Twp/ Mun. Bldg *

Interlaken Borough

Irvington Twp Dept Of Rev & Finance

Island Heights Borough * Jackson Township * Jamesburg Borough * Jefferson Township *

Jersey City Keansburg Borough Kearny Town * Kenilworth Borough * **Keyport Borough** Kingwood Township * Kinnelon Borough Knowlton Township * Lacey Township * Lafavette Township *

Lake Como Borough * Lakehurst Borough * Lakewood Township Lambertville City * Laurel Springs Borough * Lavallette Borough 3

Lawnside Borough

Lawrence Township (Cumberland) * Lawrence Township (Mercer) *

Lebanon Borough * Lebanon Township * Leonia Borough * Liberty Township * Lincoln Park Borough Linden City * Lindenwold Borough * Linwood City

Little Egg Harbor Township

Little Falls Twp * Little Ferry Borough * Little Silver Borough Livingston Township * Loch Arbour Village Lodi Borough Logan Township Long Beach Township * Long Branch City Long Hill Township *

Longport Borough * Lopatcong Township

Lower Alloways Creek Township

Lower Township Lumberton Township * Lyndhurst Township **Madison Borough** Magnolia Borough Mahwah Township Manalapan Township * Manasquan Borough Manchester Township Mannington Township * Mansfield Township (Burlington)

Mansfield Township (Warren) Mantoloking Borough 3 Mantua Township * Manville Borough * Maple Shade Township Maplewood Township 3 **Margate City** Marlboro Township * Matawan Borough

Maurice River Township * Maywood Borough Medford Lakes Borough * Medford Township * Mendham Borough * Mendham Township 3 Merchantville Borough Metuchen Borough

Middle Township * Middlesex Borough * Middletown Township Midland Park Borough * Milford Borough * Millburn Township * Millstone Borough Millstone Township * Milltown Borough *

Millville City Mine Hill Township * Monmouth Beach Borough * Monroe Township (Gloucester) Monroe Township (Middlesex) Montague Township * Montclair Township *

Montgomery Township * Montvale Borough Montville Township * Moonachie Borough Moorestown Township Morris Plains Borough * Morris Township *

Morristown Town Mount Arlington Borough * Mount Ephraim Borough Mount Holly Township * Mount Laurel Township * Mount Olive Township Mountain Lakes Borough * Mountainside Borough * Mullica Township *

National Park Borough Neptune City Borough Neptune Township Netcong Borough * **New Brunswick City** New Hanover Township * **New Milford Borough**

New Providence Borough Newark City Newfield Borough *

Newton Town *

North Arlington Borough North Bergen Township North Brunswick Township * North Caldwell Borough * North Haledon Borough * North Hanover Township * N. Hunterdon Municipal Court * North Plainfield Borough

North Wildwood City Northfield City * Northvale Borough * Norwood Borough * Nutley Township * Oakland Borough Oaklyn Borough Ocean City

Ocean Gate Borough * Ocean Township (Monmouth) * Ocean Township (Ocean) **Oceanport Borough** Ogdensburg Borough **Old Bridge Township** Old Tappan Borough Oldmans Township Oradell Borough 3 **Orange City** Oxford Township * Palisades Park Borough Palmyra Borough *

Park Ridge Borough Parsippany Troy Hills Township

Passaic City * **Paterson City** Paulsboro Borough

Paramus Borough *

Peapack Gladstone Borough * Pemberton Borough * **Pemberton Township** Pennington Borough * Penns Grove Borough Pennsauken Township Pennsville Township Pequannock Township **Perth Amboy City Phillipsburg Town**

Pilesgrove Township * Pine Beach Borough * Pine Hill Borough Pine Valley Borough * Piscataway Township Pitman Borough Pittsgrove Township *

Plainfield City * Plainsboro Township Pleasantville City Plumsted Township Pohatcong Township

Point Pleasant Beach Borough Point Pleasant Borough Pompton Lakes Borough * Port Republic City * Princeton Borough * **Princeton Township** Prospect Park Borough *

Quinton Township Rahway City Ramsey Borough Randolph Township Raritan Borough * Raritan Township Readington Township * Red Bank Borough Ridgefield Borough 3 Ridgefield Park Village Ridgewood Village 3 Ringwood Borough River Edge Borough * River Vale Township * Riverdale Borough * Riverside Township

Riverton Borough * Robbinsville Township Rochelle Park Township * Rockaway Borough * Rockaway Township * Rockleigh Borough * Rocky Hill Borough Roosevelt Borough * Roseland Borough * Roselle Borough Roselle Park Borough **Roxbury Township** Rumson Borough 3 Runnemede Borough **Rutherford Borough** Saddle Brook Township

Salem City * Sandyston Township * Savreville Borough **Scotch Plains Township** Sea Bright Boro * Sea Girt Borough * Sea Isle City

Saddle River Borough

Seaside Heights Borough * Seaside Park Borough * Secaucus Town Shamong Township * Shiloh Borough **Ship Bottom Borough** Shrewsbury Borough Shrewsbury Township Somerdale Borough * **Somers Point City** Somerville 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

South Amboy City

South Bound Brook Borough *

South Brunswick Township *

South Hackensack Township

South Harrison Township

South Orange Village *

South Plainfield Borough

South River Borough *

South Toms River Borough *

Southampton Township *

Sparta Township

Spotswood Borough *

Spring Lake Borough *

Spring Lake Heights Borough *

Springfield Township (Union)

Springfield Twp (Burlington) *

Stafford Township

Stanhope Borough *

Stillwater Township *

Stockton Borough

Stone Harbor Borough Stow Creek Township

Stratford Borough *

Summit City *

Surf City Borough

Sussex Borough

Swedesboro Borough

Tabernacle Township *

Tavistock Borough Teaneck Township '

Tenafly Borough

Teterboro Borough *

Tewksbury Township *

Tinton Falls Borough

Toms River Township

Totowa Borough *

Trenton City * Tuckerton Borough *

Union Beach Borough *

Union City

Union Township (Hunterdon) *

Union Township (Union)

Upper Deerfield Township 3

Upper Freehold Township *

Upper Pittsgrove Township * Upper Saddle River Boro *

Upper Township

Ventnor City

Vernon Township

Verona Township *

Victory Gardens Borough

Vineland City

Voorhees Township *

Waldwick Borough * Wall Township

Wallington Borough

Wallpack Township

Wanaque Borough Wantage Township

Warren Township *

Washington Borough *

Washington Township (Bergen) *

Washington Twp (Burlington)

Washington Twp (Gloucester)

Washington Twp (Morris)

Washington Twp (Warren)

Watchung Borough *

Waterford Township * Wayne Township

Weehawken Township *

Wenonah Borough

West Amwell Township *

West Caldwell Township

West Cape May Borough 3

West Deptford Township

West Long Branch Borough

West Milford Township

West New York Town

West Orange Township *

West Paterson Borough

West Wildwood Borough *

West Windsor Township

Westampton Township *

Westfield Town

Westville Borough

Westwood Borough

Weymouth Township *

Wharton Borough 3

White Township *

Wildwood City *

Wildwood Crest Borough *

Willingboro Township

Winfield Township *

Winslow Township

Woodbine Borough

Woodbridge Township

Woodbury City Woodbury Heights Borough *

Woodcliff Lake Borough 3

Woodland Township *

Woodlynne Borough *

Wood-Ridge Borough

Woodstown Borough *

Woolwich Township Wrightstown Borough *

Wyckoff Township *

^{*} In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating Education Employers

Atlantic Co Audio Visual Aids Comm * **Burlington Co Audio Visual Aids Comm *** Gloucester Co Audio Visual Aid Comm * Morris Audio Visual Commission Ocean Co Audio Visual Aids Commission * Warren Co Audio Visual Aids **Absecon Boardof Education** Alexandria Twp Board of Education **Allamuchy Board of Education** Allendale Boro Board of Education Allenhurst Board of Education * Alloway Twp Board of Education Alpha Board of Education * Alpine Board of Education * Andover Regional Board of Education * Asbury Park Board of Education * **Atlantic City Board of Education** Atlantic Highlands Board of Education * **Audubon Borough Board of Education Avalon Borough Board of Education** Avon By The Sea Boro Board of Ed * Barnegat Twp Board of Education Barrington Boro Board of Education * Bass River Twp Board of Education * **Bay Head Board of Education Bayonne Board of Education** Beach Haven Borough Board of Ed * **Bedminster Twp Board of Education Belleville Board of Education** Bellmawr Borough Board of Education * **Belmar Boro Board of Education Belvidere Town Board of Education** Bergenfield Board of Education * **Berkeley Heights Board of Education Berkeley Twp Board of Education** Berlin Borough Board of Education **Berlin Township Board of Education** Bernards Twp Board of Education **Bethlehem Twp Board of Education** Beverly City Board of Education * Black Horse Pike Regional School District Blairstown Twp Board of Education **Bloomfield Twp Board of Education Bloomingdale Board of Education** Bloomsbury Borough Board of Education * Bogota Boro Board of Education * **Boonton Town Board of Education Boonton Twp Board of Education** Bordentown Regional School District * **Bound Brook Boro Board of Education Bradley Beach Board of Education Branchburg Twp Board of Education Branchville Board of Education Brick Twp Board of Education Bridgeton Board of Education** Bridgewater-Raritan Regional School Dist **Brielle Boro Board of Education** Brigantine City Board of Education * **Brooklawn Boro Board of Education Buena Regional School District Burlington City Board of Education Burlington Twp Board of Education Butler Boro Board of Education**

Byram Twp Board of Education Caldwell West Caldwell Board of Ed * Califon Boro Board of Education * Camden City Board of Education * Cape May City Board of Education * Cape May Pt Boro Board of Education **Carlstadt Borough Board of Education** Carlstadt East Rutherford Board of Ed **Carteret Board of Education** Cedar Grove Twp Board of Education Central Regional High School District **Chathams School District** Cherry Hill Twp Board of Education Chesilhurst Boro Board of Education * **Chester Twp Board of Education** Chesterfield Twp Board of Education * **Cinnaminson Twp Board of Education Clark Twp Board of Education** Clayton Borough Board of Education **Clearview Regional Board of Education Clementon Board of Education** Cliffside Park Board of Education Clifton City Board of Education **Clinton Town Board of Education Clinton Twp Board of Education** Closter Board of Education * Collingswood Borough Board of Education **Colts Neck Twp Board of Education Commercial Twp Board of Education** Corbin City Board of Education * **Cranbury Township Board of Education** Cranford Twp Board of Education * Cresskill Board of Education **Cumberland Regional School Dist** Deal Boro Board of Education * **Deerfield Township Board of Education Delanco Twp Board of Education** Delaware Twp Board of Education * Delaware Valley Regional High School Dist. **Delran Twp Board of Education Delsea Regional High School District** Demarest Boro Board of Education * **Dennis Twp Board of Education Denville Twp Board of Education Deptford Twp Board of Education Dover Board of Education Downe Twp Board of Education Dumont Borough Board Of Education Dunellen Board of Education** Eagleswood Twp Board of Education * East Amwell Township Board of Ed * East Brunswick Twp Board of Education East Greenwich Board of Education * East Hanover Twp Board of Education * East Newark Borough Board of Ed * East Orange City Board of Education * East Rutherford Boro Board of Education East Windsor Regional School Dist **Eastampton Township Board of Education** Eastern Camden Co Regional School Dist Eatontown Board of Education 3 **Edgewater Boro Board of Education**

Edgewater Park Twp Board of Education *

Edison Twp Board of Education Egg Harbor City Board of Education * Egg Harbor Twp Board of Education Elizabeth Board of Education * Elk Twp Board of Education Elmer Board of Education Elmwood Park Borough Board of Ed * Elsinboro Township Board of Education * Emerson Borough Board of Education * Englewood City Board of Education * Englewood Cliffs Board of Education * **Essex Fells Board of Education** Fstell Manor Roard of Education * **Evesham Twp Board of Education** Ewing Township Board of Education * Fair Haven Borough Board of Education Fair Lawn Board of Education Fairfield Twp Bd of Ed (Cumberland) * Fairfield Twp Board of Education (Essex) Fairview Boro Board of Education * Farmingdale Board of Education * Flemington Raritan Board of Education Florence Township Board of Education Florham Park Board of Education * Folsom Borough Board of Education * Fort Lee Board of Education Frankford Township Board of Education Franklin Boro Board of Education ' Franklin Lakes Board of Education Franklin Twp Board of Ed (Gloucester) Franklin Twp Board of Ed (Somerset) Franklin Twp Board of Education (Warren) Franklin Twp Board of Ed Hunterdon) Fredon Township Board of Education Freehold Boro Board of Education Freehold Regional High School District Freehold Twp Board of Education Frelinghuysen Twp Board of Education Frenchtown Borough Board of Education * **Galloway Township Board of Education** Garfield City Board of Education * **Garwood Borough Board of Education Gateway Regional High School** Gibbsboro Borough Board of Education **Glassboro Board of Education** Glen Ridge Board of Education Glen Rock Borough Board of Education * Gloucester City Board of Education * Gloucester Twp Board of Education Great Meadows Regional Board of Ed **Greater Egg Harbor Regional Green Brook Board of Education Green Township Board of Education** Greenwich Twp Bd of Ed (Cumberland) * Greenwich Twp Board of Ed (Gloucester) Greenwich Twp Board of Ed (Warren) **Guttenberg Boro Board of Education** Hackensack City Board of Education * **Hackettstown Board of Education** Haddon Heights Board of Education **Haddon Township Board of Education Haddonfield Board of Education**

Hainesport Township Board of Education

Haledon Borough Board of Education * **Hamburg Borough Board of Education** Hamilton Twp Board of Education (Atlantic) Hamilton Twp Board of Education (Mercer) **Hammonton Town Board of Education** Hampton Borough Board of Education * Hampton Township Board of Education * Hanover Park Regional High School Dist * Hanover Township Board of Education * Harding Township Board of Education Hardwick Twp Board of Education **Hardyston Township Board of Education** Harmony Township Board of Education * **Harrington Park Board of Education** Harrison Town Board of Ed (Hudson) Harrison Twp Board of Ed (Gloucester) **Hasbrouck Heights Board of Education** Haworth Borough Board of Education * **Hawthorne Board of Education Hazlet Twp Board of Education** Helmetta Boro Board of Education * Henry Hudson Regional School District High Bridge Borough Board of Education High Point Regional High School **Highland Park Board of Education Highlands Boro Board of Education** Hillsborough Twp Board of Education Hillsdale Borough Board of Education * Hillside Board of Education Hoboken Board of Education Ho-Ho-Kus Board of Education * **Holland Twp Board of Education** Holmdel Township Board of Education * **Hopatcong Board of Education** Hope Twp Board of Education * Hopewell Twp Board v Ed (Cumberland) **Hopewell Valley Regional School District Howell Twp Board of Education Hunterdon Central High School** Interlaken Borough Board of Education **Irvington Board of Education** Island Heights Boro Board of Education * **Jackson Township Board of Education** Jamesburg Borough Board of Education * **Jefferson Township Board of Education** Jersey City Public Schools * Keansburg Board v Education **Kearny Town Board of Education** Kenilworth Borough Board of Education **Keyport Borough Board of Education** Kingsway Regional School District Kingwood Township Board of Education Kinnelon Borough Board of Education Kittatinny Regional High School **Knowlton Twp Board of Education** Lacey Township Board of Education * Lafayette Twp Board of Education Lakehurst Borough Board of Education Lakeland Regional High School District Lakewood Twp Board of Education * Lambertville City Board of Education * Laurel Springs Borough Board of Ed Lavallette Borough 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

Lawnside Borough Board of Education Lawrence Twp Board of Ed (Cumberland) Lawrence Twp Board of Education (Mercer) Lebanon Borough Board of Education * Lebanon Township Board of Education Lenape Regional High School District Lenape Valley Regional High School Dist Leonia Borough Board of Education Lincoln Park Boro Board Of Education Linden City Board of Education Lindenwold Borough Board of Education Linwood Board of Education * Little Egg Harbor Twp Board of Education Little Falls Board of Education Little Ferry Board of Education * Little Silver Board of Education **Livingston Board of Education** Lodi Board of Education Logan Township Board of Education Long Beach Island Board of Education * Long Branch Board of Education Long Hill Twp Board of Education Longport Borough Board of Education * **Lopatcong Township Board of Education** Lower Alloways Creek Board of Ed * Lower Cape May Regional School District * Lower Township Board of Education * **Lumberton Twp Board of Education** Lyndhurst Twp Board of Education Madison Boro Board of Education Magnolia Borough Board of Education **Mahwah Board of Education** Mainland Regional High School * Manalapan Englishtown Reg Schools * Manasquan Borough Board of Education **Manchester Township Board of Education Mannington Township Board of Education** Mansfield Twp Board of Ed (Burlington) Mansfield Twp Board of Ed (Warren) **Mantoloking Boro Board of Education** Mantua Township Board of Education Manville Borough Board of Education Maple Shade Board of Education Margate City Board of Education * Marlboro Township Board of Education Matawan-Aberdeen Regional School Maurice River Township Board of Ed **Maywood Board of Education** Medford Lakes Boro Board of Education **Medford Township Board of Education** Mendham Boro Board of Education * Mendham Township Board of Education Merchantville Boro Board of Education * Metuchen Boro Board of Education Middle Township Board of Education * Middlesex Board of Education Middletown Two Board of Education Midland Park Boro Board of Education * Milford Borough Board of Education * Millburn Twp Public Schools Millstone Borough Board of Education Millstone Township Board of Education Milltown Borough Board Of Education

Millville Board of Education Mine Hill Two Board of Education * Monmouth Beach Board of Education * Monmouth Regional School Monroe Twp Board of Ed (Gloucester) Monroe Twp Board of Ed (Middlesex) Montague Board of Education Montclair Board of Education **Montgomery Twp Board of Education** Montvale Borough Board of Education * Montville Twp Board of Education Moonachie Borough Board of Education Moorestown Township Board OofEd * Morris Hills Regional District Morris Plains Board of Education Morris School District **Mount Arlington Board of Education** Mount Ephraim Board of Education Mount Holly Twp Board of Education Mount Laurel Twp Board of Education Mount Olive Twp Board of Education Mountain Lakes Boro Board of Ed * Mountainside Boro Board of Education * Mullica Twp Board of Education * National Park Borough Board of Ed Neptune City Board of Education **Neptune Twp Board of Education Netcong Borough Board of Education New Brunswick Board of Education** New Hanover Twp Board of Education **New Milford Board of Education New Providence Board of Education** Newark Public Schools * **Newton Board of Education** North Arlington Board of Education North Bergen Board of Education * North Brunswick Board of Education North Caldwell Board of Education North Haledon Boro Board of Education * North Hanover Township Board of Ed North Hunterdon-Voorhees North Plainfield Boardof Education North Warren Regional High School North Wildwood Board ofEducation * Northern Burlington Co Regional Northern Highlands Reg High School * Northern Valley Regional High School Dist Northfield Board of Education Northvale Board of Education * Norwood Board of Education * **Nutley Board of Education Oakland Board of Education** Oaklyn Borough Board of Education Ocean City Board of Education Ocean Gate Board of Education * Ocean Twp Board of Ed (Monmouth) Ocean Twp Board of Education (Ocean) * **Oceanport Schools** Ogdensburg Board of Education **Old Bridge Board of Education Old Tappan Board of Education Oldmans Twp Board of Education**

Orange City Board of Education * Oxford Two Board of Education **Palisades Park Board of Education** Palmyra Borough Board of Education Paramus Board of Education Park Ridge Boro Board of Education Parsippany Troy Hills Board of Education Pascack Valley Regional High School Dist * Passaic Board of Education * Passaic Co Manchester Regional High * Passaic Co Regional High School Dist 1 * Paterson Board of Education * Paulsboro Boro Board of Education Pemberton Borough Board of Education **Pemberton Township Board of Education** Penns Grove Carneys Point Regional Pennsauken Twp Board of Education Pennsville Twp Board of Education Pequannock Twp Board of Education Perth Amboy Board of Education Phillipsburg Town Board of Education Pine Hill Borough Board of Education Pinelands Regional School District * Piscataway Board of Education Admn Bldg Pitman Board of Education Pittsgrove Twp Board of Education Plainfield Board of Education Pleasantville Board of Education **Plumsted Twp Board of Education** Pohatcong Twp Board of Education Point Pleasant Beach Board of Education Point Pleasant Boro Board of Education Pompton Lakes Board of Education Port Republic City Board of Education * **Princeton Regional School** Prospect Park Board of Education * Quinton Township Board of Education * Rahway City Board of Education * Ramapo Indian Hills Reg High School Dist Ramsey Borough Board of Education Rancocas Valley Regional High School Randolph Township Board of Education Readington Twp Board of Education Red Bank Board of Education * Red Bank Regional High School District Ridgefield Boro Board of Education * Ridgefield Park Board of Education * Ridgewood Twp Board of Education Ringwood Boro Board of Education * 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** 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 Ed Rocky Hill Board of Education Roosevelt Borough Board of Education *

Roselle Boro Board of Education Roselle Park Boro Board of Education **Roxbury Twp Board of Education Rumson Boro Board of Education** Rumson Fair Haven Regional High School Runnemede Borough Board of Education Rutherford Boro Board of Education Saddle Brook Board of Education * Saddle River Board of Education * Salem City Board of Education Sandyston Walpack School Dist * 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 Somerdale Boro Board of Education **Somers Point City Board of Education** 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 Sterling High School District Stillwater Township Board of Education * 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-Wantage Regional School District **Swedesboro Woolwich Board of Education** Tabernacle Two Board of Education Teaneck Board of Education * Tenafly Board of Education * Tewksbury Twp Board of Education Tinton Falls Board of Education * Toms River School District Totowa Borough Board of Education *

Roseland Board of Education

Oradell 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

Trenton City Board of Education Tuckerton Boro Board of Education Union Beach Boro Board of Education **Union City Board of Education** Union Twp Board of Education (Union) Union Twp of Ed (Hunterdon) **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 * Vineland City Board of Education **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 Wanague Board of Education 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 (Burl) * 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 Deptford Twp 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 Dist * West New York Board of Education * West Orange Township Board of Education West Paterson Boro Board of Education * West Windsor Plainsboro Regional * **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 City Board of Education * Wildwood Crest Board of Education * Willingboro Twp Board of Education * Winfield Township Board of Education * **Winslow Township Board of Education** Woodbine Borough Board of Education Woodbridge Township Board of Education **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-Pilesgrove Regional School Wyckoff Township Board of Education * Atlantic Cape Community College * Bergen Community College * **Brookdale Community College * Burlington Co College *** Camden County College * **Cumberland County College *** Essex County College * Gloucester County College * **Hudson Co Community College *** Mercer Co Community College * Middlesex County College Morris County College * Ocean County College * Passaic County Community College * Raritan Valley Community College * Salem Community College Sussex County Comm. College * Union County College * Warren County Community College * Academy For Urban Leadership **Academy Charter High School** Adelaide Sanford Charter School Barack Obama Green Charter High School Bergen Arts And Science Charter School **Burch Charter School For Excellence** Camden Academy Charter High School **Camden Promise Charter School** Camden's Pride Charter School Central Jersey Arts Charter School * Central Jersey College Prep Charter Charter Tech * Classical Acad. Charter School * Community Charter School of Paterson Dr Lena Edwards Academy Chater School D.U.E. Season Charter School * **Discovery Charter School * East Orange Community Chart School Eco Charter School** Elysian Charter School of Hoboken * **Emily Fisher Charter School *** Englewood On The Palisades Char * **Ethical Comm Charter School Jersey City** Foundation Academy Charter School * Franklin Charter School Freedom Academy Charter School **Galloway Community Charter School Gateway Charter School Granville Charter Middle School Grav Charter School * Great Oaks Charter School Greater Brunswick Charter School *** Hatikvah International Academy C S **Hoboken Charter School** Hoboken Dual Language Charter School **Hope Academy Charter School** Institute For Excellence Charter School International Charter School

Jersey City Comm Charter School *

Jersey City Golden Door Charter John P Holland Charter School Lady Liberty Academy Charter School **Leap Academy Charter School** Learning Comm. Charter School * **Liberty Academy Charter School** Maria L. Varisco-Rogers Charter * Marion P. Thomas Charter School * Mets Chater School Millville Public Charter School **New Horizon Community Charter School Newark Legacy Charter School** Newark Charter School * Newark Educators' Comm Charter School North Star Academy Charter School Oceanside Charter School Pace Charter School of Hamilton * Paterson Chart School - Science/Tech Paul Robeson Charter School **Peoples Preparatory Chater School Pleasantech Academy Charter School Pride Academy Charter School Princeton Charter School** Queen City Academy Charter School **Red Bank Charter School** Renaissance Regional Leadership CS Ridge And Valley Charter School **Riverbank Charter School of Excellence Robert Treat Academy Charter School** Roseville Community Charter School **Schomburg Charter School** Soaring Heights Charter School * Sussex County Charter School **Team Academy Charter School** Teaneck Community Charter School * Trenton Community Charter School * **Union County Teams Charter School Unity Charter School *** University Academy Charter High School University Heights Charter School * Village Charter School * Vineland Public Charter School Visions Academy Charter High School **Communications Workers of America** Newark Teachers' Union NJ State Federation of Teachers **Piscataway Twp Education Association** Trenton Education Association Woodbridge Twp Ed Association **Camden Co Ed Services Commission Essex Co Educational Service Commission Hunterdon Co Ed Services Commission** Middlesex Co Ed Services Commission Monmouth Ocean Ed Service Commission Morris Co Education Services Commission Passaic Co. Ed Services Commission * Somerset Co Ed Services Commission * Sussex Co Ed Services Comm Bd of Ed * Union Co Ed Services Commission * Ramapo College of New Jersey *

Richard Stockton College of NJ *

State Library Affiliated W/TESC *

The College of New Jersey * Thomas Edison State University * Atlantic Co Special Services * Bergen Co Bd Of Special Services **Burlington Co Bd Special Services** Cape May Co Special Services * Gloucester Co Sp Services School District Mercer Co Special Ser School Dist Salem Co Sp Services School Dist * Stockton Affiliated Services Inc Warren Co Sp Services School Dist Kean University * Montclair State University * New Jersey City University * NJ Institute Of Technology * Rowan University * Rutgers University 3 Univ. Of Med & Dentistry New Brunswick * Univ. Of Medicine & Dentistry - Newark * Univ. Of Medicine & Dentistry - Stratford * William Paterson University Of NJ * Atlantic Co Vocational Schools * Bergen Co Vocational School **Burlington Co Institute of Tech** Camden County Technical Schools * Cape May Co Technical School Dist Cumberland Co Bd of Voc Ed **Essex Co Vocational School** Gloucester Co Vo-Tech School Dist **Hudson Co Schools of Technology Hunterdon County Vocational *** Mercer Co Vocational Schools Middlesex Co Vocational School * Monmouth Co Vocational Schools * Morris Co Vocational School District Ocean County Vocational School * Passaic Co Vocational School Salem Co Vocational School * **Somerset Co Vocational School Sussex County Vocational** Union Co Vocational Schools * Warren Co Vocational School *

^{*} In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating Agencies and Authorities

Aberdeen Twp Fire Dist 2 Aberdeen Twp Fire District 1 * Bordentown Fire District #1 * Bordentown Twp Fire District 2 * **Brick Township Fire Dist 2** Brick Twp Fire District 1 Brick Twp Joint Board of Fire Commission * Burlington Twp Fire District 1 Cherry Hill Fire District 13 Chesterfield-Ham. Fire District #1 * Cinnaminson Twp Fire Dist #1 Delran Twp Fire District #1 * Deptford Twp Fire District * **Dover Twp Fire District 2** East Brunswick Twp Fire District #1 Florence Twp. Fire District #1 Gloucester Twp Fire District 2 Gloucester Twp Fire District 3 * Gloucester Twp Fire District 4 Gloucester Twp Fire District 5 * Gloucester Twp Fire District 6 * Haddon Twp Fire District 1 * Hamilton Twp Fire District 2 * Hamilton Twp Fire District 3 * Hamilton Twp Fire District 4 * Hamilton Twp Fire District 5 * Hamilton Twp Fire District 6 * Hamilton Twp Fire District 7 * Hamilton Twp Fire District 8 * Hamilton Twp Fire District 9 * Hanover Twp Fire District 2 Hanover Twp Fire District 3 Harrison Township Fire District #1 Hazlet Township Fire District #1 Hopewell Twp Fire District 1 * Howell Twp Fire District 1 Howell Twp Fire District 2 Howell Twp Fire District 3 * Howell Twp Fire District 4 Jackson Bd Fire District 2 * Jackson Twp Fire District 3 * Jackson Twp Fire District 4 Jersey City Fire Department Lakewood Twp Fire District 1 Lambertville City Fire District #1 Lindenwold Twp Fire District 1 * Manalapan Fire District 2 Manalapan Twp Fire District 1 Manasquan Boro Fire District 1 Marlboro Twp Fire District 1 Marlboro Twp Fire District 3 Middle Township Fire District #1 * Millstone Township Fire District #1 * Monroe Twp Fire District 1 * Monroe Twp Fire District 2 * Monroe Twp Fire District 3 * Montville Twp Fire District 1 * Montville Twp Fire District 3 * Moorestown Twp Fire District 1 * Moorestown Twp Fire District 2 Mount Laurel Fire District #1 * Neptune Fire District 1 *

Ocean Grove Board Of Fire Commission Ocean Twp Fire District 1 * Ocean Twp Fire District 2 * Old Bridge Twp District 1 Old Bridge Twp Fire District 2 Old Bridge Twp Fire District 3 * Old Bridge Twp Fire District 4 Pine Hill Fire District 1 Pine Hill Fire District 1 Plainsboro Twp Fire District 1 * Plumsted Fire District #1 * Riverside Twp Fire District # 1 Toms River Twp Fire District 1 **Towaco Fire District 2** Voorhees Fire District * Wall Township Fire District 2 Wall Township Fire District 3 Washington Twp Board of Fire Commission Washington Twp Fire District #1 Westville Fire District # 1 Winslow Twp Fire District 1 * Woodbridge Bd Of Fire Commission 9 Woodbridge Fire District 5 * Woodbridge Twp Fire District 2 * Woodbridge Twp Fire District #12 Woodbridge Twp Fire District 1 * Woodbridge Twp Fire District 11 Woodbridge Twp Fire District 8 Woodbridge Twp Fire District 7 * Asbury Park Housing Authority * Atlantic City Housing Authority * Bayonne Housing Authority * **Belmar Housing Authority** Bergen Co Housing Authority Berkeley Twp Housing Authority * Beverly City Housing Authority * **Boonton Housing Authority * Brick Twp Housing Authority *** Bridgeton City Housing Auth * Buena Boro Housing Auth * **Burlington City Housing Auth *** Camden City Housing Authority * Cape May City Housing Authority * Carteret Housing Authority * **Clementon Housing Authority** Cliffside Park Housing * Collingswood Boro Housing Auth * **Dover Town Housing Authority** East Orange Housing Authority * Edgewater Housing Authority * Edison Twp Housing Authority ' Elizabeth City Housing Authority * Englewood Housing Authority * Florence Twp Housing Authority Fort Lee Housing Authority * Franklin Twp Housing Authority Freehold Boro Housing Authority * Garfield Housing Authority * Glassboro Borough Housing Authority * Gloucester Co Housing Authority * Gloucester Twp Housing Authority * **Guttenberg Housing Authority * Hackensack Housing Authority ***

Haddon Township Housing Authority * Harrison Town Housing Authority Highland Park Housing Authority * Highlands Housing Authority * Hightstown Boro Housing Authority * **Hoboken Housing Authority *** Irvington Housing Authority * Jersey City Housing Authority * Keansburg Boro Housing Authority * **Lakewood Housing Authority** Linden City Housing Authority * Lodi Housing Authority * Long Branch City Housing Authority * **Madison Boro Housing Authority** Middletown Twp Housing Authority * Millville Housing Authority **Morris County Housing Authority** Morristown Housing Authority * **Neptune City Housing Authority** Neptune Twp Housing Authority New Brunswick Housing Authority * Newark Housing Authority * Newton Town Housing Authority * North Bergen Housing Authority * Ocean City Housing Authority * **Old Bridge Housing Authority** Orange City Housing Authority ' Passaic City Housing Authority * Paterson Housing Authority * Penns Grove Housing Authority * **Perth Amboy Housing Authority Phillipsburg Housing Authority** Plainfield Housing Authority * Pleasantville Housing Authority * Princeton Housing Authority * Rahway City Housing Authority * Red Bank Boro Housing Auth * Salem City Housing Authority * Sayreville Housing Authority * **Secaucus Housing Authority** South Amboy Housing Authority * Trenton Housing Authority * Union City Housing Authority * **Vineland Housing Authority** Weehawken Twp Housing Authority * West New York Housing Authority Wildwood City Housing Authority * Woodbridge Housing Authority **Camden Co Health Services Center** Essex Regional Health Commission * **Hudson Regional Health Commission *** Mid Bergen Regional Health Commission * Middle Brook Regional Health Comm * Monmouth Co Health Department * Monmouth Co Regional Health Comm 1 Northwest Bergen Health Commission * Ocean Co Board of Health Middlesex Co Joint Health Insurance Fund Middlesex Co Municipal Joint Ins Fund * NJ School Board Association Ins Group * Statewide Insurance Fund Bayshore Jointure Commission * Morris-Union Jointure Commission

South Bergen Jointure Commission **Burlington County Bridge Commission** Cape May Co Bridge Commission * Essex & Union Joint Meeting * Madison-Chatham Joint Meeting * Second River Joint Meeting General Assembly * Senate * Bedminster & Far Hills Pub Library * Chatham Joint Free Public Library * Chester Boro/Twp Public Library * Elizabeth Public Library * Hillside Public Library Linden City Free Public Library Matawan Aberdeen Public Library * Montclair Library * Morristown/Morris Joint Library * **Orange City Library** Princeton Joint Public Library * Rahway Public Library Ridgewood Public Library * Roselle Borough **Union Township Library** West Orange Library * Atlantic City Convention Center * NJ Public Broadcasting Authority Northwest Bergen Central Dispatch * **Trenton Downtown Association** Middlesex Co Mosquito Exterm Comm Monmouth Co Mosquito Exterm Comm * Ocean Co Mosquito Commission * Salem Co Mosquito Commission * Warren Co Mosquito Exterm Commission **Camden County Park Police** Mercer County Park Commission * **Morris County Park Commission Somerset Co Park Commission** Bayonne City Parking Authority * **Bloomfield Parking Authority *** Camden City Park Authority * **Dover Twp Parking Authority Dunellen Parking Authority *** East Orange Parking Authority * Elizabeth City Parking Authority * Fort Lee Parking Authority **Hackettstown Parking Authority Hoboken City Parking Authority** Jersey City Parking Authority Long Branch Parking Authority * **Metuchen Parking Authority** Montclair Parking Authority * **Morristown Parking Authority** New Brunswick Parking Authority * **Newark Parking Authority** North Bergen Parking Authority North Plainfield Parking Authority * Paterson Parking Authority * Perth Amboy City Parking Authority Rahway Parking Authority * South Orange Twp Parking Authority * **South River Parking Authority** Trenton Parking Authority * **Union City Parking Authority**

North Hudson Regional Fire & Rescue

^{*} In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program

Participating Agencies and Authorities, continued

West New York Parking Authority West Windsor Parking Authority * **Camden Co Pollution Control Fin Union Co Pollution Control Authority** Warren Co Pollution Control * **Carteret Port Authority** Perth Amboy Port Authority Salem City Municipal Port Authority * Atlantic Co Improvement Authority * Bayonne Local Redevelopment Agency * Bergen County Improvement Authority * Bridgeton Zone Development Authority * **Camden City Redevelopment Agency Camden Co Improvement Authority** Carteret Redevelopment Agency * Cumberland Co Improvement Authority * Essex Co Improvement Authority * **Gloucester Co Improvement Authority** Greater Wildwood Tourism Imp & Da * **Hudson Co Economic Development Corp Hudson Co Improvement Authority *** Jersey City Redevelopment Agency * Mercer Co Improvement Authority * Middlesex County Improvement Authority **Passaic County Improvement Authority** Rahway City Redevelopment Agency Salem Co Improvement Authority ' Sayreville Economic & Redev Agency * South Jersev Economic Development Dist * Vineland-Millville Urban Enterprise Zone * Wildwoods Joint Construction Casino Reinvestment Development Auth * Compensation Rating & Ins Bureau * Delaware River Basin Commission * Delaware River Joint Toll Bridge Comm **Delaware River Port Authority Ed Information & Resource Center** Fort Monmouth Planning Authority Interstate Environmental Commission * Lake Hopatcong Commission * **Meadowlands Conservation Trust** NJ Building Authority * NJ Commerce & Economic Growth Comm * NJ Economic Development Authority * NJ Educational Facilities Authority * NJ Firemens Home * NJ Health Care Facilities * NJ Housing & Mortgage Finance Agency * NJ Meadowland Commission * NJ Redevelopment Authority * NJ Schools Development Authority * NJ Sports & Exposition Authority NJ Transit Corporation NJ Turnpike Authority NJ Water Supply Authority * North Jersey Water Supply Commission

Palisades Interstate Park Commission *

Passaic Valley Sewerage Commission Pinelands Commission * **Rowan University Foundation South Jersey Port Corporation South Jersey Transportation Authority** Waterfront Commission Of Ny Harbor * Joint Dispatch Authority For Spring Lake Bergen County Soil Conservation District * **Burlington Co Soil Conservation District *** Camden Co Soil Conservation District * Cape Atlantic Soil Conservation District * Cumberland-Salem Conservation District * Freehold Soil Conservation District * Gloucester Co Soil Conservation District * Hunterdon Co Soil Conservation District * Mercer Co Soil Conservation District * Morris Co Soil Conservation District * Ocean Co Soil Conservation District * Sussex Co Soil Conservation * Warren Co Soil Conservation District * Atlantic Highlands-Highlands Regional Sewerage Authority Atlantic City Municipal Utilities Authority * Atlantic Co Utilities Authority * Bayonne Municipal Utilities Authority * Bayshore Regional Sewerage Authority * Beach Haven Sewerage Authority **Beachwood Sewerage Authority** Bergen Co Utilities Authority Berkeley Twp Sewerage Authority * Berkeley Twp Municipal Utilities Authority * Bernards Twp Sewerage Authority * Beverly Sewerage Authority * Bordentown Sewerage Authority * **Brick Twp Municipal Utilities Authority *** Buena Boro Municipal Utilities Authority * **Camden Co Municipal Utilities Authority** Cape May Co Municipal Utilities Authority **Carlstadt Sewerage Authority Carneys Point Twp Sewerage Authority Cinnaminson Sewerage Authority** Clinton Twp Sewerage Authority * Cumberland Co Utilities Authority * Delanco Sewerage Authority * Delaware Twp Municipal Utilities Authority Delran Sewerage Authority * Deptford Twp Municipal Utilities Auth * East Windsor Municipal Utilities Authority * **Eatontown Sewerage Authority Edgewater Park Sewerage Authority** Egg Harbor Twp Municipal Utilities Auth * **Elk Township Municipal Utilities Authority Evesham Municipal Utilities Authority *** Ewing Lawrence Sewerage Authority * Florham Park Sew Authority Franklin Twp Sewerage Authority * Gloucester Co Utilities Authority

Gloucester Twp Municipal Utilities Auth * Hackettstown Municipal Utilities Auth * Hamilton Twp Municipal Utilities Auth * Hanover Sewerage Authority * Hazlet Twp Sewerage Authority * Hillsborough Twp Mun. Utilities Authority * Hudson-Essex Passaic * Jackson Twp Municipal Utilities Authority * Jersey City Incinerator Authority Jersey City Municipal Utilities Authority Kearny Municipal Utilities Authority Lacey Municipal Utilities Authority * Lakewood Twp Municipal Utilities Auth * Lambertville Sewerage Authority * Landis Sewerage Authority Lebanon Boro Sew Authority Linden Roselle Sewerage Authority * Little Egg Harbor Mun. Utilities Authority * Logan Twp Municipal Utilities Authority * Long Branch Sewerage Authority * Lower Twp Municipal Utilities Authority * Manasquan River Reg Sewerage Auth **Manchester Utilities Authority** Mantua Twp Municipal Utilities Authority * Marlboro Twp Municipal Utilities Auth Merchantville Pennsauken Water Comm Middlesex Co Utilities Authority Middletown Twp Sewerage Authority * Monmouth Co Bayshore Outfill Authority * Monroe Twp Mun. Ut Auth. (Gloucester) * Montville Twp Municipal Utilities Authority Mount Holly Municipal Utilities Authority Mount Laurel Twp Municipal Utilities Auth Musconetcong Sewerage Authority * Neptune Twp Sewerage Authority * North Bergen Municipal Utilities Authority North Hudson Sewerage Authority Northwest Bergen Co Utility Authority * Ocean Co Utilities Authority * Ocean Grove Sewerage Authority Ocean Twp Municipal Utility Authority Ocean Twp Sewerage Authority * Old Bridge Municipal Utility Authority **Passaic County Utility Authority** Passaic Valley Water Commission Pemberton Twp Municipal Utilities Auth * Penns Grove Sewerage Authority Pennsauken Sewerage Authority * Pennsville Sewerage Authority Pequannock, Lincoln Park & Fairfield * Pine Hill Boro Municipal Utilities Authority Plainfield Area Regional Sewer Authority * Plainfield Municipal Utilities Authority Pompton Lakes Municipal Utilities Auth * Rahway Valley Sewerage Authority * Raritan Twp Municipal Utilities Authority * Readington-Lebanon Sewerage Authority *

Riverside Sew Authority Rockaway Valley Regional Sewer Auth * Rockleigh Boro Sewerage Authority **Runnemede Sewerage Authority Secaucus Municipal Utilities Authority** Somers Point Sewerage Authority Somerset Raritan Valley Sewerage Auth * Somerset Regional Animal Shelter * South Monmouth Reg Sewerage Auth * South Toms River Sewerage Authority * Southeast Morris Co Muni Utilities Auth * Stafford Municipal Utilities Authority Stony Brook Regional Sewerage Auth * Sussex Co Municipal Utilities Authority * Toms River Twp Municipal Utilities Auth * Two Rivers Water Reclamation Authority * **Union Co Utilities Authority** Wanaque Borough Sewerage Authority * Wanaque Valley Reg Sewerage Authority * Warren Co Municipal Utilities Authority Washington Twp Mun. Ut Auth. (Mercer) Washington Twp Mun. Ut Auth. (Gloucester) * Washington Twp Mun. Ut Auth. (Morris) * Waterford Twp Municipal Utilities Auth * W. Milford Twp Municipal Utilities Auth * Western Monmouth Utilities Authority * Weymouth Twp Municipal Utilities Auth Willingboro Municipal Utilities Authority * Woodbine Municipal Utilities Authority * Woodstown Sewerage Authority Wrightstown Municipal Utilities Authority *

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

^{*} In addition to participating in the retirement system, also participates in the State Health Benefits Program/School Employees' Health Benefits Program