

Comprehensive Annual Financial Report

Fiscal Years Ended
June 30, 2017 & 2016



Pennsylvania

PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

A Component Unit of the Commonwealth of Pennsylvania

Pennsylvania Public School Employees' Retirement System

(A Component Unit of the Commonwealth of Pennsylvania)

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Comprehensive Annual Financial Report for the Fiscal Years Ended June 30, 2017 and 2016

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*Report prepared by the Public School Employees' Retirement System
Office of Financial Management Staff*

Table of Contents

Section One – Introductory 5

Letter of Transmittal 6

Pension Benefit Disbursement by County 15

Pension Benefit Disbursement Amounts..... 16

GFOA Certificate of Achievement for Excellence in Financial Reporting..... 17

Public Pension Coordinating Council Public Pension Standards Award 18

Mission Statement..... 19

Administrative Organization

 PSERS Board of Trustees 20

 Board Committees 22

 Organizational Chart of the Public School Employees’ Retirement System 23

 Administrative Staff 24

PSERS Regional Offices..... 25

PSERS Headquarters Building 26

Section Two – Financial 27

Report of Independent Public Accountants..... 29

Management’s Discussion and Analysis 31

Financial Statements

 Statements of Fiduciary Net Position as of June 30, 2017 and 2016..... 40

 Statements of Changes in Fiduciary Net Position Years ended June 30, 2017 and 2016 42

 Notes to Financial Statements..... 44

Required Supplementary Information

 Schedule of Changes in the Employer Net Pension Liability 66

 Schedule of Employer Net Pension Liability..... 67

 Schedule of Employer Pension Contributions 67

 Schedule of Changes in the Employer Net OPEB Liability 68

 Schedule of Employer Net OPEB Liability 69

 Schedule of Employer Premium Assistance Contributions 69

 Schedule of Investment Returns - Pension and OPEB 70

 Notes to Required Supplementary Information 71

Supplementary Schedules

 Schedule of Administrative and Investment Expenses 73

 Summary of Investment Expenses..... 74

 Schedule of Payments to Non-Investment Consultants 75

Section Three – Investment 77

Chief Investment Officer Letter 78

Portfolio Summary Statistics Asset Allocation as of June 30, 2017 86

Comparison of Actual Portfolio Distribution to Asset Allocation Plan as of June 30, 2017 87

Graph – Comparison of Actual Portfolio Distribution to Asset Allocation Plan 87

Graph – Portfolio Capital Distribution 10 Year Trend..... 88

10 Largest Holdings Schedules

 Common and Preferred Stock – Non - U.S. Equity 88

 Common and Preferred Stock – U.S. Equity 89

 Fixed Income 89

 Absolute Return 90

 Postemployment Healthcare Investments 90

Table of Contents (Continued)

Comparison of Investment Activity Income Fiscal Years Ended June 30, 2017 and 2016	91
Summary Schedule of Brokers' Fees	91
Professional Consultants	92
Section Four – Actuarial.....	95
Actuary's Certification Letter	96
Summary of Results of Actuarial Valuation as of June 30, 2016.....	99
History of Contribution Rates and Funded Ratios	100
Description of Actuarial Assumptions and Methods	101
Schedule of Active Members	103
Schedules of Retired Members and Beneficiaries	104
Solvency Tests.....	105
Analysis of Past Financial Experience Reconciliation of Employer Contribution Rates	106
Schedule of Funding Progress for Pensions.....	107
Schedule of Funding Progress for Postemployment Benefits Other Than Pensions	107
Schedule of Employer Contributions for Postemployment Benefits Other Than Pensions.....	108
Section Five – Statistical.....	109
Narrative.....	110
Schedule of Trend Data.....	111
10 Year Trend Schedules	
Total Changes in Fiduciary Net Position - Pension	112
Additions to Fiduciary Net Position - Pension	113
Deductions from Fiduciary Net Position - Pension	113
Total Changes in Fiduciary Net Position - Postemployment Healthcare Plans	114
Additions to Fiduciary Net Position - Postemployment Healthcare Plans	115
Deductions from Fiduciary Net Position - Postemployment Healthcare Plans	115
Summary Membership Data	116
Summary Annuity Data.....	116
Pension Benefit and Refund Deductions from Fiduciary Net Position.....	117
Average Monthly Pension Benefit Payments.....	118
Average Monthly Pension Benefit Payments and Average Final Average Salary	120
Average Monthly Premium Assistance Benefit Payments and Average Final Average Salary.....	121
Ten Largest Employers	122
Schedule of Employers	123



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INTRODUCTORY SECTION

Letter of Transmittal.....	6
Pension Benefit Disbursement by County	15
Pension Benefit Disbursement Amounts.....	16
GFOA Certificate of Achievement for Excellence in Financial Reporting	17
Public Pension Coordinating Council Public Pension Standards Award.....	18
Mission Statement.....	19
Administrative Organization	
PSERS Board of Trustees.....	20
Board Committees	22
Organizational Chart of the Public School Employees' Retirement System.....	23
Administrative Staff.....	24
PSERS Regional Offices	25
PSERS Headquarters Building	26





5 North 5th Street
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Letter of Transmittal
COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

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October 27, 2017

The Honorable Thomas W. Wolf, Governor of Pennsylvania
Members of the PA General Assembly
Members of the Retirement System
Members of the Boards of PSERS' Employers
Pennsylvania Public School Employees' Retirement System Board of Trustees

Dear Governor Wolf, Legislators, Members, Employers' Board members, and PSERS Board of Trustees:

We are pleased to present the ninety-eighth edition of the Comprehensive Annual Financial Report (CAFR) for the Pennsylvania Public School Employees' Retirement System (PSERS, System, or Fund) for the fiscal years ended June 30, 2017 (FY 2017) and 2016 (FY 2016). This report is intended to provide financial, investment, actuarial, and statistical information in a single publication in accordance with the Government Finance Officers Association standards.

The management of the System is solely responsible for the accuracy and completion of this report, pursuant to section 24 Pa.C.S. §8502(n) of the Public School Employees' Retirement Code (Retirement Code). The entire report can be downloaded from PSERS' website at www.psers.pa.gov.

The System was established on July 18, 1917 to provide retirement benefits to public school employees of the Commonwealth of Pennsylvania (PA). The members eligible to participate in the System include all full-time public school employees, part-time hourly public school employees who render at least 500 hours of service in the school year, and part-time per diem public school employees who render at least 80 days of service in the school year in any of the 775 reporting entities in Pennsylvania. As of June 30, 2017, the System had nearly 256,000 active members with an estimated annual active payroll of \$13.3 billion.

The annuitant membership at June 30, 2017 was comprised of over 230,000 retirees and beneficiaries who receive over \$489 million in pension and healthcare benefits each month. The average yearly benefit paid to annuitants is \$25,287. The average benefit payment for each benefit type, grouped by years of credited service, is detailed in the Statistical Section of this report. See the Distribution of Annual Pension Amounts chart in the Introductory Section of this report.

In addition to retirement benefits, PSERS administers the Premium Assistance Program that provides a health insurance premium subsidy of up to \$100 per month for those retirees who qualify. At June 30, 2017, there are approximately 95,000 retirees who receive this benefit. PSERS also manages a health insurance program, PSERS Health Options Program, that is entirely funded through participating member premiums and provides Medicare Supplemental, Medicare Advantage, Prescription Drug, and Dental plans to over 95,000 retirees and their dependents.

PSERS provides a stable source of revenue for local economies throughout Pennsylvania. In FY 2017, PSERS distributed \$5.8 billion, or nearly 90%, in pension benefits to retired members who reside in Pennsylvania. These pension disbursements are a significant economic driver that benefit the economy of the Commonwealth. See the Pension Benefit Disbursement by County map in the Introductory Section of this report.

The System is a governmental cost-sharing, multiple-employer defined benefit pension plan, to which all members and 775 reporting units contribute. PSERS is administered by a staff of 317. The System is headquartered in Harrisburg, Pennsylvania, and has seven field offices in strategic areas of the Commonwealth to enable direct contact with the membership and the System's employers.

PSERS was established by law as an independent administrative board directed by a governing board of trustees (Board), which exercises control and management of the System, including the investment of its assets. PSERS is considered a component unit of the Commonwealth of Pennsylvania as defined by the Governmental Accounting Standards Board (GASB). An annual audit of the System by an independent certified public accounting firm is required by the Retirement Code. PSERS has contracted with SB & Company, LLC for this audit of its financial statements and has received an unmodified opinion as evidenced in the Report of Independent Public Accountants in the Financial Section of this CAFR. An unmodified opinion means that PSERS' financial statements fairly present, in all material respects, its financial condition. In addition, no significant findings were noted during the audit and therefore, a management letter was not issued. This is the eighth consecutive year that a management letter was not issued by the independent public accountants and is reflective of the hard work and dedication of PSERS' staff to continue to improve the internal controls, operations, and efficiency of the System.

Economic Summary

Economically, the fiscal year can be characterized as a “risk-on” period where taking concentrated equity risk paid off as opposed to holding a diversified portfolio of assets. Improving economic fundamentals, improving global growth, low but rising inflation, and increasing corporate profitability all contributed to strong equity performance. The MSCI All Country World Index, a global equity index, rose by 20.5% during this period. Conversely, commodities fell by 6.9% during the year as did U.S. long-term treasuries by 7.2%.

The U.S. economy improved but still experienced only modest growth this past fiscal year. While interest rates increased, they continued to be historically low which provided a low cost of borrowing so that broad economic conditions could continue to improve. The U.S. real Gross Domestic Product (GDP) increased year-over-year an average of 2.1% per quarter during the past fiscal year with a range of 1.2% to 2.8%. Concurrently, U.S. consumer confidence, as measured by the Conference Board's Consumer Confidence Index, improved from 97.4 at June 30, 2016 to 117.3 at June 30, 2017.

The Euro Area economy has shown improvement from last year. Evidence can be found in the improvement in the Markit Eurozone Manufacturing PMI (Purchasing Managers Index) which increased 4.6 points during the past fiscal year from 52.8 to 57.4. Aggressive actions by the ECB (European Central Bank) have generated improvements in economic growth, employment, and inflation. The ECB has continued its policy of very accommodative overnight interest rates and is ratably purchasing significant amounts of euro-denominated sovereign and corporate debt in an effort to put liquidity into the economy as well as ease financial conditions.

Japan's economy has grown for six straight quarters, the longest streak in 11 years. As of the second quarter 2017, Japan's real GDP had increased by an annualized rate of 4.0%. Japanese policy makers continue to aggressively stimulate their economy through a combination of low interest rates, the purchase of higher risk assets by the Bank of Japan, coordinated diversification into higher risk assets by large public investors, and fiscal spending policies to encourage liquidity to move into riskier assets. China had robust growth compared to the other developed regions of the world. China's real GDP increased by 6.9% over the past year, slightly faster than the 6.7% pace as of June 2016. Inflation in China has remained relatively stable over the past year at 1.5% compared to 1.9% last year.

The Board has continued to fulfill its mission to maintain stability and the long-term optimum value of the Fund. This is evidenced in the long-term growth of the System's assets and the actuarial soundness of the Fund. The annualized time-weighted rate of return for the twenty-five year period ended June 30, 2017 was 8.03% and exceeded the Fund's long-term investment rate of return assumption. Of utmost importance to the Board is the assurance that the required reserves are available for payment of retirement benefits.

Status of Pension Funding Initiatives

Act 120 of 2010 made dramatic progress toward addressing the pension funding issue. Act 120 included significant benefit reductions and also increased employer contributions to PSERS in stepped increments to slowly raise employer contributions to the actuarially required amount. During FY 2017, a major funding milestone was reached as employers fully funded 100% of the actuarially required contributions to PSERS for the first time in fifteen years. Full actuarial funding from employers, along with member contributions and investment income are all necessary sources of funds that will pay down the unfunded liability of the System. While a challenging pension funding

Introductory Section

environment remains for school employers and the Commonwealth due to legacy debt issues, all of the sources of funding are now in place to bring PSERS back to fully funded status.

As of June 30, 2017, approximately 68,000 or 26% of PSERS' active membership is under the reduced benefit structure of Act 120. The annual savings from the reduced benefit structure continue to grow and exceeded \$120 million in FY 2017.

Act 120 also provided for an innovative shifting of investment risk to members through a "shared risk" concept. New members hired after July 1, 2011 now share a portion of the investment risk of the Fund, giving PSERS a defined contribution (DC) element. Under the "shared risk" concept, members share some of the risk when investments underperform.

The first risk share measurement occurred in 2014. As a result of PSERS exceeding the investment performance hurdle mandated by Act 120, the member rate did not change. PSERS' returns outperformed the Act 120 risk share target rate for the six years ended June 30, 2017, the second risk share measurement period. As a result, PSERS' board is expected to certify there will be no change to the TE-TF member contribution rate at the December 2017 board meeting.

Pension Legislation Update - Act 5 of 2017

Throughout FY 2017, PSERS staff was actively engaged in providing actuarial data, legislative analyses, and related technical information to members of the General Assembly and Executive Branch Officials on a range of pension policy proposals while remaining policy neutral on plan design elements of legislative proposals.

On June 12, 2017 Governor Wolf signed Act 5 of 2017 into law. This pension legislation represents a substantial change to PSERS' operations and made significant changes to PSERS benefit structure for future members. School employees who become new members of PSERS on July 1, 2019 and thereafter will choose one of three new retirement plan options for their retirement benefits. The new plan design options include two hybrid plans consisting of defined benefit and defined contribution components and a stand-alone defined contribution plan. The current stand-alone defined benefit plan will no longer be available to new members.

A major effort will be required from PSERS to implement the new plan designs by the implementation date of July 1, 2019. PSERS will continue discussions with the Administration and legislative leaders to make sure the necessary funding, staffing, and other resources needed are received in order to achieve a successful plan implementation that will ultimately serve our future PSERS members.

Act 5 does not affect already retired members or those whose retirement date was prior to June 12, 2017. Class T-C and Class T-D members active on July 1, 2019 will have the opportunity to switch from the current defined benefit plan to one of the three new retirement plan options if they so choose.

Act 5 allows an actuarially neutral Option 4 "lump sum" withdrawal of member contributions and interest for Class T-E and Class T-F members whose retirement date is on or after June 12, 2017, and makes modifications to the "shared risk" program that will allow members to benefit when the Fund outperforms its investment rate of return assumption. Class T-E and Class T-F members active on July 1, 2019 will also have the opportunity to switch from the current defined benefit plan to one of the three new retirement plan options if they so choose.

Other key provisions in Act 5 include:

- Established the Public Pension and Asset Investment Review Commission to study and make recommendations to the General Assembly and the Governor regarding PSERS investment performance and investment strategies.
- Provided for PSERS legal counsel to serve independently from the Governor's Office of General Counsel.
- Established Board training requirements of 8 hours per year.
- Added Secretary of Banking and Securities as Board member, ex officio and reduced gubernatorial appointments from 2 to 1.

Major Initiatives

Pension Administration System Upgrade

The multi-year effort to upgrade the System's entire core client-server based pension administration system will culminate with an implementation in FY 2018. This mission critical system is used by PSERS' staff members and employers to execute PSERS' primary pension administration functions for all member transactions, all employer transactions and for the production of various administrative reports.

This upgrade from the existing "classic" version to a new "browser-based" version not only helps ensure the viability of PSERS' core pension administration system into the future, but also provides an enhanced "baseline" platform with built-in features that will make future enhancements much easier to implement. Enhancements included with the initial introduction of this upgraded pension administration will provide opportunities for members and employers to conduct transactions for themselves that would have previously required staff intervention. Some of these initial self-service features include: updating home mailing address, phone number and email information; setting preferences for receiving paper or electronic documents; electing Class T-E or T-F at qualification; electing multiple service membership; designating and updating beneficiaries; creating personalized retirement estimates by using an online calculator; viewing disbursements; calculating federal tax withholding using an online calculator; viewing and updating pension payment tax withholding; viewing correspondence from PSERS such as letters, newsletters, Statement of Accounts, and 1099Rs; and receiving PSERS-related news and alerts. These changes will not only directly increase customer service opportunities, but will also generate financial savings while possibly enabling PSERS to redeploy staff to other critical needs as workloads shift.

Budgetary and Financial Governance

PSERS submits its administrative budget request to the Governor's Office of the Budget each October for review. Any changes proposed by the Governor's Budget Office are made and a final amount is provided to the Legislature for their consideration. The Legislature passes the final budget and submits it to the Governor for his signature, after which it becomes law. PSERS' administrative budget is not funded from the Commonwealth's General Fund, but rather from the earnings of the Fund itself. Historically, PSERS has underspent its approved budget, keeping more funds available to invest for PSERS' members.

PSERS continues to be prudent in its use of funds and managing its annual budget. In FY 2017, PSERS expanded upon the process to stop payments sooner when a member dies, saving PSERS both time and money collecting the funds from the members' estate and reducing the amount of potentially uncollectible accounts. Working with its actuary, PSERS continues to save actuarial fees by completing various analyses in-house. Other savings include near historical low levels of overtime, a decrease in copier and printer rentals, and a reduction in overall printing expenses, all part of PSERS' ongoing efforts to control costs and improve operational efficiency.

PSERS participates in an independent, international benchmarking survey evaluating its costs and service performance in comparison to other similar public pension funds. Based on the most recent survey, PSERS had a 14% lower pension administration cost per member than the average cost for its peer group. By running a lean and efficient operation, PSERS saves the Commonwealth and school employers approximately \$6.3 million annually in administrative expenses compared to its peers.

In addition, during FY 2017, PSERS continued its ongoing efforts to recover funds from securities class action litigation. FY 2017 was one of the highest recovery years in PSERS' history as the System received \$25.2 million in settlements from these cases.

Investment Management Fees

PSERS continues to be one of the most transparent among large public pension funds in the nation for the disclosure of investment management fees. For example, certain pension funds report no or very little management fees for alternative investments because they are considered part of the cost of the investment and are netted against performance rather than shown separately. PSERS, however, obtains management fee information from its limited partnerships, and collective trust fund investments. This information is then used to fully report all relevant management fees in the System's financial statements. In addition, PSERS reports all other investment expenses, including staff compensation and overhead, consultant, legal, and bank expenses incurred.

Introductory Section

PSERS aggressively negotiates fees with all of its partnerships and managers and works to structure fee arrangements that align the interests of the investment manager with those of PSERS. Additionally, PSERS has recently embarked on an effort to reduce base management fees in exchange for higher performance or profit sharing fees with an aim to increase the alignment of interests. This will have the effect of reducing management fees in years when the managers underperform. Conversely, when those managers do well, performance fees will increase. As a result, this may add volatility to the fees paid from year to year, but will provide greater incentives for outperformance. This past year, PSERS' active managers had a very good year and performance fees increased from \$36.6 million to \$82.4 million due to above benchmark returns.

Overall, investment expenses increased by \$58 million from \$416 million in FY 2016 to \$474 million in FY 2017 mainly attributable to an increase in performance fees due to investment performance and growth in the asset base in the fixed income, absolute return, and risk parity asset classes. As a percentage of total benefits and expenses, investment expenses increased from 5.7% in FY 2016 to 6.3% in FY 2017.

Over the last four years, investment expenses as a percentage of total benefits and expenses has decreased from a high of 8.2% in FY 2013 to 6.3% in FY 2017 due to a decrease in investment expenses from \$558 million in FY 2013 to \$474 million in FY 2017.

Customer Service

PSERS has continued to make enhancements to its processes to operate more efficiently and provide quality customer service to our stakeholders. PSERS continued its efforts to provide retirement benefits in an efficient manner through a one-step process. Approximately 91% of the retirement benefits processed in FY 2017 were paid in one-step versus 87% in FY 2016. This was done while decreasing the number of days to pay a benefit from 27 days in FY 2016 to 24 days in FY 2017. Additionally, members whose benefit was processed in two steps, received their finalized benefit in 3 months as opposed to 5 months in the previous fiscal year.

The regional office in Pittsburgh was relocated from its downtown location to an updated facility with better accessibility in northern Pittsburgh. Due to the close proximity of other regional offices that provide the same service, PSERS closed its regional office in Fleetwood. This allowed positions to be relocated to neighboring regional offices for improved customer service in those locations.

Technology Upgrade

In March 2017, PSERS updated its websites to a Commonwealth-hosted content management solution. In addition to providing for operational efficiencies, this new medium allowed for the incorporation of a complete redesign using many industry best practices.

Understanding the importance of keeping our member data protected, PSERS appointed a Chief Information Security Officer (CISO) in August 2016 whose sole purpose is information security. The CISO has started to revamp the information security program at PSERS by completing a Commonwealth IT policy and compliance review and a General Information Security Assessment, along with a few other specific initiatives. PSERS is dedicated to ensuring the protection of member and employer data while still providing ease of access for members and staff. This is especially important as we move to the new Member Self Service Portal coming next year. As today's world changes with new and ever growing cyber security threats, PSERS maintains a focus on security and will continue to look for new ways to ensure member and employer data is protected.

Auditor General Report

During FY 2017, the Pennsylvania Department of the Auditor General completed a complex Special Performance Audit of PSERS. The objectives of the audit were (1) Pension Forfeiture Law compliance; (2) PSERS' Governance Structure and oversight of Investment Operations; (3) External Investment Manager fees; (4) Risk Management Strategies over the Investment Portfolio; and (5) Implementation of prior audit findings and recommendations from their report issued in September 2006. During the 9-month audit, PSERS responded to 72 detailed data requests and participated in multiple interviews and briefings with the Audit Team.

Overall, the Performance Audit Report opined that PSERS' reporting and transparency of investment expenses surpasses its peer public pension funds; PSERS' management of investment expenses appears standard; PSERS' attention to asset allocation, diversification and risk management appears adequate and reasonable; and PSERS has complied with the Public Employee Pension Forfeiture Act. There were no findings that suggest any fraud, waste or

abuse of funds or any instances where poor decisions, policies or practices of the PSERS Board or Staff have resulted in losses to the fund or violations of applicable laws or regulations. Many of the findings and recommendations were procedural and administrative in nature. PSERS Management accepted these findings and recommendations in the spirit of continuous improvement of the administration of the System.

Financial Highlights

The fair value of the System's fiduciary net position grew \$3.3 billion during FY 2017 to \$53.5 billion as of June 30, 2017 and the unfunded liability, on a market value basis, declined. The System is the 16th largest state-sponsored public defined benefit pension fund in the nation and the 28th largest among public and corporate pension funds in the nation. More specific information on the System's net position is detailed in the Statements of Fiduciary Net Position and Management's Discussion and Analysis included in the Financial Section of this report.

One of PSERS' mission critical objectives is the timely and accurate payment of benefits. In FY 2017, PSERS provided over \$6.9 billion in pension and healthcare benefits to its members.

The System's administrative budget request is appropriated by the PA General Assembly and funded by the investment income of the System. For FY 2017, the appropriation was \$44.7 million.

Funding

Funding is the process of specifically setting aside money for current and future use. Proper funding for a defined benefit pension plan entails an actuarial examination of the fund balances and liabilities to ensure money will be available for current and future benefit payments. The actuarial valuation measures the progress toward funding pension obligations of the System by comparing the actuarial assets to the actuarial liabilities of the System.

The results of PSERS' latest published actuarial valuation (as of June 30, 2016) indicated that the rates of contribution payable by the members and employers, when taken together with the current assets of the System, are adequate to fund the actuarial liabilities for all benefits payable under the System at that date. The total funded status as of the latest actuarial valuation was 57.3%. Additional comparative information on the funded status of PSERS can be found in the Financial Section and in the Actuarial Section of this report.

Investments

Over the past few years, PSERS' Board and investment staff made significant changes to the Fund's investment asset allocation, including further refining its investment strategy and increasing the diversification of assets. In particular, PSERS actively reduced its risk profile by significantly decreasing its equity exposure and by moving portions of the Fund's assets into asset classes that are less correlated to the equity markets.

Income from the investment portfolio represents the major source of revenue to the System, accounting for 63% of total revenues over the twenty-year period from FY 1998 to FY 2017. During FY 2017, net investment income was \$5.0 billion. The investment portfolio, which is one part of the System's net position, totaled \$52.5 billion, at fair value, as of June 30, 2017. For FY 2017, the time-weighted net rate of return on the System's investments was 10.14%.

The investment portfolio is well diversified to emphasize a long-term investment approach. The overall objective of the System is to provide benefits to its members through a carefully planned and well-executed investment program. The return objectives are to: (i) realize a return that exceeds the Policy Index (the Policy Index is a custom benchmark, based on the Board-established asset allocation structure that seeks to generate a return that meets the actuarial rate of return assumption); and (ii) invest the assets to maximize returns for the level of risk taken. The risk objectives are to: (i) diversify the assets of the System to minimize the risk of losses within any one asset class, investment type, industry or sector distribution, maturity date, or geographic location; and (ii) invest the assets so that the probability of investment losses (as measured by the Policy Index) in excess of 15.0% in any one year is no greater than 2.5% (or two standard deviations below the expected return). Additional information on the System's investments is contained in the Investment Section of this report.

Federal and State Tax Status

The System is a qualified trust fund under Section 401(a) of the Internal Revenue Code (IRC). As a result of the qualified status, the trust fund is entitled to an exemption, under Section 501(a) of the IRC, from federal income taxation on its investment earnings. Additionally, contributions made on behalf of the active members are tax deferred under Section 414(h) of the IRC. The trust fund and any benefits accruing to the members of PSERS are exempt from Pennsylvania state and municipal taxes. The Internal Revenue Service (IRS) issued a determination letter dated March 16, 2017 which stated that the plan and its underlying trust qualify under the provisions of Section 501(a) of the IRC and therefore are exempt from federal income taxes.

Act 93 of 2015

On December 28, 2015, Governor Wolf signed into law House Bill Number 1332, Printer's Number 1814, as Act 93 of 2015. This legislation amends the Retirement Codes of the Public School Employees' Retirement System and the State Employees' Retirement System (SERS) to ensure that PSERS and SERS will remain tax-qualified 401(a) governmental plans under the Internal Revenue Code (IRC).

Internal Controls and Reporting

PSERS' management is responsible for and has implemented internal controls designed to provide reasonable assurances for the safeguarding of assets and the reliability of financial records. This report has been prepared in accordance with accounting principles generally accepted in the United States of America. The System maintains a full accrual accounting system. More specific accounting information is detailed in the Summary of Significant Accounting Policies (Note 2) in the notes to the financial statements found in the Financial Section of this report.

A system of internal controls provides reasonable, but not absolute, assurance that assets are properly safeguarded and that financial statements are reliable. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely to be derived, and second, the valuation of the cost and benefits requires estimates and judgments by management.

PSERS' management believes the internal accounting controls currently in place are adequate to meet the purpose for which they were intended and also believes the financial statements, supporting schedules, and statistical tables are fairly presented.

GASB OPEB Accounting and Financial Reporting Project (OPEB Project)

In June 2015, the Governmental Accounting Standards Board (GASB) approved a pair of related Statements that reflect substantial changes to the accounting and financial reporting of state and local government Postemployment Benefit Plans Other Than Pension Plans (OPEB). Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, addresses financial reporting for state and local government OPEB plans. Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, establishes new accounting and financial reporting requirements for governments that provide or finance OPEB.

Statement No. 74 replaced the requirements of Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pensions*, for most OPEB plans provided by state and local governments. Statement No. 75 replaces the requirements of Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, and Statement No. 57 *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for most government employers providing or financing OPEB.

Statement No. 74 provides OPEB plans such as PSERS Health Insurance Premium Assistance Program guidance for financial reporting. Statement No. 74 significantly changed related financial reporting through note disclosures and new Required Supplementary Information (RSI) schedules. These changes are necessary for government employers to comply with Statement No. 75.

PSERS adopted Statement No. 74 for the fiscal year ended June 30, 2017. An analysis of Statement No. 74 can be found in the Management's Discussion and Analysis, notes to the financial statements, and RSI found in the Financial Section of this report.

Professional Services

Professional consultants are appointed by the Board of Trustees to perform services essential to the efficient operation of the System. An annual audit by an independent certified public accounting firm and an annual valuation by an actuarial consultant attest to the financial and actuarial soundness of PSERS. The investment performance of the System is reviewed by an investment evaluation firm on a quarterly basis. The consultants providing services to the System are listed in the Financial Section and Investment Section of this report.

Other Information

In compliance with the Retirement Code, actuarial tables and the computational procedures used by the System in calculating annuities and other benefits were published in the *Pennsylvania Bulletin* (Vol. 43, No. 18). This information can be found at <http://www.pabulletin.com/secure/data/vol43/43-18/841.html>.

System Awards

Government Finance Officers Association of the United States and Canada Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to PSERS for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2016. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports. To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report whose contents conform to program standards. Such a comprehensive annual financial report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year. PSERS has received a Certificate of Achievement for 34 consecutive years from FY 1983 to FY 2016. A photograph of this award appears in the Introductory Section of this report. Its attainment represents a significant accomplishment by the System, whose Office of Financial Management holds general responsibility for the compilation and validity of the financial data presented in the Comprehensive Annual Financial Report.

The System believes the current report continues to conform to the Certificate of Achievement program requirements and will be submitting this report to GFOA to determine eligibility for the 2017 certificate.

GFOA Popular Annual Financial Reporting Award

Government Finance Officers Association of the United States and Canada (GFOA) has given an Award for Outstanding Achievement in Popular Annual Financial Reporting to PSERS for its Popular Annual Financial Report for the fiscal year ended June 30, 2016, which PSERS refers to as its Summary Annual Financial Report. The Award for Outstanding Achievement in Popular Annual Financial Reporting is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports.

In order to receive an Award for Outstanding Achievement in Popular Annual Financial Reporting, a government unit must publish a Popular Annual Financial Report, whose contents conform to program standards of creativity, presentation, understandability, and reader appeal.

An Award for Outstanding Achievement in Popular Annual Financial Reporting is valid for a period of one year only. This was PSERS' first Popular Annual Financial Report publication and award.

Public Pension Coordinating Council Public Pension Standards Award

The Public Pension Coordinating Council has awarded its Public Pension Standards Award to PSERS for 2016. This award is in recognition of meeting professional standards for plan design and administration as set forth in the Public Pension Standards.

The Public Pension Coordinating Council was formed in 1990 to assist the public employee retirement community. The Council is composed of representatives from three national associations whose members are directly involved in the administration of public employee retirement systems: the National Association of State Retirement Administrators

Introductory Section

(NASRA); the National Conference on Public Employee Retirement Systems (NCPERS); and the National Council on Teacher Retirement (NCTR). A reproduction of this award appears in the Introductory Section.

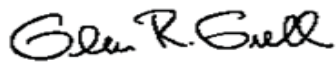
CIO Industry Innovation Award

On December 12, 2016, Chief Investment Officer Magazine awarded PSERS with the 2016 Industry Innovation Award for Public Defined Benefit Plans, \$15 billion to \$100 billion. This investment industry award recognizes innovation in institutional investing. PSERS was one of seven public plans nominated for this award.

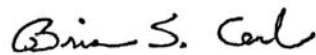
Acknowledgements

The preparation of this report reflects the combined efforts of PSERS' staff under the direction of the PSERS Board. It is intended to provide complete and reliable information in conformance with accepted standards and to document responsible stewardship of the System's assets.

Respectfully submitted,



Glen R. Grell
Executive Director

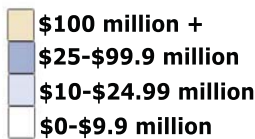


Brian S. Carl, CPA, CTP
Chief Financial Officer

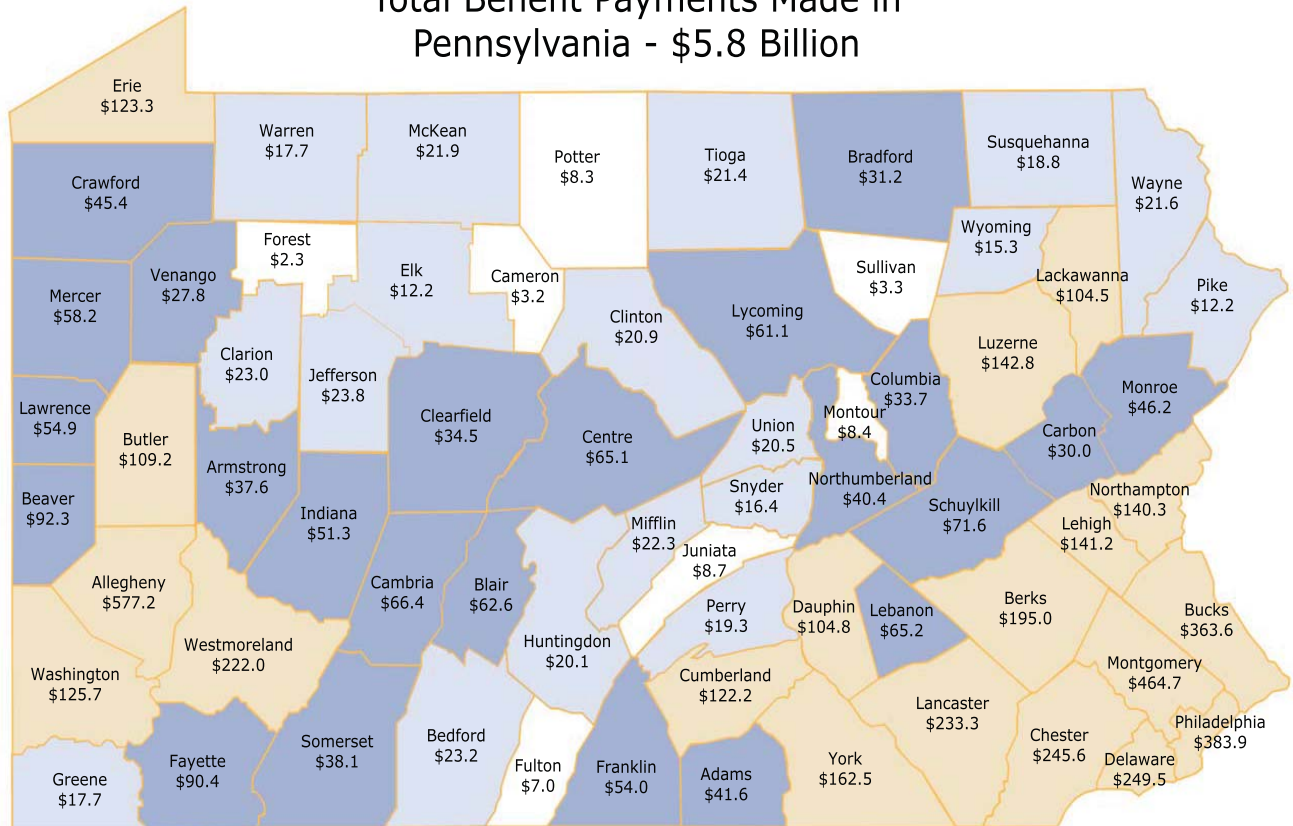
Pension Benefit Disbursement by County Fiscal Year 2017 (Dollar Amounts in Millions)

PSERS provides a stable source of revenue for local economies throughout Pennsylvania. Each year PSERS pays out billions in pension benefits to retired members who reside in Pennsylvania. In fiscal year 2017, PSERS pension disbursements to retirees totaled approximately \$6.5 billion. Of this amount nearly 90%, or \$5.8 billion, went directly into state and local economies. These pension disbursements are a significant economic driver that benefit the economy of the Commonwealth.

Top 10 Counties Based on Pension Benefit Disbursements (Dollars in Millions)	
Allegheny	\$577.2
Montgomery	\$464.7
Philadelphia	\$383.9
Bucks	\$363.6
Delaware	\$249.5
Chester	\$245.6
Lancaster	\$233.3
Westmoreland	\$222.0
Berks	\$195.0
York	\$162.5



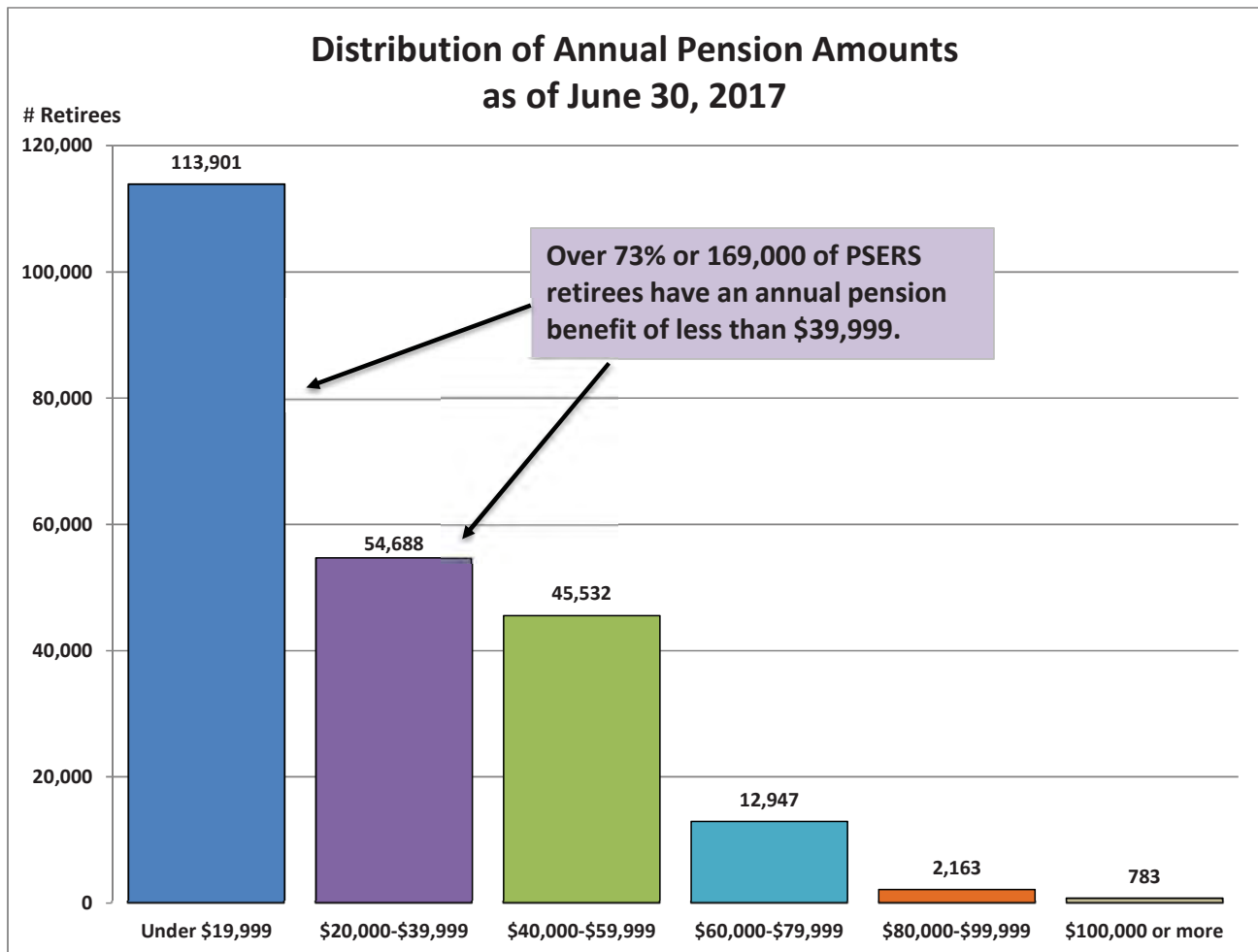
**Total Benefit Payments Made in
Pennsylvania - \$5.8 Billion**



Pension Benefit Disbursement Amounts Fiscal Year 2017 (Dollar Amounts in Millions)

The average PSERS retiree receives a modest pension of \$25,287 on an annual basis, a benefit earned through a lengthy career of 23 years in public education. During their career, members make mandatory contributions to PSERS to help fund their own retirement benefit. Most members contribute between 7.50% and 10.30% of their pay depending on their class of membership to help fund their own retirement benefit. In accordance with Act 120, new members as of July 1, 2011 and thereafter are funding the majority of the cost of their benefit. This is in contrast to many non-public (private) pension plans. In over 90% of such plans, members do not contribute and the employers bear 100% of the cost of the benefit.

Six figure pensions are rare. In FY 2017, there were approximately 783 retired members receiving an annual benefit over \$100,000 out of a total 230,000 PSERS retirees. These six-figure pension retirees spent an average of 38 years working in their public education careers and contributing to their benefit.





2012

2013

2014

2015

2016



GOVERNMENT FINANCE OFFICERS ASSOCIATION

Certificate of Achievement
for Excellence
in Financial Reporting

Presented to

Pennsylvania Public School
Employees' Retirement System

A handwritten signature in black ink, reading "Jeffrey A. Casan".

Executive Director / CEO



Public Pension Coordinating Council

*Public Pension Standards Award
For Funding and Administration
2016*

Presented to

***Pennsylvania Public School Employees'
Retirement System***

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

Presented by the Public Pension Coordinating Council, a confederation of

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

A handwritten signature in black ink that reads "Alan H. Winkle". The signature is written in a cursive style with a large initial 'A'.

Alan H. Winkle
Program Administrator

Mission Statement



The Board of Trustees and the employees of the Public School Employees' Retirement System (System) serve the members and stakeholders of the System by:

- Providing timely and accurate payment of benefits*
- Maintaining a financially sound System*
- Prudently investing the assets of the System*
- Clearly communicating members' and employers' rights and responsibilities, and*
- Effectively managing the resources of the System*

adopted June 20, 2008

Administrative Organization PSERS Board of Trustees



Seated, front row: Stacey Connors, designee for Honorable Patrick M. Browne; Deborah J. Beck; Susan C. Lemmo; Melva S. Vogler, Board Chairman; Virginia M. Lastner; Lori Graham, designee for Secretary Pedro A. Rivera

Standing, second row: Christopher SantaMaria; Luc Miron, designee for Honorable John P. Blake; Bernard Gallagher, designee for Honorable Joseph F. Markosek; Glen R. Grell, PSERS' Executive Director, Board Secretary; Honorable Stephen Bloom; Jason M. Davis; Nathan G. Mains; Ambassador Martin J. Silverstein

Not pictured: Honorable Joseph M. Torsella, and Secretary Robin L. Wiessmann

PSERS Board of Trustees

Secretary of Education of the Commonwealth of Pennsylvania (ex officio)

Mr. Pedro A. Rivera

Secretary of Banking and Securities of the Commonwealth of Pennsylvania (ex officio)

Ms. Robin L. Wiessmann

Treasurer of the Commonwealth of Pennsylvania (ex officio)

Honorable Joseph M. Torsella

Executive Director of the Pennsylvania School Boards Association, Inc. (ex officio)

Mr. Nathan G. Mains

One member appointed by the Governor of the Commonwealth of Pennsylvania for a term of three years

Ambassador Martin J. Silverstein (term expires 12/31/17)

Three members elected from among the Active Certified Contributors of the System for a term of three years

Mr. Jason M. Davis (term expires 12/31/19)

Ms. Susan C. Lemmo (term expires 12/31/18)

Mr. Christopher SantaMaria (term expires 12/31/20)

One member elected from among the Active Non-Certified Contributors of the System for a term of three years

Ms. Deborah J. Beck (term expires 12/31/18)

One member elected from among the annuitants of the System for a term of three years

Ms. Melva S. Vogler (term expires 12/31/19)

One member elected by the members of Pennsylvania Public School Boards from among their number for a term of three years

Ms. Virginia M. Lastner (term expires 12/31/17)

Two members appointed by the Speaker of the House from the Pennsylvania House of Representatives, one representing the Majority Party and one representing the Minority Party

Honorable Stephen Bloom (term expires 12/31/18)

Honorable Joseph F. Markosek (term expires 12/31/18)

Two members appointed by the President Pro Tempore of the Pennsylvania Senate, one representing the Majority Party and one representing the Minority Party

Honorable John P. Blake (term expires 12/31/18)

Honorable Patrick M. Browne (term expires 12/31/18)

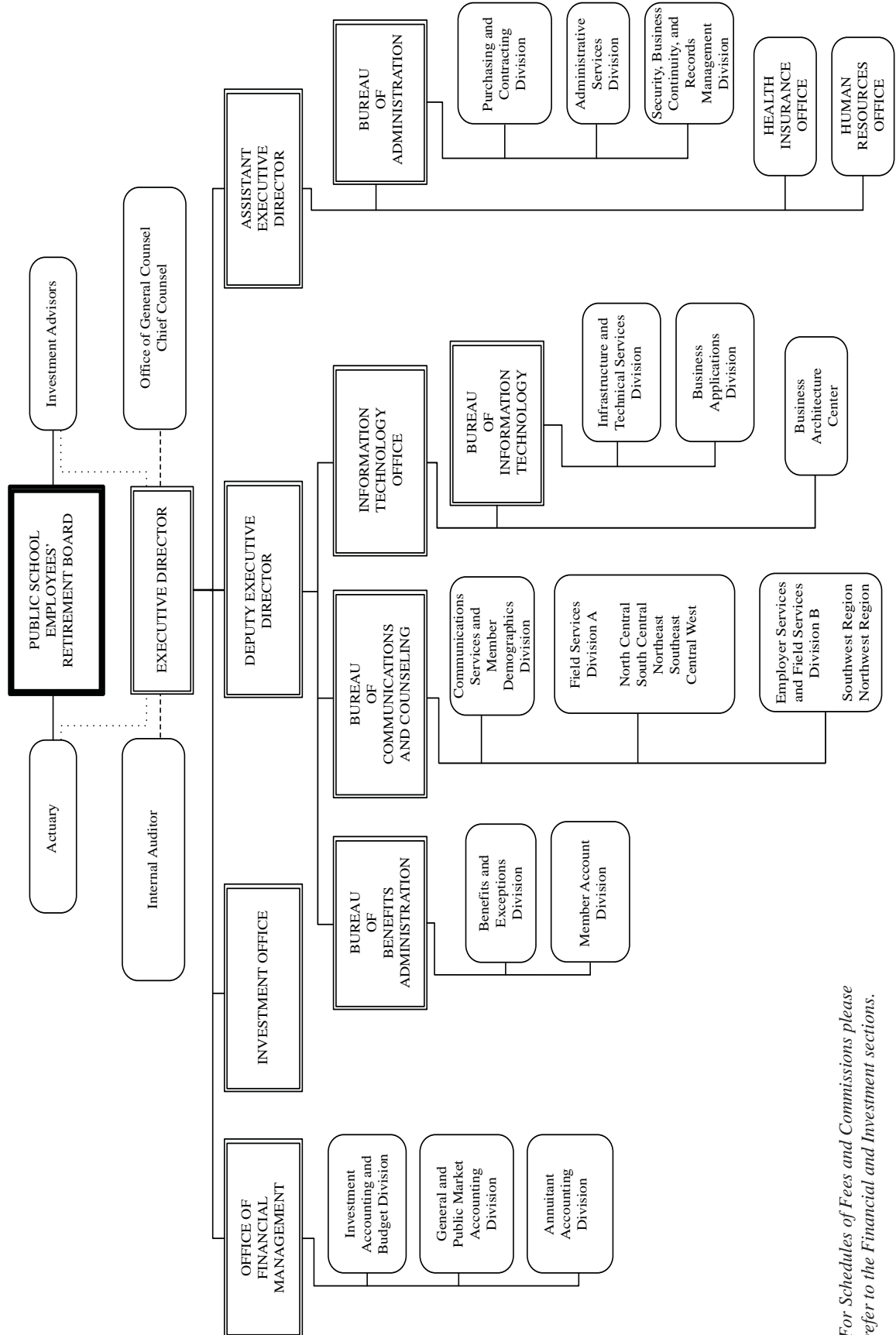
2017 Board Committees

<p style="text-align: center;">Appeals/Member & Employer Services</p> <p style="text-align: center;">Ms. Beck, Chair Senator Blake Representative Bloom Mr. Davis Ms. Lemmo Mr. SantaMaria</p>	<p style="text-align: center;">Audit/Compliance</p> <p style="text-align: center;">Representative Bloom, Chair Senator Blake Ms. Lastner Mr. Mains Representative Markosek Treasurer Torsella</p>	<p style="text-align: center;">Budget/Finance</p> <p style="text-align: center;">Representative Bloom, Chair Senator Blake Ms. Lastner Mr. Mains Representative Markosek Treasurer Torsella</p>
<p style="text-align: center;">Bylaws/Policy</p> <p style="text-align: center;">Representative Markosek, Chair Senator Browne Mr. Davis Ms. Lemmo Mr. Mains Mr. Rivera</p>	<p style="text-align: center;">Corporate Governance</p> <p style="text-align: center;">Senator Browne, Chair Representative Markosek Mr. SantaMaria Ambassador Silverstein Treasurer Torsella Ms. Wiessmann</p>	<p style="text-align: center;">Elections</p> <p style="text-align: center;">Ambassador Silverstein, Chair Ms. Beck Senator Browne Mr. Davis Mr. Rivera Treasurer Torsella</p>
<p style="text-align: center;">Health Care</p> <p style="text-align: center;">Ms. Lemmo, Chair Ms. Beck Senator Blake Representative Bloom Mr. Davis Ms. Lastner</p>	<p style="text-align: center;">Investment</p> <p style="text-align: center;">Mr. Mains, Chair Ms. Lemmo</p> <p style="text-align: center;">Committee is comprised of all Board Members</p>	<p style="text-align: center;">Personnel</p> <p style="text-align: center;">Ms. Lastner, Chair Senator Blake Ms. Lemmo Mr. Mains Representative Markosek Treasurer Torsella</p>

NOTE: The chair of the Board of Trustees is a voting ex officio member of all Committees.

Organizational Chart of the Public School Employees' Retirement System

As of June 30, 2017



For Schedules of Fees and Commissions please refer to the Financial and Investment sections.

Administrative Staff



James H. Grossman Jr.
Chief Investment Officer



Glen R. Grell
Executive Director



Terrill J. Sanchez
Deputy Executive Director



Charles K. Serine
Chief Counsel



Brian S. Carl
Chief Financial Officer



Joseph E. Wasiak
Assistant Executive Director



Richard R. Spinks
Chief Technology Officer



Edward G. Rohrbaugh
Director of Administration



Franca M. D'Agostino
Director of Health
Insurance



Eugene W. Robison
Director of Communications
and Counseling



Steven C. Goldstein
Director of Information
Technology



Tammy L. Meshey
Director of Human
Resources



Marla Cattermole
Director of Benefits
Administration



Alicia James
Internal Auditor



Tony Parisi
Director of Government
Relations



Evelyn M. Williams
Press Secretary

PSERS REGIONAL OFFICES

Public School Employees' Retirement System of Pennsylvania

PSERS FIELD SERVICES DIVISION



Northwest

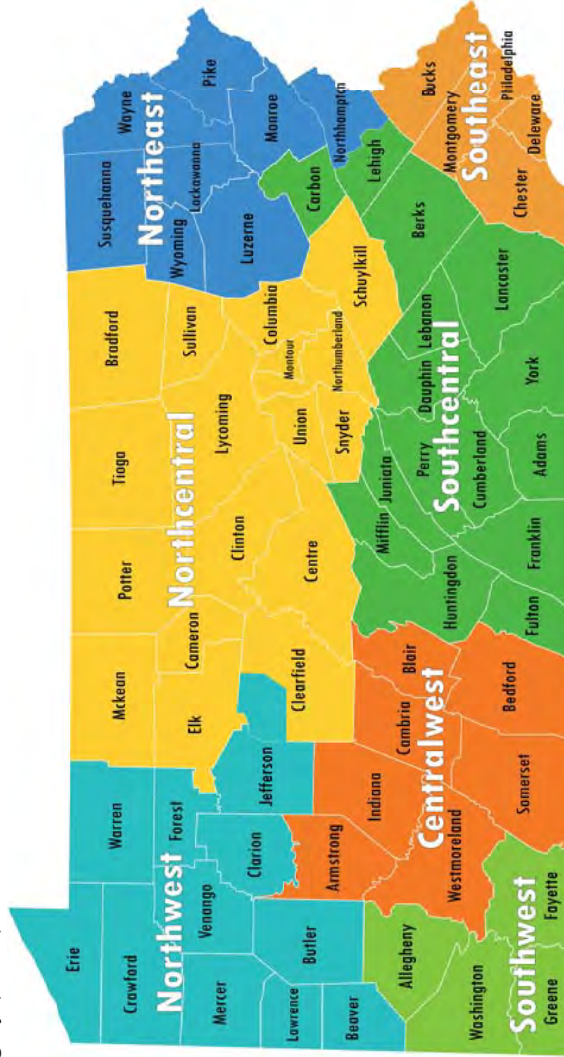
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 Donald Gregory (x5150)

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 Sherry Sibio (x5350)



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 Russell Miller (x5751)

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 Brian Farester (x5850)

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 John Tucker (x6330)

Southeast

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Warminster, PA 18974-2825
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 FAX: 1.215.443.3487
Toll-Free: 1.888.773.7748 ext. 5575
 Joshua Catalfu (x5551)
 Linda Visco (x5560)

Effective June 30, 2017

PSERS Headquarters Building



The administrative headquarters of the Public School Employees' Retirement System (PSERS) is located at 5 North Fifth Street in downtown Harrisburg, Pennsylvania within the State Capitol complex. Regional field offices are also maintained in Ebensburg, Franklin, Lock Haven, Harrisburg, Pittsburgh, Warminster, and Scranton.

The headquarters building was constructed and first occupied by the Retirement System in 1987. It is the first time a building was constructed for PSERS use. It is owned by the Five North Fifth Street Corporation, a holding entity formed by PSERS, and is managed by Property Management, Inc.

FINANCIAL SECTION

Report of Independent Public Accountants	29
Management’s Discussion and Analysis	31
Financial Statements	
Statements of Fiduciary Net Position.....	40
Statements of Changes in Fiduciary Net Position	42
Notes to Financial Statements	44
Required Supplementary Information	
Schedule of Changes in the Employer Net Pension Liability.....	66
Schedule of Employer Net Pension Liability.....	67
Schedule of Employer Pension Contributions	67
Schedule of Changes in the Employer Net OPEB Liability.....	68
Schedule of Employer Net OPEB Liability.....	69
Schedule of Employer Premium Assistance Contributions.....	69
Schedule of Investment Returns - Pension and OPEB	70
Notes to Required Supplementary Information	71
Supplementary Schedules	
Schedule of Administrative and Investment Expenses.....	73
Summary of Investment Expenses	74
Schedule of Payments to Non-Investment Consultants	75





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REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

The Board of Trustees of
Commonwealth of Pennsylvania Public School Employees' Retirement System
Harrisburg, Pennsylvania

Report on the Financial Statements

We have audited the accompanying basic financial statements of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS), as of June 30, 2017 and 2016, and for the years then ended, and the related notes to the financial statements, which collectively comprise PSERS's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on the basic financial statements based on our audits. We conducted our audits 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 basic financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the basic financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the basic 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 basic 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 basic financial statements.

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

Opinion

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the respective financial position of PSERS, as of June 30, 2017 and 2016, and the respective changes in its financial position thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.



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Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, Supplementary Schedule of Changes in the Employer Net Pension Liability, Schedule of Employer Net Pension Liability, Schedule of Employer Pension Contributions, Schedule of Changes in the Employer Net OPEB Liability, Schedule of Employer Net OPEB Liability, Schedule of Employer Premium Assistance Contributions, Schedule of Investment Returns - Pension and OPEB and related Notes to Required Supplementary Information 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 evidence sufficient to express an opinion or provide any assurance.

Other Information

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise PSERS' basic financial statements. The Schedule of Administrative and Investment Expenses, Summary of Investment Expenses, Schedule of Payments to Non-Investment Consultants, and the Introductory, Investment, Actuarial, and Statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements.

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

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

Hunt Valley, Maryland
September 25, 2017

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS, System, Fund) for the fiscal year ended June 30, 2017 (FY 2017) provides a narrative summary of PSERS' financial position and performance, including highlights and comparative data. The MD&A is presented as required supplementary information to the financial statements and should be read in conjunction with the financial statements, the notes to financial statements, and the supplementary schedules.

Overview of Financial Statements

PSERS is primarily responsible for administering a defined benefit pension plan for public school employees in the Commonwealth of Pennsylvania. PSERS also administers two voluntary postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants. As part of the HOP, PSERS has an Employer/Union Direct Contract with the Centers for Medicare and Medicaid Services (CMS) to provide a Medicare Part D Prescription Drug Plan to participants. The financial statements present the financial position and activities for the pension plan and the two postemployment healthcare programs.

The *Statements of Fiduciary Net Position* provide a snapshot of the financial position of PSERS at June 30, 2017. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items.

The *Statements of Changes in Fiduciary Net Position* summarize PSERS' financial activities that occurred during the fiscal period from July 1, 2016 to June 30, 2017. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items.

The *Notes to Financial Statements* provide additional information that is essential for a full understanding of the financial statements. The notes are an integral part of the financial statements and include detailed information not readily evident in the basic financial statements such as accounting policies, plan membership and benefits, and summary disclosures of selected financial data.

The *Required Supplementary Information* immediately following the notes to financial statements provide seven schedules illustrating the Changes in the Employer Net Pension Liability, Employer Net Pension Liability, Employer Pension Contributions, Changes in the Employer Net OPEB Liability, Employer Net OPEB Liability, Employer

Premium Assistance Contributions, and Investment Returns - Pension and OPEB.

The remaining supplementary schedules provide additional detailed information concerning the administrative expenses, investment expenses, and payments to non-investment consultants. These schedules emphasize the long-term nature of the pension and premium assistance plans and show the progress of PSERS in accumulating assets sufficient to pay benefits when due. All of this supplementary information is considered useful in understanding and evaluating the financial activities of PSERS.

Financial Highlights

- The time-weighted rate of return on investments was 10.14% for FY 2017, 1.29% for the fiscal year ended June 30, 2016 (FY 2016), and 3.04% for the fiscal year ended June 30, 2015 (FY 2015). The annualized rate of return since the Great Recession was 9.28%, which exceeded the 7.25% actuarial investment rate. Unless otherwise noted, all rates of return are net of fees.
- PSERS' total net position increased by \$3.3 billion from \$50.2 billion at June 30, 2016 to \$53.5 billion at June 30, 2017. The increase was due in large part to net investment income plus member and employer contributions exceeding deductions for benefit and administrative expenses. The change in total net position was a decrease of \$1.7 billion from \$51.9 billion at June 30, 2015 to \$50.2 billion at June 30, 2016. This decrease was due in large part to deductions for benefits and administrative expenses exceeding net investment income plus member and employer contributions.
- Total employer contributions increased from \$3.3 billion in FY 2016 to \$3.9 billion in FY 2017. This increase was primarily attributable to an increase in the total employer contribution rate from 25.84% in FY 2016 to 30.03% in FY 2017 in accordance with Act 120 of 2010. FY 2017 was the last of the large percentage increases in the employer contribution rate, as PSERS employers fully funded the actuarially required contributions in FY 2017.
- Total PSERS' benefit expense increased slightly from \$6.8 billion in FY 2016 to \$6.9 billion in FY 2017. The average monthly benefit and the number of members receiving benefits increased in FY 2017. New retirements during FY 2017 decreased by approximately 6% from FY 2016.

Management’s Discussion and Analysis (continued)

Progress of Act 120 on PSERS’ Funding

On November 23, 2010, the Governor signed HB 2497 into law. The legislation is now known as Act 120 of 2010. Act 120 preserves the benefits of existing members and includes a series of actuarial and funding changes to PSERS and benefit reductions for individuals who become new members of PSERS on or after July 1, 2011. The Act created two new membership classes, T-E and T-F. T-E and T-F members are subject to “shared-risk,” meaning that their employee contributions can increase or decrease due to investment performance.

Act 120 addressed the pending employer contribution rate spike projected for FY 2013 by smoothing the projected rate increases over a five- to nine-year time period. Instead of a large rate spike in one year, under Act 120, the employer contribution rate has increased steadily each year from the 5.64% in effect when Act 120 became law to the 30.03% rate in FY 2017. Prior to Act 120, PSERS’ Annual Required Contribution (ARC) percentage under

Governmental Accounting Standards Board (GASB) standards was 27%. As a result of the Act 120 funding increases, on July 1, 2016, PSERS began receiving 100% of actuarially required contributions for the first time in 15 years. This marks a significant milestone in PSERS’ contribution history and establishes a path to full funding.

The employer normal cost of Act 120 members is less than 3% of payroll which is over 65% less than the normal cost for pre-Act 120 members. As the percentage of T-E and T-F membership grows, the annual cost of benefits continues to decline steadily.

Funded Status and State Accumulation Account

PSERS uses an actuarial reserve type of funding that is financed by member contributions, employer contributions, and earnings from invested assets. Figure 1 illustrates a thirty-year history of PSERS’ funded status. An independent actuarial valuation of PSERS’ actuarial assets and liabilities is performed annually. As part of this valuation, the progress

Analysis of Fiduciary Net Position

(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2017	Increase (Decrease)	FY 2016	Increase (Decrease)	FY 2015
Assets:					
Receivables	\$ 2,536,842	\$ (658,316)	\$ 3,195,158	\$ 860,552	\$ 2,334,606
Investments	52,485,811	4,487,827	47,997,984	(2,581,047)	50,579,031
Securities lending collateral pool	2,016,063	(76,666)	2,092,729	885,559	1,207,170
Capital assets	24,001	1,130	22,871	57	22,814
Miscellaneous	17,251	5,061	12,190	6,984	5,206
Total Assets	57,079,968	3,759,036	53,320,932	(827,895)	54,148,827
Liabilities:					
Payables and other liabilities	1,556,959	479,318	1,077,641	21,058	1,056,583
Obligations under securities lending	2,016,063	(76,666)	2,092,729	885,559	1,207,170
Total Liabilities	3,573,022	402,652	3,170,370	906,617	2,263,753
Net Position	\$ 53,506,946	\$ 3,356,384	\$ 50,150,562	\$ (1,734,512)	\$ 51,885,074

Summary of Changes in Fiduciary Net Position

Additions:					
Contributions	\$ 4,957,605	\$ 665,522	\$ 4,292,083	\$ 593,910	\$ 3,698,173
Participant premiums and CMS	410,417	51,251	359,166	34,875	324,291
Net investment income	4,996,703	4,522,656	474,047	(854,836)	1,328,883
Total Additions	10,364,725	5,239,429	5,125,296	(226,051)	5,351,347
Deductions:					
Benefit expense	6,923,904	144,327	6,779,577	165,423	6,614,154
Administrative expenses	84,437	4,206	80,231	7,731	72,500
Total Deductions	7,008,341	148,533	6,859,808	173,154	6,686,654
Changes in Net Position	\$ 3,356,384	\$ 5,090,896	\$ (1,734,512)	\$ (399,205)	\$ (1,335,307)

Management’s Discussion and Analysis (continued)

toward funding pension obligations of PSERS is measured by comparing the actuarial value of assets to the actuarial accrued liability. This measurement is referred to as the funded ratio or funded status. The most recent actuarial valuation reports that PSERS is 57.3% funded as of June 30, 2016. The funded ratio decreased from 60.6% as of June 30, 2015 due to employer contributions below the actuarially recommended level and an increase in the actuarial accrued liability from additional member service and the adoption of new actuarial assumptions. The actuarial value of assets, which is based on a ten-year smoothing period, remained consistent.

The results of operations for FY 2017 will be reflected in the actuarial valuation for the year ended June 30, 2017. Due to the normal lag time for completion of the actuarial valuation, the resulting funded status will be available at the end of the 2017 calendar year and will be reported in the financial statements for the fiscal year ending June 30, 2018 (FY 2018). Based on the investment performance for the ten-year period ended June 30, 2017, which is below the investment rate of return assumption during that time period, the funded ratio at June 30, 2017 is expected to decrease.

Under GASB 67, the market value funded ratio, which is referred to as the plan fiduciary net position as a percentage of total pension liability, increased from 50.14% at June 30, 2016 to 51.84% at June 30, 2017 as the Fund received the full actuarially determined contributions, had investment returns which exceeded the investment return assumption and experienced a small growth in benefit payments in FY 2017. The Fund is reaching a turning point after experiencing declining actuarial and market value funded ratios for many years. All the ingredients are now in place and a path to full funding has been established.

PSERS’ State Accumulation Account was relatively consistent from June 30, 2016 to June 30, 2017 (See Note 3). Actuarial experience from the implementation of new assumptions offset favorable investment performance. Increased employer contributions and investment earnings will be used to reduce the deficit in this account in the future.

Investments

PSERS is a long-term investor and manages the pension fund with long-term objectives in mind. A primary element of PSERS’ investment philosophy is diversification among various asset classes, which is the best way to achieve its goals. PSERS makes estimates of future long-term market returns and establishes an asset allocation plan taking into account the risk associated with each asset class as well as the financial objectives of the Fund.

The fiscal year can be characterized as a “risk-on” period where taking concentrated equity risk paid off as opposed to holding a diversified portfolio of assets. Improving economic fundamentals, improving global growth, low but rising inflation, and increasing corporate profitability all contributed to strong equity performance. The MSCI All Country World Index, a global equity index, rose by 20.5% during this period. Conversely, commodities fell by 6.9% during the year as did U.S. long-term treasuries by 7.2%.

The U.S. economy improved but still experienced only modest growth this past fiscal year. While interest rates increased, they continued to be historically low which provided a low cost of borrowing so that broad economic conditions could continue to improve. The U.S. real Gross Domestic Product (GDP) increased year-over-year an average of 2.1% per quarter during the past fiscal year with a range of 1.2% to 2.8%. Concurrently, U.S. consumer

Figure 1 - PSERS' Funded Ratio
Funded Ratio = Actuarial Value of Assets / Actuarial Accrued Liability



Management’s Discussion and Analysis (continued)

confidence, as measured by the Conference Board’s Consumer Confidence Index, increased from 97.4 at June 30, 2016 to 117.3 at June 30, 2017.

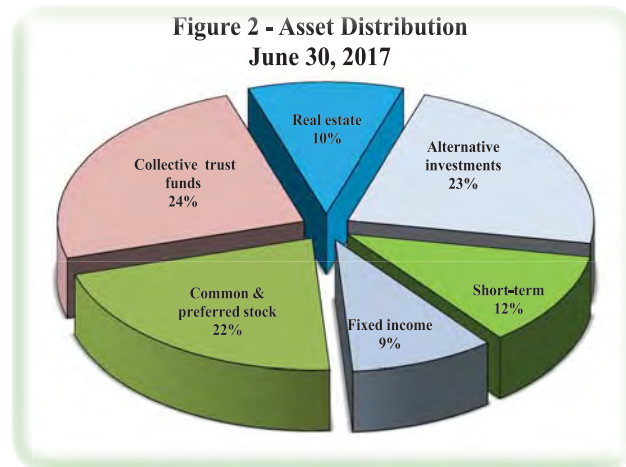
The Euro Area economy has shown improvement from last year. Evidence can be found in the improvement in the Markit Eurozone Manufacturing PMI (Purchasing Managers Index) which increased 4.6 points during the past fiscal year from 52.8 to 57.4. Aggressive actions by the ECB (European Central Bank) have generated improvements in economic growth, employment, and inflation. The ECB has continued its policy of very accommodative overnight interest rates and is ratably purchasing significant amounts of euro-denominated sovereign and corporate debt in an effort to put liquidity into the economy as well as ease financial conditions.

Japan’s economy has grown for six straight quarters, the longest streak in 11 years. As of the second quarter 2017, Japan’s real GDP had increased by an annualized rate of 4.0%. Japanese policy makers continue to aggressively stimulate their economy through a combination of low interest rates, the purchase of higher risk assets by the Bank of Japan, coordinated diversification into higher risk assets by large public investors, and fiscal spending policies to encourage liquidity to move into riskier assets. China had robust growth compared to the other developed regions of the world. China’s real GDP increased by 6.9% over the past year, slightly faster than the 6.7% pace as of June 2016. Inflation in China has remained relatively stable over the past year at 1.5% compared to 1.9% last year.

For FY 2017, PSERS’ time-weighted rate of return on investments was 10.14% which far exceeded PSERS’ total fund Policy Index of 6.39% for the same time period. A time-weighted rate of return considers investment performance of a hypothetical dollar invested from the beginning of an investment period to the period’s end. The Policy Index is a custom benchmark, based on the Board-established asset allocation structure, that seeks to generate a return that meets the actuarial rate of return assumption. Net investment income of \$5.0 billion in FY 2017 increased from a net investment income of \$0.5 billion in FY 2016.

The time-weighted annualized rate of return over the past three- and five-year periods ended June 30, 2017 was 4.76% and 7.35%, respectively. The time-weighted returns for the three- and five-year periods exceeded the total fund Policy Index returns for those periods by 127 and 188 basis points, respectively. The annualized time-weighted rate of return for the ten- and twenty-five-year periods ended June 30, 2017 was 3.80% and 8.03%, respectively.

PSERS’ long-term actuarial investment rate of return assumption was 7.25% during FY 2017. PSERS’ Board



lowered the return assumption from 7.50% to 7.25% effective with the June 30, 2016 actuarial valuation.

The asset distribution of PSERS’ investment portfolio at June 30, 2017, 2016, and 2015, at fair value, and including postemployment healthcare assets, is presented in Figure 2 and Table 1.

FY 2017

- **Short-term investments** (cash and cash equivalents) increased by \$1.1 billion from \$5.0 billion at June 30, 2016 to \$6.1 billion at June 30, 2017. Due to a reallocation of exposure from other asset classes, PSERS increased its short-term investments during FY 2017.
- **Fixed income investments** increased by \$0.9 billion from \$4.1 billion at June 30, 2016 to \$5.0 billion at June 30, 2017 mainly due to investment performance.
- **Common and preferred stock investments** increased by \$0.8 billion from \$10.5 billion at June 30, 2016 to \$11.3 billion at June 30, 2017. The increase in this asset category was mainly due to higher market value increases compared to the prior fiscal year.
- **Collective trust funds** increased by \$0.7 billion from \$12.1 billion at June 30, 2016 to \$12.8 billion at June 30, 2017 mostly due to investment performance.
- **Real estate investments** increased by \$0.1 billion from \$5.2 billion at June 30, 2016 to \$5.3 billion at June 30, 2017 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant partnership distributions.
- **Alternative investments** increased by \$0.7 billion from \$11.2 billion at June 30, 2016 to \$11.9 billion at June 30, 2017 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant partnership distributions.

Management's Discussion and Analysis (continued)**FY 2016**

- **Short-term investments** (cash and cash equivalents) increased by \$1.2 billion from \$3.8 billion at June 30, 2015 to \$5.0 billion at June 30, 2016. Due to a reallocation of exposure from other asset classes, PSERS decreased its short-term investments during FY 2016.
- **Fixed income investments** decreased by \$1.0 billion from \$5.1 billion at June 30, 2015 to \$4.1 billion at June 30, 2016 mostly due to manager terminations and reallocation of exposure to other asset classes during FY 2016.
- **Common and preferred stock investments** decreased by \$0.9 billion from \$11.4 billion at June 30, 2015 to \$10.5 billion at June 30, 2016. The decrease in this asset category was mainly due to lower market value increases in domestic and global stock investments compared to the prior fiscal year.
- **Collective trust funds** decreased by \$1.0 billion from \$13.1 billion at June 30, 2015 to \$12.1 billion at June 30, 2016 mostly due to reallocation of exposure from other asset classes.
- **Real estate investments** decreased by \$1.2 billion from \$6.4 billion at June 30, 2015 to \$5.2 billion at June 30, 2016 due to the sale of limited partnership interests to third parties and to significant partnership distributions which exceeded contributions to new and existing partnerships partially offset by valuation increases in partnership portfolio holdings.
- **Alternative investments** increased by \$0.4 billion from \$10.8 billion at June 30, 2015 to \$11.2 billion at June 30, 2016 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant partnership distributions.

Securities Lending

The System's net income from securities lending activities decreased slightly from \$11.9 million in FY 2016 to \$11.8 million in FY 2017. Lending income rose significantly in

FY 2017 due to the popularity of exchange-traded funds and master limited partnerships among borrowers, however, this was offset by increased amounts of earnings on collateral being rebated to the borrowers.

Contributions

Employer contributions increased from \$3.3 billion in FY 2016 to \$3.9 billion in FY 2017 due to the increase in the total employer contribution rate from 25.84% in FY 2016 to 30.03% in FY 2017. Total employer contributions increased from \$2.7 billion in FY 2015 to \$3.3 billion in FY 2016. This increase was primarily attributable to an increase in the total employer contribution rate from 21.40% in FY 2015 to 25.84% in FY 2016.

Total member contributions increased from \$989.3 million in FY 2016 to \$1.0 billion in FY 2017. The increase was mainly due to an increase in member contributions from active member payroll and purchase of service. Total member contributions increased from \$984.6 million in FY 2015 to \$989.3 million in FY 2016. The increase was mainly due to an increase in member contributions from active member payroll and purchase of service.

As a result of an increase in member purchase of service contributions and an increase in the receivables of member contributions from active member payroll, in the last quarter of FY 2016 to the last quarter of FY 2017, member contribution receivables increased from \$336.8 million at June 30, 2016 to \$349.7 million at June 30, 2017. The increase in the employer contribution rate from FY 2016 to FY 2017, resulted in the employer contribution receivables rising from \$961.6 million at June 30, 2016 to \$1.1 billion at June 30, 2017.

Investment Income

Net investment income increased significantly from \$0.5 billion in FY 2016 to \$5.0 billion in FY 2017, which is consistent with the increase in the time-weighted investment

Table 1 - Investment Balances by Asset Class

Asset Class	(Dollar Amounts in Thousands)					
	2017	%	2016	%	2015	%
Short-term	\$ 6,107,020	11.6	\$ 4,980,721	10.4	\$ 3,780,778	7.5
Fixed income	4,961,284	9.5	4,052,513	8.4	5,085,921	10.0
Common and preferred stock	11,337,865	21.6	10,456,298	21.8	11,420,135	22.6
Collective trust funds	12,816,147	24.4	12,143,184	25.3	13,102,950	25.9
Real estate	5,340,555	10.2	5,166,068	10.8	6,386,295	12.6
Alternative investments	11,922,940	22.7	11,199,200	23.3	10,802,952	21.4
Total	\$ 52,485,811	100.0	\$ 47,997,984	100.0	\$ 50,579,031	100.0

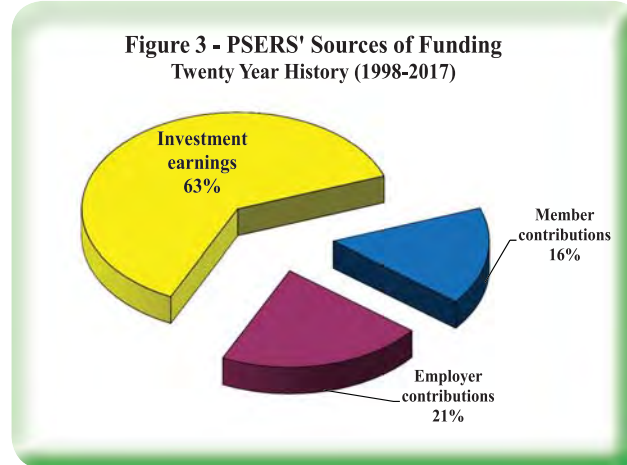
Management’s Discussion and Analysis (continued)

rate of return from 1.29% for FY 2016 to 10.14% for FY 2017. Net investment income decreased from \$1.3 billion in FY 2015 to \$0.5 billion in FY 2016, which is consistent with the decrease in the time-weighted investment rate of return from 3.04% for FY 2015 to 1.29% for FY 2016. As depicted in Figure 3, investment earnings provided 63% of PSERS’ funding over the past 20 years. Net investment income also includes investment expenses as a deduction. The “Total PSERS’ Benefits and Expenses” section that follows includes an analysis of investment expenses.

Total PSERS’ Benefits and Expenses

The primary source of expense during FY 2017 was for the payment of pension and healthcare benefits approximating \$6.9 billion. The breakdown consisted of \$6.4 billion for Pension, \$110.2 million for Premium Assistance, and \$340.1 million for HOP benefits. Figure 5 illustrates the significant portion of expenses attributable to benefit payments.

Total PSERS’ benefit expense increased from \$6.8 billion in FY 2016 to \$6.9 billion in FY 2017. The increase is attributable to an ongoing increase to the average monthly benefit and an increase in the number of members receiving benefits. Pension benefits payable increased slightly from \$520.5 million at June 30, 2016 compared to \$529.8 million at June 30, 2017. This increase was mainly attributable to a small increase in pension payments payable which was partially offset by a small decrease in death payments payable. New retirements during FY 2017 decreased by approximately 6% from FY 2016. Total PSERS’ benefit expense increased from \$6.6 billion in FY 2015 to \$6.8 billion in FY 2016. The increase is attributable to an ongoing increase to the average monthly benefit and an increase in the number of members receiving benefits. Pension

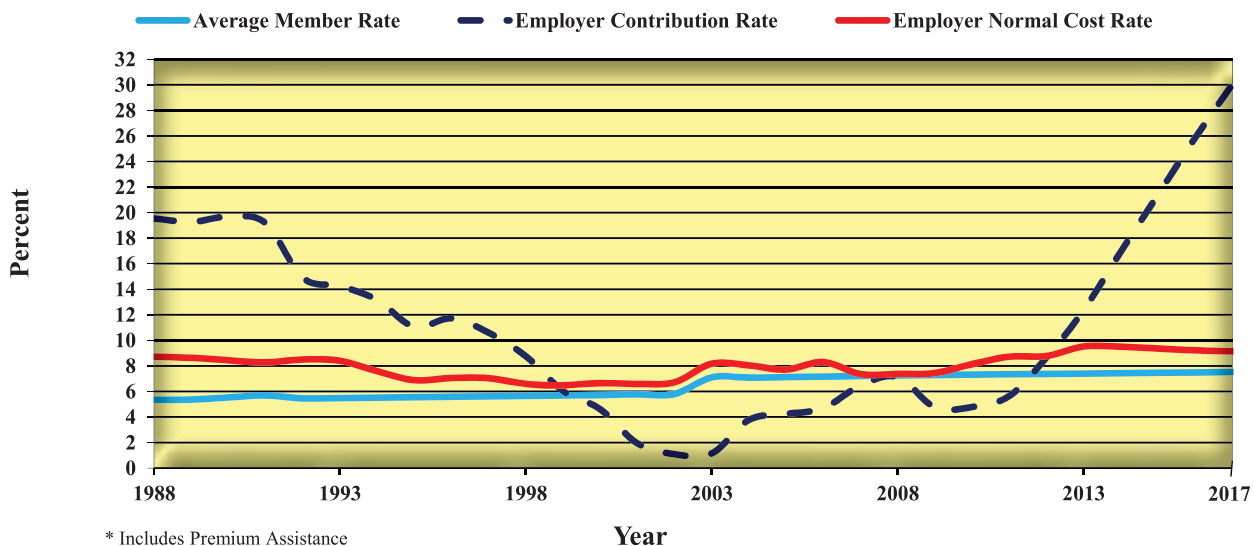


benefits payable decreased from \$560.3 million at June 30, 2015 compared to \$520.5 million at June 30, 2016. This decrease was mainly attributable to lower fourth quarter retirements in FY 2016 as compared to the same period in FY 2015. New retirements during FY 2016 decreased by approximately 7% from FY 2015.

Investment expenses increased by \$58.7 million from \$415.8 million in FY 2016 to \$474.5 million in FY 2017 mainly due to increases in management fees in fixed income, absolute return, and risk parity. This increase is mainly attributable to an increase in performance fees due to performance and growth in the asset base in the fixed income, absolute return, and risk parity asset classes. The fixed income fee increase was also attributable to a higher allocation in this asset class. As a percentage of total benefits and expenses, investment expense increased from 5.7% in FY 2016 to 6.3% in FY 2017. Investment expenses decreased by \$39.4 million from \$455.2 million in FY 2015 to \$415.8 million in FY 2016 mainly due to a decrease in

Below is a thirty-year history of PSERS’ contribution rates:

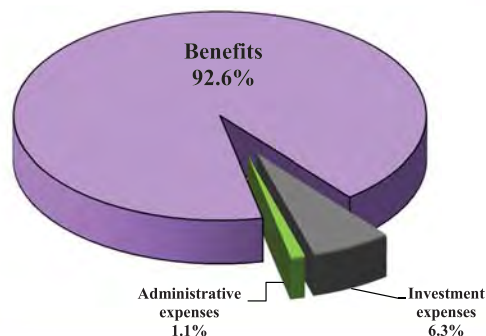
Figure 4 - History of PSERS' Contribution Rates as a Percent of Payroll*



* Includes Premium Assistance

Management's Discussion and Analysis (continued)

Figure 5 - Total PSERS' Benefits and Expenses
Fiscal Year Ended June 30, 2017



management fees in the absolute return and real estate asset classes, partially offset by an increase in risk parity fees. The fee decrease in the absolute return asset class is mainly attributable to higher performance fees due to the stronger performance this asset class had for FY 2015. The decrease in the real estate class is partially attributable to the sale of certain limited partnership interests and to changes in fee structure brought on by partnerships maturing. The risk parity fee increase was attributable to a higher allocation in this asset class. As a percentage of total benefits and expenses, investment expense has decreased from a high of 8.2% in FY 2013 to 6.3% in FY 2017 due to a decrease in investment expenses from \$558 million in FY 2013 to \$474 million in FY 2017.

PSERS continues to be one of the most transparent among large public pension funds in the nation for the disclosure of management fees. For example, certain pension funds report no or very little management fees for alternative investments because they are considered part of the cost of the investment and are netted against performance rather than shown separately. PSERS, however, obtains management fee information from each of its limited partnerships, and collective trust fund investments as well, even if it is not specifically disclosed in the fund's standard reports. This information is then utilized to fully report all relevant management fees in the System's financial statements. In addition, PSERS reports all other investment expenses, including staff compensation and overhead, consultant, legal, and bank expenses incurred.

Administrative expenses increased by \$4.2 million from \$80.2 million during FY 2016 compared to \$84.4 million during FY 2017. This rise was mainly attributable to the increase in administrative costs for HOP due to increased membership. Administrative expenses increased by \$7.7 million from \$72.5 million during FY 2015 compared to \$80.2 million during FY 2016. This rise was mainly attributable to the increase in administrative costs for HOP due to increased membership. As depicted in Figure

5, administrative expenses represent only 1.1% of total benefits and expenses.

New GASB Standards

In June 2015, the Governmental Accounting Standards Board (GASB) approved a Statement that reflects changes to the accounting and financial reporting of state and local government Postemployment Benefit Plans Other Than Pension Plans (OPEB). GASB Statement No.74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, addresses financial reporting for state and local government OPEB plans. GASB 74 replaces the requirements of GASB 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pensions*. Under GASB 74, an emphasis is put on accounting for OPEB plans, whereas GASB 43 dealt more with funding OPEB plans.

A key change from GASB 43 to GASB 74 is the measurement of liability. GASB 43 subtracted the Actuarial Value of Assets from the Actuarial Accrued Liability to achieve the Unfunded Actuarial Accrued Liability. GASB 74 subtracts the Fiduciary Net Position from the Total OPEB Liability to attain the Net OPEB Liability. The major difference in the measurements is that GASB 43 allowed for asset smoothing, whereas GASB 74 uses the fair value of assets as of the measurement date without smoothing.

GASB 74 separates the accounting for OPEB plans from the funding provisions used for the actuarial valuation. GASB 74 has no impact on how OPEB plans are funded. GASB 74 only impacts PSERS Health Insurance Premium Assistance Program and does not apply to PSERS Health Options Program (HOP).

Under GASB 74, PSERS' Net OPEB Liability as of June 30, 2017 was \$2.0 billion and \$2.2 billion as of June 30, 2016. The decline was due to an increase in the discount rate from 2.71% in FY 2016 to 3.13% in FY 2017. The discount rate directly impacts the liability calculation as the higher the discount rate the lower the liability; and conversely, the lower the discount rate the higher the liability. Since OPEB benefits are fixed at a \$1,200 per year cap, the Net OPEB Liability is significantly lower than the Net Pension Liability.

Financial Section

Management's Discussion and Analysis (continued)

Postemployment Healthcare

PSERS administers two postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants. The following paragraphs and summary financial data provide supplementary information to the financial statements which contain the financial position and activities for the two postemployment healthcare programs.

Health Insurance Premium Assistance Program (Premium Assistance)

Financial Highlights

- Total net position decreased by \$0.8 million in FY 2017 mainly due to deductions for benefits and administrative expenses exceeding net investment income plus employer contributions. The total net position continues to be sufficient to fund one full year of benefits. The change from June 30, 2015 to June 30, 2016 was an increase of \$3.9 million due to an increase in employer contributions driven by the increase in active member payroll. This increase was slightly offset by a decrease in the contribution rate from 0.90% for FY 2015 to 0.84% for the FY 2016.
- Investments decreased from \$88.9 million at June 30, 2016 to \$82.9 million at June 30, 2017 mainly due to the increase in benefits and administrative expenses, and an increase in interfund receivables which resulted in a lower amount available to invest at June 30, 2017.

Contributions

Total employer contributions for Premium Assistance decreased from \$113.3 million in FY 2016 to \$111.0 million in FY 2017 due to the decrease in the employer contribution rate from FY 2016 to FY 2017. The contribution rate decreased from 0.84% in FY 2016 to 0.83% in FY 2017.

Investment Income

Total investment income for Premium Assistance increased slightly from \$0.5 million for FY 2016 to \$0.7 million for FY 2017 due to higher short-term interest rates.

Benefits and Expenses

Overall deductions for Premium Assistance increased from \$109.9 million in FY 2016 to \$112.5 million in FY 2017. This increase is primarily due to the increase in number of members receiving premium assistance benefits.

Health Options Program (HOP)

Financial Highlights

- Total net position increased by \$33.9 million in FY 2017 primarily due to the rise in premiums that outpaced the rise in expenses. The change from June 30, 2015 to June 30, 2016 is also primarily due to the rise in premiums that outpaced the rise in expenses.
- Total receivables increased from \$52.7 million at June 30, 2016 to \$67.2 million at June 30, 2017. The increase is tied primarily to higher premiums due to an increase in participation in the HOP and due to a large increase in the 2016 calendar year for the Centers for Medicare and Medicaid Services (CMS) reinsurance receivable estimate.
- Investments increased from \$193.3 million at June 30, 2016 to \$219.8 million at June 30, 2017 as HOP income exceeded expenses, which produced more funds for investment.
- Total liabilities increased 13.6% from \$52.1 million at June 30, 2016 to \$59.2 million at June 30, 2017. The increase is mainly due to increased participation in the program causing an increase in claims payable and administrative expense payable.

Participant and CMS Premiums

Total participant CMS premiums for HOP increased from \$359.2 million in FY 2016 to \$410.4 million in FY 2017. This increase is due to an increase in plan participation.

Investment Income

Investment income for HOP increased from \$0.3 million for FY 2016 to \$0.7 million for FY 2017 due to the increase in investments and higher short-term interest rates.

Benefits and Expenses

Overall deductions for HOP increased from \$344.4 million in FY 2016 to \$377.2 million in FY 2017. This increase is primarily due to the increase in number of members enrolled in the HOP combined with an increase in administrative costs.

Management's Discussion and Analysis (continued)**Premium Assistance****Summary of Fiduciary Net Position**

(Dollar Amounts in Thousands)

Assets:	FY 2017	Increase (Decrease)	FY 2016	Increase (Decrease)	FY 2015
Receivables	\$ 40,926	\$ 4,961	\$ 35,965	\$ 980	\$ 34,985
Investments	82,917	(5,970)	88,887	2,892	85,995
Miscellaneous	255	(232)	487	(386)	873
Total Assets	124,098	(1,241)	125,339	3,486	121,853
Liabilities:					
Payables and other liabilities	355	(421)	776	(434)	1,210
Total Liabilities	355	(421)	776	(434)	1,210
Net Position	\$ 123,743	\$ (820)	\$ 124,563	\$ 3,920	\$ 120,643

Summary of Changes in Fiduciary Net Position

Additions:	FY 2017	Increase (Decrease)	FY 2016	Increase (Decrease)	FY 2015
Contributions	\$ 110,985	\$ (2,322)	\$ 113,307	\$ (3,501)	\$ 116,808
Net investment income	663	121	542	327	215
Total Additions	111,648	(2,201)	113,849	(3,174)	117,023
Deductions:					
Benefit expenses	110,229	1,956	108,273	1,975	106,298
Administrative expenses	2,239	583	1,656	(486)	2,142
Total Deductions	112,468	2,539	109,929	1,489	108,440
Changes in Net Position	\$ (820)	\$ (4,740)	\$ 3,920	\$ (4,663)	\$ 8,583

Health Options Program**Summary of Fiduciary Net Position**

(Dollar Amounts in Thousands)

Assets:	FY 2017	Increase (Decrease)	FY 2016	Increase (Decrease)	FY 2015
Receivables	\$ 67,246	\$ 14,583	\$ 52,663	\$ 13,672	\$ 38,991
Investments	219,751	26,421	193,330	7,038	186,292
Miscellaneous	93	(3)	96	21	75
Total Assets	287,090	41,001	246,089	20,731	225,358
Liabilities:					
Payables and other liabilities	59,223	7,073	52,150	5,702	46,448
Total Liabilities	59,223	7,073	52,150	5,702	46,448
Net Position	\$ 227,867	\$ 33,928	\$ 193,939	\$ 15,029	\$ 178,910

Summary of Changes in Fiduciary Net Position

Additions:	FY 2017	Increase (Decrease)	FY 2016	Increase (Decrease)	FY 2015
Participant and CMS premiums	\$ 410,417	\$ 51,251	\$ 359,166	\$ 34,875	\$ 324,291
Net investment income	678	379	299	147	152
Total Additions	411,095	51,630	359,465	35,022	324,443
Deductions:					
Benefit expenses	340,096	29,117	310,979	23,724	287,255
Administrative expenses	37,071	3,614	33,457	5,430	28,027
Total Deductions	377,167	32,731	344,436	29,154	315,282
Changes in Net Position	\$ 33,928	\$ 18,899	\$ 15,029	\$ 5,868	\$ 9,161

Statements of Fiduciary Net Position

June 30, 2017 and 2016

(Dollar Amounts in Thousands)

	2017			
	Postemployment Healthcare			Totals
	Pension	Premium Assistance	Health Options Program	
Assets:				
Receivables:				
Members	\$ 346,618	\$ 3,057	\$ 36	\$ 349,711
Employers	1,067,100	30,540	-	1,097,640
Investment income	150,626	112	84	150,822
Investment proceeds	864,326	-	-	864,326
CMS Part D and prescriptions	-	-	67,126	67,126
Interfund receivable	-	7,217	-	7,217
Total Receivables	2,428,670	40,926	67,246	2,536,842
Investments, at fair value:				
Short-term	5,804,352	82,917	219,751	6,107,020
Fixed income	4,961,284	-	-	4,961,284
Common and preferred stock	11,337,865	-	-	11,337,865
Collective trust funds	12,816,147	-	-	12,816,147
Real estate	5,340,555	-	-	5,340,555
Alternative investments	11,922,940	-	-	11,922,940
Total Investments	52,183,143	82,917	219,751	52,485,811
Securities lending collateral pool	2,016,063	-	-	2,016,063
Capital assets (net of accumulated depreciation \$29,973)	24,001	-	-	24,001
Miscellaneous	16,903	255	93	17,251
Total Assets	56,668,780	124,098	287,090	57,079,968
Liabilities:				
Accounts payable and accrued expenses	92,777	272	2,288	95,337
Benefits payable	529,833	83	24,539	554,455
HOP Participant premium advances	-	-	32,396	32,396
Investment purchases and other payables	800,996	-	-	800,996
Obligations under securities lending	2,016,063	-	-	2,016,063
Interfund payable	7,217	-	-	7,217
Other liabilities	66,558	-	-	66,558
Total Liabilities	3,513,444	355	59,223	3,573,022
Net position restricted for pension and postemployment healthcare benefits	\$ 53,155,336	\$ 123,743	\$ 227,867	\$ 53,506,946

The accompanying notes are an integral part of the financial statements.

Statements of Fiduciary Net Position
June 30, 2017 and 2016
(Dollar Amounts in Thousands)

	2016			
	Postemployment Healthcare			Totals
	Pension	Premium Assistance	Health Options Program	
Assets:				
Receivables:				
Members	\$ 333,289	\$ 3,427	\$ 46	\$ 336,762
Employers	930,286	31,276	-	961,562
Investment income	415,987	233	39	416,259
Investment proceeds	1,426,968	-	-	1,426,968
CMS Part D and prescriptions	-	-	52,578	52,578
Interfund receivable	-	1,029	-	1,029
Total Receivables	3,106,530	35,965	52,663	3,195,158
Investments, at fair value:				
Short-term	4,698,504	88,887	193,330	4,980,721
Fixed income	4,052,513	-	-	4,052,513
Common and preferred stock	10,456,298	-	-	10,456,298
Collective trust funds	12,143,184	-	-	12,143,184
Real estate	5,166,068	-	-	5,166,068
Alternative investments	11,199,200	-	-	11,199,200
Total Investments	47,715,767	88,887	193,330	47,997,984
Securities lending collateral pool	2,092,729	-	-	2,092,729
Capital assets (net of accumulated depreciation \$28,096)	22,871	-	-	22,871
Miscellaneous	11,607	487	96	12,190
Total Assets	52,949,504	125,339	246,089	53,320,932
Liabilities:				
Accounts payable and accrued expenses	118,899	203	3,250	122,352
Benefits payable	520,462	72	22,079	542,613
HOP Participant premium advances	-	-	26,821	26,821
Investment purchases and other payables	327,136	501	-	327,637
Obligations under securities lending	2,092,729	-	-	2,092,729
Interfund payable	1,029	-	-	1,029
Other liabilities	57,189	-	-	57,189
Total Liabilities	3,117,444	776	52,150	3,170,370
Net position restricted for pension and postemployment healthcare benefits	\$ 49,832,060	\$ 124,563	\$ 193,939	\$ 50,150,562

The accompanying notes are an integral part of the financial statements.

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2017 and 2016
(Dollar Amounts in Thousands)

	2017			
	Postemployment Healthcare			Totals
	Pension	Premium Assistance	Health Options Program	
Additions:				
Contributions:				
Members	\$ 1,013,847	\$ -	\$ -	\$ 1,013,847
Employers	3,832,773	110,985	-	3,943,758
Total contributions	4,846,620	110,985	-	4,957,605
HOP Participant premiums	-	-	336,646	336,646
Centers for Medicare & Medicaid Services premiums	-	-	73,771	73,771
Investment income:				
From investing activities:				
Net appreciation (depreciation) in fair value of investments	4,204,585	(337)	-	4,204,248
Short-term	67,694	1,024	704	69,422
Fixed income	156,837	-	-	156,837
Common and preferred stock	295,427	-	-	295,427
Collective trust funds	3,379	-	-	3,379
Real estate	236,650	-	-	236,650
Alternative investments	493,426	-	-	493,426
Total investment activity income	5,457,998	687	704	5,459,389
Investment expenses	(474,441)	(24)	(26)	(474,491)
Net income from investing activities	4,983,557	663	678	4,984,898
From securities lending activities:				
Securities lending income	21,395	-	-	21,395
Securities lending expense	(9,590)	-	-	(9,590)
Net income from securities lending activities	11,805	-	-	11,805
Total net investment income	4,995,362	663	678	4,996,703
Total Additions	9,841,982	111,648	411,095	10,364,725
Deductions:				
Benefits	6,452,651	110,229	340,096	6,902,976
Refunds of contributions	20,928	-	-	20,928
Administrative expenses	45,127	2,239	37,071	84,437
Total Deductions	6,518,706	112,468	377,167	7,008,341
Net increase (decrease)	3,323,276	(820)	33,928	3,356,384
Net position restricted for pension and postemployment healthcare benefits:				
Balance, beginning of year	49,832,060	124,563	193,939	50,150,562
Balance, end of year	\$ 53,155,336	\$ 123,743	\$ 227,867	\$ 53,506,946

The accompanying notes are an integral part of the financial statements.

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2017 and 2016
(Dollar Amounts in Thousands)

	2016			
	Postemployment Healthcare			Totals
	Pension	Premium Assistance	Health Options Program	
Additions:				
Contributions:				
Members	\$ 989,266	\$ -	\$ -	\$ 989,266
Employers	3,189,510	113,307	-	3,302,817
Total contributions	4,178,776	113,307	-	4,292,083
HOP Participant premiums	-	-	308,132	308,132
Centers for Medicare & Medicaid Services premiums	-	-	51,034	51,034
Investment income:				
From investing activities:				
Net appreciation (depreciation) in fair value of investments	(160,712)	(154)	-	(160,866)
Short-term	17,418	734	337	18,489
Fixed income	145,326	-	-	145,326
Common and preferred stock	311,356	-	-	311,356
Collective trust funds	3,168	-	-	3,168
Real estate	246,217	-	-	246,217
Alternative investments	314,270	-	-	314,270
Total investment activity income	877,043	580	337	877,960
Investment expenses	(415,706)	(38)	(38)	(415,782)
Net income from investing activities	461,337	542	299	462,178
From securities lending activities:				
Securities lending income	13,187	-	-	13,187
Securities lending expense	(1,318)	-	-	(1,318)
Net income from securities lending activities	11,869	-	-	11,869
Total net investment income	473,206	542	299	474,047
Total Additions	4,651,982	113,849	359,465	5,125,296
Deductions:				
Benefits	6,340,256	108,273	310,979	6,759,508
Refunds of contributions	20,069	-	-	20,069
Administrative expenses	45,118	1,656	33,457	80,231
Total Deductions	6,405,443	109,929	344,436	6,859,808
Net increase (decrease)	(1,753,461)	3,920	15,029	(1,734,512)
Net position restricted for pension and postemployment healthcare benefits:				
Balance, beginning of year	51,585,521	120,643	178,910	51,885,074
Balance, end of year	\$ 49,832,060	\$ 124,563	\$ 193,939	\$ 50,150,562

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements

Years Ended June 30, 2017 and 2016

1. Organization and Description of the System

(A) Organization

The System was established on July 18, 1917, under the provisions of Pamphlet Law 1043, No. 343 as a governmental cost-sharing multiple-employer plan that provides retirement allowances and other benefits to its members. Membership in the System is mandatory for nearly all qualifying public school employees in the Commonwealth of Pennsylvania (Commonwealth). At June 30, 2017, there were 775 participating employers, generally school districts. Membership at June 30, 2017, is presented in Table 2.

The Public School Employees’ Retirement Board (Board) is established by state law as an independent administrative board of the Commonwealth. The Board exercises control and management of the System, including the investment of its assets. The Board has fifteen members including the Commonwealth’s Secretary of Education, the Commonwealth’s Secretary of Banking and Securities, the State Treasurer, the Executive Director of the Pennsylvania School Boards Association, one member appointed by the Governor, six elected members (three from among the System’s certified members, one from among the System’s noncertified members, one from among the System’s annuitants, and one from among school board members in Pennsylvania), two members from the Senate, and two members from the House of Representatives. Effective with Act 5 which was enacted on June 12, 2017, one of the Governor’s appointees was replaced with the Commonwealth’s Secretary of Banking and Securities who is also appointed by the Governor.

The State Treasurer is the custodian of the System’s Fund. The retirement plan of the System is a contributory defined benefit plan for which the benefit payments to

members and contribution provisions by employers and employees are specified in the Pennsylvania Public School Employees’ Retirement Code (Code). Changes in benefit and contribution provisions for the retirement plan must be made by legislation. Pursuant to state law, all legislative bills and amendments proposing to change the System’s retirement plan are to be accompanied with an actuarial note prepared by an enrolled pension actuary from the Independent Fiscal Office (IFO) providing an estimate of the cost and actuarial effect of the proposed change.

Based upon criterion of financial accountability as defined by governmental accounting standards, the System is considered a component unit of the Commonwealth of Pennsylvania financial reporting entity and is included in the Comprehensive Annual Financial Report of the Commonwealth of Pennsylvania.

(B) Pension Plan

i. Pension Benefits

Under the provisions of the 1975 revision of the Code by the Pennsylvania General Assembly, members are eligible for monthly retirement benefits upon reaching (a) age 62 with at least 1 year of credited service; (b) age 60 with 30 or more years of credited service; or (c) 35 or more years of service regardless of age. Act 120 of 2010 (Act 120) preserves the benefits of existing members and introduced benefit reductions for individuals who become new members on or after July 1, 2011. Act 120 created two new membership classes, Membership Class T-E (Class T-E) and Membership Class T-F (Class T-F). To qualify for normal retirement, Class T-E and Class T-F members must work until age 65 with a minimum of 3 years of service or attain a total combination of age and service that is equal to or greater than 92 with a minimum of 35 years of service. The Internal Revenue Code (IRC) limitation on the annual benefits for a defined benefit plan was \$215,000 for 2017 and \$210,000 for 2016.

Benefits are generally equal to 2% or 2.5%, depending upon membership class, of the member’s final average salary (as defined in the Code) multiplied by the number of years of credited service. For members whose membership started prior to July 1, 2011, after completion of five years of service, a member’s right to the defined benefits is vested and early retirement benefits may be elected. For Class T-E and Class T-F members, the right to benefits is vested after ten years of service. Active members may purchase credit for various types of school and non-school service on a lump-sum, installment purchase basis, or through an actuarially calculated benefit reduction. Class T-E and Class T-F members must purchase Non Qualifying Part

Table 2 - Membership as of June 30, 2017

Active members:	
Vested	180,580
Nonvested	75,365
Total active members	255,945
Inactive members:	
Retirees and beneficiaries currently receiving benefits	230,014
Inactive members and vestees entitled to but not receiving benefits	24,515
Total retirees and other members	254,529
Total number of members	510,474

Notes to Financial Statements (continued)

The contribution rates based on qualified member compensation for virtually all members are presented below:

PSERS members whose membership started prior to July 1, 2011:

Membership Class T-C	Active Members hired before July 22, 1983	5.25%
Membership Class T-C	Active Members hired on or after July 22, 1983	6.25%
Membership Class T-D	Active Members hired before July 22, 1983	6.50%
Membership Class T-D	Active Members hired on or after July 22, 1983	7.50%

PSERS members whose membership started on or after July 1, 2011 (Act 120 members):

Membership Class T-E*		7.50%
Membership Class T-F**		10.30%

* Shared risk program could cause future contribution rates to fluctuate between 7.5% and 9.5%

** Shared risk program could cause future contribution rates to fluctuate between 10.3% and 12.3%

Time service and most other types of non-school or non-state service credit at full actuarial cost. Class T-E and Class T-F members must purchase credit for Non Qualifying Part Time service within 365 days of enrollment in the System.

In addition to regular retirement benefits, the System also provides for disability retirement benefits and death benefits. Participants are eligible for disability retirement benefits after completion of five years of credited service. Such benefits are generally equal to 2% or 2.5%, depending upon membership class, of the member's final average salary (as defined in the Code) multiplied by the number of years of credited service, but not less than one-third of such salary nor greater than the benefit the member would have had at normal retirement age. Members over normal retirement age may apply for disability benefits.

Death benefits are payable upon the death of an active member who has reached age 62 with at least one year of credited service (age 65 with at least three years of credited service for Class T-E and Class T-F members) or who has at least five years of credited service (ten years for Class T-E and Class T-F members). Such benefits are actuarially equivalent to the benefit that would have been effective if the member had retired on the day before death.

Members with credited service in the Commonwealth of Pennsylvania State Employees' Retirement System (SERS) may elect to transfer service to the Public School Employees' Retirement System upon commencement of employment in the public school system. Similarly, a member with credited service in the System may transfer such service to SERS upon becoming a member of that system.

All members are fully vested in their individual balance in the Members' Savings Account which is described in Note 3. All non-vested members may receive a refund of their individual balance of member contributions and interest from the Members' Savings Account upon termination of public school employment. Vested members who enrolled prior to July 1, 2011 may elect to receive a return of their accumulated contributions and interest upon their retirement

which results in a reduced monthly annuity. Effective with Act 5 which was enacted on June 12, 2017, vested Class T-E and Class T-F members can now withdraw their accumulated contributions and interest from the Members' Savings Account upon their retirement.

ii. Contributions

The contribution policy is set by the Code and requires contributions by active members, employers, and the Commonwealth. The System's funding policy provides for periodic employer and Commonwealth contributions at actuarially determined rates, expressed as a percentage of annual covered payroll, such that they, along with employee contributions and an actuarially determined rate of investment return, are adequate to accumulate assets to pay retirement benefits when due. Level percentage of payroll employer contribution rates are determined using the entry age normal actuarial funding method. This method determines the amount of contributions necessary to (1) fully fund all current costs, (also known as normal cost), which represents the estimated amount necessary to pay for the benefits earned by the employees during the current service year; and (2) liquidate the prior service cost for service earned prior to the current service year and subsequent benefit increases, which represents the amount necessary to fund accrued liabilities over the appropriate amortization periods.

Contribution rates for active members are set by law (redefined with the provisions of Act 9 of 2001 and Act 120) and are dependent upon membership class. The Internal Revenue Code (IRC) limitation on the annual compensation for a defined benefit plan was \$270,000 for 2017 and \$265,000 for 2016.

Active members who enrolled between July 1, 2001, the effective date of Act 9, and June 30, 2011 are Membership Class T-D (Class T-D). The contribution rates for all members in Class T-D were effective January 1, 2002. For Act 120 members, all new members automatically become Class T-E members. New members, however, have

Notes to Financial Statements (continued)

a one-time opportunity to elect Class T-F within 45 days of receiving written notification from PSERS. Failure to elect Class T-F at time of original eligibility will make the member ineligible for Class T-F forever. Act 120 introduced a shared risk program that could affect Class T-E and Class T-F members' contribution rates in future fiscal years. With the shared risk program Class T-E and Class T-F members benefit when investments of the fund are doing well and share some of the risk when investments underperform. The member contribution rate will stay within the specified range allotted for Class T-E or Class T-F; but could increase or decrease by 0.5% every three years starting July 1, 2015, dependent on investment performance of PSERS. The member contribution rate will never go below the base rate of 7.5% for Class T-E and 10.3% for Class T-F members, or above 9.5% for Class T-E and 12.3% for Class T-F members.

The total contribution rate for the employers and the Commonwealth was 30.03% and 25.84% (29.20% and 25.00% for pension component) of qualified compensation for the years ended June 30, 2017 and 2016, respectively.

Act 120 suppressed the employer contribution rate by using rate caps in future years to keep the rate from rising too high, too fast for budgetary purposes.

The rate caps limited the amount the pension component of the employer contribution rate could increase over the prior year's rate. For FY 2014 and thereafter, the rate could increase no more than 4.5% plus the premium assistance contribution rate.

The rate cap remained at 4.5% until the rate cap no longer applied, i.e., the rise in the employer contribution rate is less than the rate cap in effect at that time. For FY 2017, the actuarially calculated contribution rate exceeded the prior year's rate by less than 4.5%. As a result, the rate collars are no longer in effect. Since the rate caps no longer apply, the employer normal cost is the contribution rate floor.

According to requirements established in Act 29 of 1994, the Commonwealth reimburses school entity employers a portion of the employer contributions paid to the System. All school entity employers are reimbursed by the Commonwealth at least 50% of the total employer contributions based on the total contribution rate. The Commonwealth reimburses certain school entity employers at a rate greater than 50% based upon non-pension criteria which stipulate that the entity must have a Commonwealth Department of Education calculated Market Value / Personal Income Aid Ratio in excess of .5000. School entities remit 100% of total employer contributions directly to the System. The Commonwealth remits 50% of the total employer contributions for employers other than school entities directly to the System. All contributions from

employers and the Commonwealth are shown as employer contributions on the Statements of Changes in Fiduciary Net Position.

(C) Postemployment Healthcare Plans

i. Health Insurance Premium Assistance Program

(a) Premium Assistance Benefits

The System provides a Health Insurance Premium Assistance Program (Premium Assistance) for all eligible annuitants who qualify and elect to participate. Under this program, employer contribution rates for Premium Assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of Premium Assistance benefits for each succeeding year. Effective January 1, 2002, under the provisions of Act 9 of 2001, participating eligible annuitants are entitled to receive premium assistance payments equal to the lesser of \$100 per month or their out-of-pocket monthly health insurance premium. To receive premium assistance, eligible annuitants must obtain their health insurance through either their school employer or the PSERS' Health Options Program. As of June 30, 2017 there were no assumed future benefit increases to participating eligible annuitants in the Premium Assistance program. Membership at June 30, 2016, the most recent year for which actual amounts are available, is presented in Table 3.

(b) Contributions

A portion of each employer contribution to the System is set aside for the funding of Premium Assistance. The Premium Assistance contribution rate is set at a level necessary to establish reserves sufficient to provide Premium Assistance payments for all participating eligible members for the subsequent fiscal year. The portion of the total contribution rate for employers used to fund Premium Assistance was 0.83% and 0.84% for the years ended June 30, 2017 and 2016, respectively.

Table 3 - Premium Assistance Membership at June 30, 2016

Retirees and beneficiaries currently receiving benefits	93,151
Inactive members and vestees entitled to but not receiving benefits	346
Total retirees and other inactive members	93,497
Total active members	257,080
Total number of members	350,577

Notes to Financial Statements (continued)

ii. Health Options Program

The Health Options Program (HOP) is a PSERS-sponsored voluntary health insurance program for the sole benefit of annuitants of PSERS, spouses of annuitants, survivor annuitants and their dependents who participate in HOP. The HOP is funded exclusively by the premiums paid by its participants for the benefit coverage they elect. HOP offers several health plans. Participants may select among two self-funded Medicare supplement plans, three Medicare Rx plans, and multiple Medicare Advantage plans for those eligible for Medicare. Participants not eligible for Medicare have a choice of a self-funded high deductible indemnity plan and multiple managed care plans. Medicare Advantage and managed care plans are available to retirees residing in the plan's service area. The Medicare Advantage and managed care plans are provided by private insurance companies or managed care organizations and benefits are fully insured. The Medicare supplement and high deductible plans are self-funded and claims are adjudicated by a third party administrator. HOP also offers dental benefits through a fully insured carrier. The Medicare Rx Options and the prescription drug benefit of the high deductible plan for those not eligible for Medicare are also self-funded.

HOP uses a pharmacy benefits manager to administer the benefits. Effective January 1, 2006, PSERS entered into an Employer/Union Entity contract with the Centers for Medicare and Medicaid Services (CMS) to operate a voluntary Medicare Prescription Drug Plan (PDP). Monthly premiums are received from CMS covering the 82,010 participants in the PDP. An independent actuarial consulting firm sets the rates for the self-funded benefits. The HOP maintains reserves for claims that are Incurred But Not Reported (IBNR) and for claim fluctuation for the self-funded benefit plans. At June 30, 2017 and 2016 PSERS recorded \$16,239,000 and \$14,701,000, respectively, in IBNR. The IBNR is included in benefits payable. The PSERS pension fund assets are not available to fund or satisfy obligations of the HOP.

2. Summary of Significant Accounting Policies

(A) Basis of Accounting

The financial statements of the System are prepared on the accrual basis of accounting under which expenses are recorded when the liability is incurred, revenues are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade date. Member and employer contributions are recognized in the period for which employees' salaries are reported. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

The accounting and reporting policies of the System conform to accounting principles generally accepted in the United States of America (GAAP). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions in fiduciary net position during the reporting period. Actual results could differ from those estimates.

(B) Investments

The System's investments are reported at fair value. Fair value is the amount that the System can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale. See Note 4(B) for the description of the Fair Value of Investments.

Net appreciation (depreciation) is determined by calculating the change in fair value of investments between the beginning of the year and end of the year, less purchases of investments at cost, plus sales of investments at fair value.

Investment purchases and sales are recorded as of the trade date. Interest income is comprised of dividend, interest, and other investment income. Dividend income is recognized on the ex-dividend date. Interest and other investment income is recognized when earned.

Investment expenses consist of investment manager fees and those administrative expenses directly related to the System's investment operations. Investment proceeds receivable generally includes unsettled investment sales and unsettled investment purchases are included in investment purchases and other liabilities. At June 30, 2017, investment proceeds receivable also includes \$480,771,000 in receivables due to the sale of limited partnership and real estate interests during FY 2015 and FY 2016.

(C) Capital Assets

Capital assets consist primarily of data processing equipment, software, and internally developed computer software recognized as intangible assets. Capital assets are depreciated using the straight-line method over an estimated useful life of five years. Intangible assets are amortized using the straight-line method over an estimated useful life of twenty years for assets purchased prior to July 1, 2012 and 5 years for assets purchased after June 30, 2012.

Notes to Financial Statements (continued)

(D) Benefits Payable

Benefits payable identifies the obligations of the System, on an accrual basis, at the end of the fiscal year. It includes the estimated retirement and death benefits payable, premium assistance benefits payable, and the HOP IBNR claims for its participants.

(E) Pensions for Employees of the System

For purposes of measuring the net pension liability, deferred outflows of resources, deferred inflows of resources, and pension expense, information about the fiduciary net position of the Pennsylvania State Employees' Retirement System (SERS) and additions to/deductions from SERS' fiduciary net position have been determined on the same basis as they are reported by SERS. Please refer to Note 8 for additional information regarding SERS. PSERS' net pension liability for its employees to SERS is reported in Other liabilities. Pension expense is reported in administrative expenses and is detailed on the Schedule of Administrative and Investment Expenses Supplementary Schedule.

(F) Compensated Absences

The System uses the accrual basis of accounting for measuring vacation leave, sick leave, and other compensated absences liabilities. Employees of the System are paid for accumulated vacation leave upon termination or retirement. Retiring employees of the System that meet service, age, or disability requirements are paid between 30% and 100% of sick days available at retirement, up to 161 maximum days paid. At June 30, 2017 and 2016, \$3,789,000 and \$3,226,000, respectively, were accrued for unused vacation and sick leave for the System's employees and are included in Accounts payable and accrued expenses on the Statements of Fiduciary Net Position.

(G) Participant Premium Advances

Premium advances in the fiscal years ended June 30, 2017 and 2016 are for HOP premiums related to health care coverage to be provided in calendar years 2017 and 2016, respectively.

(H) Federal Income Taxes

The Internal Revenue Service (IRS) issued a determination letter dated March 16, 2017 which stated that the plan and its underlying trust qualify under the provisions of Section 501(a) of the IRC and therefore are exempt from federal income taxes.

(I) Risk Management

The System is exposed to various liabilities and risks of loss, including, without limitation, the ordinary risks of investment losses, risks related to theft or destruction of assets, liabilities resulting from injuries to employees, and liabilities resulting from court challenges to fiduciary decisions. As an administrative agency of the Commonwealth of Pennsylvania, the System is accorded sovereign immunity. For claims not shielded by sovereign immunity, the System participates in certain Commonwealth pooled insurance programs and requires asset managers to carry certain insurance coverage for the protection of the System. The System has implemented a self-insurance program for fiduciary and director and officer liability coverage. During the past three fiscal years, insurance settlements did not exceed insurance coverage.

(J) Reclassifications

Certain 2016 amounts have been reclassified in conformity with the 2017 presentation. These reclassifications had no effect on net position restricted for pension benefits or the change in fiduciary net position.

(K) Members Receivables

Members receivables include an amount for members' obligations to the System for the purchase of service credit. Members have a variety of options to remit purchase of service payments:

- Remit a lump sum payment.
- Request an installment plan from one to seven years where the member's employer establishes a payroll deduction process. The member's employer then forwards monthly payments of the withheld amounts to PSERS.
- Accept an actuarial reduction debt through which the amount of the purchase plus accumulated interest will reduce the member's retirement or death benefit.
- Rollover funds from an eligible distribution.

The following is a summary of the members receivables at June 30, 2017 and 2016:

	(Dollar Amounts in Thousands)	
	2017	2016
Pension:		
Member contributions	\$ 85,451	\$ 71,708
Purchase of service	258,799	255,509
Other	2,368	6,072
Total Members Receivables	\$ 346,618	\$ 333,289

Notes to Financial Statements (continued)

(L) Interfund Transactions and Balances

Interfund transfers of assets take place on a regular recurring basis between Pension and Premium Assistance. The transfers occur upon receipt of employer contributions and payment of benefits or expenses. The interfund receivables and payables related to interfund activity are classified under receivables and liabilities on the financial statements.

(M) Adoption of New Accounting Standards

During the fiscal year ended June 30, 2016 the System adopted GASB Statement No. 72, *Fair Value Measurement and Application* which addresses accounting and financial reporting issues related to fair value measurements.

During the fiscal year ended June 30, 2016, the System adopted GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. Upon examination of GASB 73, it was determined to have no current impact on PSERS.

During the fiscal year ended June 30, 2017 the System adopted GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. GASB 74 requires changes in presentation of the financial statements, notes to the financial statements and required supplementary information. Significant changes include an actuarial calculation of total and net OPEB liability, the sensitivity of the net OPEB liability to the discount rate, sensitivity of healthcare cost trends and increased investment activity disclosures.

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (OPEB)*, was issued June 2015. GASB 75 is effective for reporting periods beginning after June 15, 2017. GASB 75 addresses financial accounting and reporting for governments that provide or finance OPEB. GASB 75 replaces GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and GASB No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. GASB 75 requires reporting a liability on the face of the financial statements for OPEB provided to employees and requires OPEB plans to present note disclosures and required supplementary information on OPEB liabilities. The System is evaluating GASB 75 and its impact on the financial statements.

GASB Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans*, was issued December 2015. GASB 78 addresses

issues regarding the scope and applicability of GASB 68, *Accounting and Financial Reporting for Pensions*, to exclude certain pensions that are not fully associated with state or local government plans. Upon examination, it was determined to have no current impact on the System.

GASB Statement No. 79, *Certain External Investment Pools and Pool Participants*, was issued December 2015. GASB 79 addresses financial reporting for certain external investment pools and pool participants. Upon examination, it was determined to have no current impact on the System.

GASB Statement No. 80, *Blending Requirements for Certain Component Units - An Amendment of GASB Statement No.14*, was issued January 2016. GASB 80 improves financial reporting by clarifying the financial statement presentation requirements for certain component units. Upon examination, it was determined to have no current impact on PSERS.

GASB Statement No. 81, *Irrevocable Split - Interest Agreements*, was issued March 2016. GASB 81 improves accounting and financial reporting for irrevocable split interest agreements. Upon examination, it was determined to have no current impact on PSERS.

GASB Statement No. 82, *Pension Issues-An Amendment of GASB Statements No. 67, No. 68, and No. 73*, was issued March 2016. GASB 82 addresses certain issues with the presentation of payroll-related measures in required supplementary information, the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and the classification of payments made by employers to satisfy employee (member) contribution requirements. Upon examination, it was determined that the System is currently presenting information in accordance with the requirements.

Notes to Financial Statements (continued)

Table 4 - Account Balance

	(Dollar Amounts in Thousands)	
	2017	2016
Pension:		
State Accumulation Account	\$ (19,030,322)	\$ (18,726,300)
Members' Savings Account	15,500,215	14,907,732
Annuity Reserve Account	56,685,443	53,650,628
	<u>\$ 53,155,336</u>	<u>\$ 49,832,060</u>
Postemployment Healthcare:		
Health Insurance Account	\$ 123,743	\$ 124,563
Health Insurance Program Account	227,867	193,939
	<u>\$ 351,610</u>	<u>\$ 318,502</u>

3. Description of Accounts

The Code requires the System to maintain the following accounts which represent reserves held for future and current benefit payments as follows and as illustrated in Table 4.

(A) State Accumulation Account

The State Accumulation Account is credited with contributions from the Commonwealth and the employers. Additionally, interest earnings of the System (after crediting the Members' Savings Account with 4% interest and the reserve for retirement with 5.50% statutory interest) are credited to this account. Each year, the necessary amounts, as determined by the actuary for the payment of retirement, disabilities, and death benefits, are transferred from the State Accumulation Account to the Annuity Reserve Account increasing the reserve credit to the 7.25% valuation assumption rate determined by the actuary. All administrative expenses necessary for the operation of the System, except for Premium Assistance and HOP expenses, are paid from the State Accumulation Account.

(B) Members' Savings Account

The Members' Savings Account is credited with all contributions made by active members of the System. Interest is added to the member's individual account at an annual rate of 4%.

Upon death or retirement of a member, the accumulated contributions plus interest are transferred to the Annuity Reserve Account for subsequent payment of benefits.

(C) Annuity Reserve Account

The Annuity Reserve Account represents the amounts transferred from the Members' Savings and State

Accumulation Accounts, plus additional contributions made by the Commonwealth and employers for the payment of supplemental annuities and cost-of-living increases. All death, disability, and retirement benefits are paid from this account. Annual interest of 5.50% is credited to the Annuity Reserve Account.

(D) Health Insurance Account

The Health Insurance Account is credited with contributions from the employers for Premium Assistance. Effective January 1, 2002, under the provisions of Act 9 of 2001, participating eligible annuitants are entitled to receive premium assistance payments equal to the lesser of \$100 per month or their out-of-pocket monthly health insurance premium. The Health Insurance Account pays all administrative expenses necessary to operate the Premium Assistance.

(E) Health Insurance Program Account

The Health Insurance Program Account is credited with premiums from members of the HOP and from CMS. All benefits related to the HOP (premium payments to the insurance companies and self-funded benefits) are paid from this account. The Health Insurance Program Account pays all administrative expenses necessary to operate the HOP.

4. Investments

(A) Summary of Investments

The Board has the responsibility to invest and reinvest available funds of the System in accordance with the guidelines and limitations set forth in the Code and other applicable state law. The Board accomplishes the daily management of the System's investments through investment advisors who act as agents for the System and through internal investment managers.

The Board invests the funds of the System using the Prudent Investor Standard, as articulated in the Code, which means "the exercise of that degree of judgment, skill and care under the circumstances then prevailing which persons of prudence, discretion, and intelligence who are familiar with such matters exercise in the management of their own affairs not in regard to speculation, but in regard to the permanent disposition of the fund, considering the probable income to be derived therefrom as well as the probable safety of their capital." The Board has adopted its investment policy to formally document investment objectives and responsibilities. This policy, as well as applicable state law,

Notes to Financial Statements (continued)

establishes guidelines for permissible investments of the System.

(B) Fair Value of Investments**i. Fair Value Levels**

PSERS measures and records its investments using fair value measurement guidelines established by generally accepted accounting principles. These guidelines recognize a three-tiered fair value hierarchy as follows:

- **Level 1 inputs:** Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets. A quoted price for an identical asset or liability in an active market (e.g., an equity security traded on a major exchange) provides the most reliable fair value measurement and, if available, should be used to measure fair value in that particular market.
- **Level 2 inputs:** The categorization of an asset/liability as Level 1 requires that it is traded in an active market. If an instrument is not traded in an active market, it may fall to Level 2. Level 2 inputs are inputs that are observable, either directly or indirectly, but do not qualify as Level 1.
- **Level 3 inputs:** Reporting entities may use unobservable inputs to measure fair value if relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. These unobservable inputs are considered Level 3.

Debt, equity, and derivative instrument securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices and recently printed security specific trading levels. Short-term securities are carried at cost, which approximates fair value, unless they have published market prices or quotations from national securities exchanges or securities pricing services, in which case they are valued at the published market price. Fixed income securities and common and preferred stocks are generally valued based on published market prices and quotations from national securities exchanges or securities pricing services. Securities which are not traded on a national securities exchange are valued by the respective fund manager or other third parties based on similar sales. For alternative investments, which include private equity, private debt, venture capital and equity real estate

investments where no readily ascertainable market value exists, management, in consultation with the general partner and investment advisors, has determined the fair values for the individual investments based upon the partnership's most recent available financial information.

Directly-owned real estate investments are primarily valued based on appraisals performed by independent appraisers and, for properties not appraised, the present value of the projected future net income stream is used. Real estate owned investments are reported net of related debt borrowed against the market value of the property. At June 30, 2016, \$132,000,000 in line of credit advances were netted against the related property valuation and classified as Level 1. During FY 2017, the System entered into an open-ended repurchase agreement with another lender and used the proceeds to pay back the line of credit balance. The repurchase agreement, which had a balance of \$132,000,000 at June 30, 2017, is netted against the related property valuation and classified as Level 1. It is payable at an interest rate equivalent to 1 month LIBOR plus 40 basis points and is collateralized by certain fixed income investments of the System.

Derivative instruments classified in Level 1 of the fair value hierarchy are valued using observable exchange, dealer, or broker market pricing.

The Premium Assistance investment assets have the following recurring fair value measurements at June 30, 2017 and 2016:

- PSERS Short-Term Investment Fund of \$62,257,000 and \$23,944,000 for the years ended 2017 and 2016, respectively, is valued using pricing quoted in active markets for those securities (Level 1 inputs).
- Other domestic short-term investments of \$20,660,000 and \$64,943,000 for the years ended 2017 and 2016, respectively, are valued using a matrix pricing model (Level 2 inputs).

The HOP investment assets have the following recurring fair value measurements at June 30, 2017 and 2016:

- PSERS Short-Term Investment Fund of \$89,755,000 and \$89,125,000 for the fiscal years ended 2017 and 2016, respectively, is valued using pricing quoted in active markets for those securities (Level 1 inputs).
- Other domestic short-term investments of \$129,996,000 and \$104,205,000 for the fiscal years ended 2017 and 2016, respectively, are valued using pricing quoted in active markets for those securities (Level 1 inputs).

Financial Section

Notes to Financial Statements (continued)

At June 30, 2017, the System had the following recurring fair value measurements.

Investments and Derivative Instruments Measured at Fair Value

(Dollar Amounts in Thousands)

	2017	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
Pension investments:				
Investments by fair value level				
Short term:				
PSERS Short-Term Investment Fund	\$ 5,565,178	\$ 5,565,178	\$ -	\$ -
Other domestic short-term	105,174	30,832	74,342	-
International short-term	134,000	132,601	1,399	-
	<u>5,804,352</u>	<u>5,728,611</u>	<u>75,741</u>	<u>-</u>
Fixed income:				
Domestic asset-backed and mortgage-backed securities	1,589,887	-	1,585,156	4,731
U.S. government and agency obligations	1,073,883	1,073,883	-	-
Domestic corporate and taxable municipal bonds	1,927,373	554,004	1,373,369	-
International fixed income	370,141	-	370,141	-
	<u>4,961,284</u>	<u>1,627,887</u>	<u>3,328,666</u>	<u>4,731</u>
Common and preferred stock:				
Domestic common and preferred stock	5,649,599	5,609,569	-	40,030
International common and preferred stock	5,688,266	5,688,266	-	-
	<u>11,337,865</u>	<u>11,297,835</u>	<u>-</u>	<u>40,030</u>
Directly-owned real estate	<u>367,078</u>	<u>(132,000)</u>	<u>-</u>	<u>499,078</u>
Total investments by fair value level	<u>22,470,579</u>	<u>\$ 18,522,333</u>	<u>\$ 3,404,407</u>	<u>\$ 543,839</u>
Investments measured at the net asset value (NAV)				
Collective trust funds	<u>12,816,147</u>			
Equity real estate	<u>4,973,477</u>			
Alternative investments:				
Private equity	5,883,902			
Special situations (Private debt)	5,053,043			
Venture capital	985,995			
	<u>11,922,940</u>			
Total investments measured at the NAV	<u>29,712,564</u>			
Total investments measured at fair value	<u>\$ 52,183,143</u>			
Investment derivative instruments				
Futures	\$ (10,152)	\$ (10,152)	\$ -	\$ -
Total return type swaps	(2,413)	(2,413)	-	-
Foreign exchange contracts	(195,195)	(195,195)	-	-
Options	12,009	12,009	-	-
Total investment derivative instruments	<u>\$ (195,751)</u>	<u>\$ (195,751)</u>	<u>\$ -</u>	<u>\$ -</u>

Notes to Financial Statements (continued)

At June 30, 2016, the System had the following recurring fair value measurements.

Investments and Derivative Instruments Measured at Fair Value

(Dollar Amounts in Thousands)

	2016	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
Pension investments:				
Investments by fair value level				
Short term:				
PSERS Short-Term Investment Fund	\$ 4,459,476	\$ 4,459,476	\$ -	\$ -
Other domestic short-term	132,603	129,859	-	2,744
International short-term	106,425	105,455	970	-
	<u>4,698,504</u>	<u>4,694,790</u>	<u>970</u>	<u>2,744</u>
Fixed income:				
Domestic asset-backed and mortgage-backed securities	1,450,885	-	1,450,885	-
U.S. government and agency obligations	923,896	909,123	14,773	-
Domestic corporate and taxable municipal bonds	1,195,561	-	1,195,561	-
International fixed income	482,171	-	481,327	844
	<u>4,052,513</u>	<u>909,123</u>	<u>3,142,546</u>	<u>844</u>
Common and preferred stock:				
Domestic common and preferred stock	5,331,356	5,329,831	-	1,525
International common and preferred stock	5,124,942	5,124,867	-	75
	<u>10,456,298</u>	<u>10,454,698</u>	<u>-</u>	<u>1,600</u>
Directly-owned real estate	<u>330,599</u>	<u>(132,000)</u>	<u>-</u>	<u>462,599</u>
Total investments by fair value level	<u>19,537,914</u>	<u>\$ 15,926,611</u>	<u>\$ 3,143,516</u>	<u>\$ 467,787</u>
Investments measured at the net asset value (NAV)				
Collective trust funds	<u>12,143,184</u>			
Equity real estate	<u>4,835,469</u>			
Alternative investments:				
Private equity	5,792,265			
Special situations (Private debt)	4,441,297			
Venture capital	965,638			
	<u>11,199,200</u>			
Total investments measured at the NAV	<u>28,177,853</u>			
Total investments measured at fair value	<u>\$ 47,715,767</u>			
Investment derivative instruments				
Futures	\$ 32,019	\$ 32,019	\$ -	\$ -
Total return type swaps	302,321	302,321	-	-
Foreign exchange contracts	(9,932)	(9,932)	-	-
Total investment derivative instruments	<u>\$ 324,408</u>	<u>\$ 324,408</u>	<u>\$ -</u>	<u>\$ -</u>

Financial Section

Notes to Financial Statements (continued)

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2017 and 2016 are presented in the following tables.

Investments measured at the NAV				
(Dollar Amounts in Thousands)				
	<u>June 30, 2017</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice Period</u>
Collective trust funds (a)	\$ 12,816,147	\$ -	see note (a)	0 - 90 Days
Equity real estate (b)	4,973,477	2,063,824	see note (b)	
Alternative investments:				
Private equity (c)	5,883,902	2,855,180	see note (c)	
Special situations (Private debt) (d)	5,053,043	2,933,173	see note (d)	
Venture capital (e)	985,995	324,830	see note (e)	
	<u>11,922,940</u>			
Total investments measured at the NAV	\$ 29,712,564			

Investments measured at the NAV				
(Dollar Amounts in Thousands)				
	<u>June 30, 2016</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice Period</u>
Collective trust funds (a)	\$ 12,143,184	\$ 160,000	see note (a)	0 - 90 Days
Equity real estate (b)	4,835,469	2,205,905	see note (b)	
Alternative investments:				
Private equity (c)	5,792,265	3,404,544	see note (c)	
Special situations (Private debt) (d)	4,441,297	3,175,050	see note (d)	
Venture capital (e)	965,638	422,282	see note (e)	
	<u>11,199,200</u>			
Total investments measured at the NAV	\$ 28,177,853			

ii. Investments at Net Asset Value (NAV)

- (a) Collective trust fund investments (CTF) consist primarily of domestic and international institutional funds. The fair value of CTF is based on the reported share value of the respective fund. CTF are managed by state chartered banks for which various state banking departments have regulatory oversight and investment advisors for which regulatory agencies such as the Securities and Exchange Commission have regulatory oversight. Investments that are not subject to this oversight are subject to annual independent audits. Redemption frequency for these assets range from monthly, to quarterly, to annual. One asset has a 2-year hard lock that expires on December 31, 2017.
- (b) Equity real estate includes real estate funds that invest primarily in U.S., Latin American, European and Asian commercial real estate. Fund investments can be made across the capital structure of each property venture. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Distributions from each fund may be received as: 1) cash flows from operations or 2) return of capital from dispositions. It is expected that the underlying assets of the funds will be liquidated over the next 7 to 12 years.
- (c) Private equity includes U.S. buyout funds and international buyout funds that invest mostly in private companies across a variety of industries (although

Notes to Financial Statements (continued)

they may invest in public companies from time to time). The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. The nature of private equity investments is that distributions are received through the liquidation of the underlying assets of the fund. The expected holding period of a private equity portfolio company is 3 to 7 years.

- (d) Special situations (Private debt) includes private investment funds that invest across the fixed income capital structure primarily in North America and Western Europe. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Instead, the nature of the investments in this type is that distributions are received through the orderly liquidation of the underlying assets of the fund throughout the stated term of the fund. It is expected that the underlying assets of the funds will be liquidated over the next 3 to 7 years.
- (e) Venture capital includes U.S. based private funds, that finance young, relatively small, rapidly growing companies, typically in either the health care or information technology sectors. The fair value of the investments in this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. The nature of venture capital investments is that distributions are received through the liquidation of the underlying assets of the fund. It is expected that the underlying assets of the funds will be liquidated over the next 5 to 10 years.

(C) Deposit and Investment Risk Disclosures**i. Deposits**

Custodial credit risk for deposits is the risk that, in the event of a financial institution failure, the System would not be able to recover the value of the deposits. The Commonwealth's Treasury Department is the custodian of the System's funds. Commonwealth Treasury Department deposits must be held in insured depositories approved by the Commonwealth's Board of Finance and Revenue and must be fully collateralized.

The System, through its third party administrator, maintains certain bank deposits for the operation of its voluntary

The following table discloses aggregate market value by credit quality rating category. Many securities have ratings from more than one NRSRO and sometimes those ratings differ from one NRSRO to another. The data listed below uses the rating (expressed as S&P equivalent) available from Fitch, Moody's and/or S&P that indicates the lowest credit quality at June 30, 2017 and 2016.

Quality Rating	(Dollar Amounts in Thousands)	
	2017 Fair Value	2016 Fair Value
AAA	\$ 797,203	\$ 638,124
AA	210,405	153,353
A	414,985	238,902
BBB	739,916	455,746
BB and Below	431,513	254,925
NR*	11,419,428	10,592,798
Total Exposed to Credit Risk	14,013,450	12,333,848
US Government Guaranteed**	1,531,272	1,331,821
Total Fixed Income and Short-Term Investments	\$ 15,544,722	\$ 13,665,669

* Not Rated securities include \$4,476,419 and \$4,632,435 in collective trust funds and \$5,718,223 and \$4,572,545 in PSERS Short Term Investment Fund assets at at June 30, 2017 and 2016 respectively.

** Comprised of U.S. government and agency obligations explicitly guaranteed by the U.S. government and not considered to have credit risk.

HOP. These deposits are not required to be collateralized by statute or policy. These deposits totaled \$129,996,000 and \$104,205,000 at June 30, 2017 and 2016, respectively, and are under the custody of M&T Bank which has an A rating by Standard and Poor's (S&P) and an Aa3 rating by Moody's Investor Services (Moody's).

ii. Investment Risks

The System's investments, including derivatives and other similar investments, may be subject to various risks. Among these risks are concentration of credit risk, custodial credit risk, credit risk, interest rate risk, and foreign currency risk. The policies addressing each one of these risks, discussed in more detail below, are contained within the Investment Policy Statement, Objectives, and Guidelines reviewed and approved annually by the Board. Due to the level of risk associated with certain investments, it is possible that changes in the values of investments may occur in the near term and that such changes could materially affect the amounts reported in the Statements of Fiduciary Net Position.

Notes to Financial Statements (continued)

For derivatives exposed to credit risk, the table below presents aggregate market value by the least favorable credit rating provided by NRSROs at June 30, 2017 and 2016.

Quality Rating	(Dollar Amounts in Thousands)	
	2017 Fair Value	2016 Fair Value
AA	\$ (804)	\$ -
A	(9,451)	281,337
BBB	8,830	-
BB	(988)	20,984
Total Swaps-Total Return	\$ (2,413)	\$ 302,321

(a) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System’s investment in a single issuer. At of June 30, 2017 and 2016 the System had no single issuer that exceeded 5% of total investments. Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments were excluded.

(b) Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the System would not be able to recover the value of investment or collateral securities that are in the possession of an outside party. In accordance with a contractual relationship between the Commonwealth’s Treasury Department and its custodial agent, substantially all investments, where securities are used as evidence of the investment, are held by the custodian in book-entry form in the System’s name. Those investments are defined as insured or registered investments for which the securities are held by the System or its agent and, therefore, have a very minimal level of custodial credit risk. The remaining investments, which do not have securities that are used as evidence of the investment, are primarily in collective trust funds and limited partnerships, which include real estate and alternative investments.

(c) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit risk of a debt instrument is measured by nationally recognized statistical rating organizations (NRSRO) such as Fitch Investor Services (Fitch), Moody’s, and S&P. Annually, the Board establishes an asset allocation plan. This plan manages the overall credit risk of the fixed income asset class through a clearly defined long-term asset allocation policy. This policy establishes a long-term target allocation of the fixed income asset class at 36.0% of the investment portfolio. Leverage is utilized for 11.0%. The fixed income target allocation consists of:

At June 30, 2017 and 2016, the System’s fixed income portfolio had the following option-adjusted durations by fixed income sector:

Investment Type	(Dollar Amounts in Thousands)			
	Option-Adjusted Duration	2017 Fair Value	Option-Adjusted Duration	2016 Fair Value
Domestic asset-backed and mortgage-backed securities	1.7	\$ 1,589,281	0.9	\$ 1,450,885
U.S. government and agency obligations	9.6	1,073,883	8.2	923,896
Domestic corporate and taxable municipal bonds	1.8	1,927,373	3.2	1,195,561
International fixed income	5.9	370,140	6.5	482,171
Collective trust funds	3.2	4,476,419	3.8	4,632,435
PSERS Short-Term Investment Fund	0.1	6,262,343	0.1	4,572,545
Total	2.1*	\$ 15,699,439	2.6*	\$ 13,257,493

* Fixed income investment managers enter into futures contracts to adjust the durations of their portfolios as a whole rather than any particular investment type within the portfolio. In total, the futures contracts have adjusted PSERS’ total portfolio duration upward by 0.1 at June 30, 2017 and 2016. The total portfolio option-adjusted duration is calculated by weighting each investment type by fair value.

Notes to Financial Statements (continued)

At June 30, 2017 and 2016, the System had the following foreign currency exposures for its derivatives (except for foreign exchange contracts which are included in Note 5):

Currency	(Dollar Amounts in Thousands)	
	2017	2016
	Notional Value	Notional Value
Euro	\$ 393,290	\$ 300,680
Japanese yen	193,886	122,950
British pound sterling	140,837	108,612
Canadian dollar	43,820	54,550
Australian dollar	41,056	32,856
Hong Kong dollar	9,177	7,425
Total Futures Contracts and Total Return Swaps	\$ 822,066	\$ 627,073

- An allocation of 8.0% of the portfolio has been made to the U.S. core plus segment of the fixed income asset class benchmarked to the Barclays Capital U.S. Aggregate Index. The U.S. core plus allocation is composed of primarily investment grade, relatively liquid, public domestic bonds with an overall weighted-average NRSRO credit rating of A or better.
- An allocation of 8.0% of the portfolio has been made to the high yield segment of the fixed income asset class benchmarked to the Barclays Capital U.S. High Yield Index. The high yield allocation is composed of less liquid public non-investment grade fixed income securities with an overall weighted-average NRSRO credit rating of B- or better.
- An allocation of 15.0% of the portfolio has been made to the Treasury Inflation-Protected Securities (TIPS) segment of the fixed income asset class benchmarked to the Barclays Capital World Government Inflation-Linked Bond Index (Hedged to USD) and composed of primarily government issued TIPS with an overall weighted-average NRSRO credit rating of AA or better. The portfolio manager is permitted to leverage the portfolio using TIPS total return swaps up to 3:1.
- An allocation of 1.0% of the portfolio has been made to the non-U.S. developed markets fixed income asset class benchmarked to the Barclays Capital Global Aggregate GDP-weighted Developed Market ex-U.S. (Unhedged) Index composed of primarily investment grade, relatively liquid non-U.S. public bonds with an overall weighted-average NRSRO credit rating of A or better.
- An allocation of 1.0% of the portfolio has been made to the emerging markets fixed income asset class benchmarked to the Barclays Capital EM Local Currency-Government-MV Weighted (Unhedged) -10% Country Cap Index composed of primarily

investment grade, relatively liquid non-U.S. public bonds with an overall weighted-average NRSRO credit rating of BB- or better.

- An allocation of 3.0% of the portfolio has been made to cash benchmarked to the Merrill Lynch U.S. Treasury Bill 0-3 Months Index composed of primarily investment grade, relatively liquid U.S. and non-U.S. public bonds with an overall weighted-average NRSRO credit rating of AA or better.

(d) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of a fixed income investment. The System manages its interest rate risk by diversifying the fixed income portfolio and maintaining the fixed income portfolio at a Board-approved effective duration range of the benchmark index.

Duration is a measure of the approximate sensitivity of a bond's value to interest rate changes. The higher the duration, the greater the changes in fair value when interest rates change. For example, a duration of 4.0 would mean that, given a 100-basis point change up/down in rates, a bond's price would move down/up approximately 4.0%. PSERS measures interest rate risk using option-adjusted duration, which recognizes the fact that yield changes may change the expected cash flows due to embedded options.

(e) Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment. As part of the System's program to manage risk and enhance returns, the System invests in non-U.S. markets. Investment managers in non-U.S. equity and global fixed income may hedge their non-U.S. foreign currency exposure back to U.S. dollars.

Financial Section

Notes to Financial Statements (continued)

Non-U.S. currency exposures at June 30, 2017 and 2016:

2017

(Dollar Amounts in Thousands)

Currency	Equity	Fixed Income	Alternative Investments & Real Estate	Short-Term*	Currency Hedge	Total Fair Value
Euro	\$ 1,102,951	\$ 59,764	\$ 1,649,694	\$ 25,326	\$ (2,097,348)	\$ 740,387
British pound sterling	868,409	11,755	158,464	31,441	(889,499)	180,570
South Korean won	159,331	-	-	(202)	91	159,220
Taiwan new dollar	147,406	-	-	87	(50)	147,443
South African rand	71,882	11,236	-	137	(1,517)	81,738
Indian rupee	72,416	-	-	13	-	72,429
Brazil real	63,652	3,170	-	(2,927)	427	64,322
Danish krone	132,302	259	-	1,776	(73,854)	60,483
Mexican peso	25,532	18,353	-	(2,085)	(4,282)	37,518
Other non-U.S. currencies	2,588,546	119,637	-	67,521	(2,996,129)	(220,425)
Total	\$ 5,232,427	\$ 224,174	\$ 1,808,158	\$ 121,087	\$ (6,062,161)	\$ 1,323,685

2016

(Dollar Amounts in Thousands)

Currency	Equity	Fixed Income	Alternative Investments & Real Estate	Short-Term*	Currency Hedge	Total Fair Value
Euro	\$ 906,601	\$ 104,468	\$ 1,787,026	\$ 36,889	\$ (1,879,668)	\$ 955,316
British pound sterling	878,211	34,096	124,921	27,078	(768,640)	295,666
South Korean won	117,185	10,286	-	182	(3,834)	123,819
Taiwan new dollar	100,552	-	-	3,067	(4,738)	98,881
Indian rupee	75,260	7,328	-	4,043	(2,037)	84,594
South African rand	56,661	7,626	-	(90)	1,917	66,114
Danish krone	133,456	808	-	1,051	(73,384)	61,931
Mexican new peso	44,094	15,302	-	407	(2,680)	57,123
Brazil real	33,249	16,468	-	269	(14,432)	35,554
Other non-U.S. currencies	2,514,294	135,675	27	72,313	(2,647,952)	74,357
Total	\$ 4,859,563	\$ 332,057	\$ 1,911,974	\$ 145,209	\$ (5,395,448)	\$ 1,853,355

* Includes investment receivables and payables

(D) Securities Lending

The System participates in a securities lending program with a third party agent. Under this program, the lending agent loans securities (equities, fixed income, and money market instruments) to independent brokers and dealers in exchange for U.S. dollar cash collateral in an amount not less than 102% of the fair value of any securities loaned. Collateral is marked-to-market daily. If the fair value of the collateral held falls below the minimum guidelines for securities loaned, additional collateral is obtained. The lending agent invests the cash collateral in accordance with reinvestment guidelines approved by the System.

At June 30, 2017 and 2016, the System had no credit risk exposure to borrowers because the amounts the System owed the borrowers exceeded the amounts the borrowers

owed the System. Under the securities lending program, the lending agent provides indemnification to the System if a borrower fails to return borrowed securities (and the collateral is inadequate to replace the loaned securities) or fails to pay income distributions on them. The lending agent also provides indemnification to the System if investment of cash collateral results in investment loss. There were no losses during the fiscal years ended June 30, 2017 and 2016 resulting from a default of the borrowers or the lending agent.

All securities loans can be terminated on demand by either the System or the borrower, although the average term of the loan is one day. There were no term loans at June 30, 2017 and 2016.

Notes to Financial Statements (continued)

Table 5 - Notional Amounts of Derivatives

The table presented below summarizes the aggregate notional or contractual amounts for the System's derivative financial instruments at June 30, 2017 and 2016.

	(Dollar Amounts in Thousands)	
	2017	2016
Futures contracts - long:		
Treasury futures	\$ 2,624,369	\$ 1,960,030
U.S. equity futures	856,999	1,163,719
Non-U.S. equity futures	755,187	774,998
Commodity futures	314,613	325,440
Non-U.S. bond futures	184,169	255,428
Futures contracts - short:		
Treasury futures	21,878	78,100
Non- U.S. bond futures	4,282	1,596
Foreign exchange forward and spot contracts, gross	6,355,027	5,558,947
Options - puts purchased	899,648	-
Swaps - total return type	8,638,151	7,105,829

Cash collateral is invested in a short-term collateral investment pool that is managed by the lending agent, is segregated from all other clients of the lending agent, and is not subject to custodial credit risk. The System's income from securities lending represents its pro-rata share from participating in the program. The weighted-average maturity of the investments in the pool was one day at June 30, 2017 and 2016. During the fiscal years ended June 30, 2017 and 2016, the mismatch between the maturities of the investments made with cash collateral and the maturities of the securities loans may have posed some interest rate risk to the System. In the event of a default, the lending agent may use the collateral to replace the loaned securities.

At June 30, 2017, the fair value of loaned securities was \$1,972,488,000. The fair value of the associated collateral was \$2,016,063,000, all of which was cash. At June 30, 2016, the fair value of loaned securities was \$2,046,869,000. The fair value of the associated collateral was \$2,092,729,000, all of which was cash.

5. Derivative and Other Similar Investments

The System enters into a variety of financial contracts, which include options and futures. The System also enters into foreign exchange positions, such as forward and spot

The fair values of derivative instruments outstanding at June 30, 2017 and 2016 are classified by type and by the changes in fair value of the derivative instrument in the table below.

Investment Derivative Type	(Dollar Amounts in Thousands)			
	Change in Fair Value Gain/(Loss) FY 2017		Fair Value at June 30, 2017	
	Classification	Amount	Classification	Amount
Futures	Investment income	\$ (10,152)	Receivable/(Payable)	\$ (10,152)
Total return type swaps	Investment income	(2,413)	Receivable/(Payable)	(2,413)
Foreign exchange contracts	Investment income	(195,195)	Receivable/(Payable)	(195,195)
Options	Investment income	(14,933)	Investment	12,009
Total		\$ (222,693)		\$ (195,751)
Investment Derivative Type	(Dollar Amounts in Thousands)			
	Change in Fair Value Gain/(Loss) FY 2016		Fair Value at June 30, 2016	
	Classification	Amount	Classification	Amount
Futures	Investment income	\$ 32,019	Receivable/(Payable)	\$ 32,019
Total return type swaps	Investment income	302,321	Receivable/(Payable)	302,321
Foreign exchange contracts	Investment income	(9,932)	Receivable/(Payable)	(9,932)
Total		\$ 324,408		\$ 324,408

Financial Section

Notes to Financial Statements (continued)

The following table summarizes the System's foreign exchange contracts by currency at June 30, 2017 and 2016:

2017				
(Dollar Amounts in Thousands)				
Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	\$ 78,103	\$ 2,259	\$ 2,174,510	\$ (130,531)
Japanese yen	21,517	(324)	1,156,315	(137)
Australian dollar	12,038	454	437,390	(1,579)
British pound sterling	8,490	57	894,487	(32,333)
Canadian dollar	7,640	261	540,836	(4,998)
Swiss franc	4,276	138	373,082	(13,447)
Czech koruna	3,921	70	293	(3)
New Zealand dollar	3,272	121	31,661	(855)
Polish zloty	2,832	23	2,676	(123)
Mexican peso	2,540	(11)	6,822	31
Swedish krona	1,250	22	154,593	(7,316)
Turkish lira	897	5	882	(1)
Singapore dollar	611	5	73,296	(2,106)
Other non-US currencies	1,694	4	359,103	(4,881)
Total	\$ 149,081	\$ 3,084	\$ 6,205,946	\$ (198,279)

2016				
(Dollar Amounts in Thousands)				
Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	\$ 19,838	\$ (117)	\$ 1,897,067	\$ 17,760
British pound sterling	13,225	(607)	781,865	67,533
Japanese yen	11,240	247	1,110,034	(68,467)
Brazilian real	5,778	92	20,210	(1,252)
Taiwan new dollar	5,495	16	10,233	(76)
Swedish krona	3,460	(26)	124,446	1,871
Canadian dollar	3,014	(4)	444,470	(5,649)
Hong Kong dollar	2,594	3	158,615	(156)
Indian rupee	2,120	(8)	4,157	4
Swiss franc	1,832	2	331,245	(5,772)
Singapore dollar	1,286	31	67,283	(1,806)
Israeli shekel	394	-	28,597	(132)
Danish krone	287	1	73,672	571
Australian dollar	76	-	350,030	(13,036)
Other non-US currencies	16,229	385	70,156	(1,340)
Total	\$ 86,868	\$ 15	\$ 5,472,080	\$ (9,947)

Notes to Financial Statements (continued)

contracts to obtain or hedge foreign currency exposure; swap agreements to gain exposure to certain sectors of the equity and fixed income markets; collateralized mortgage obligations (CMOs); other forward contracts; and U.S. Treasury STRIPS. The System is not a dealer, but an end-user of these instruments. The contracts are used primarily to enhance performance and/or reduce the volatility of the portfolio. The System is exposed to credit risk in the event of non-performance by counterparties to financial instruments. The System generally enters into transactions only with high quality institutions. Legal risk is mitigated through selection of executing brokers and review of all documentation. The System is exposed to market risk, the risk that future changes in market conditions may make an instrument less valuable. Exposure to market risk is managed in accordance with risk limits set by senior management, through buying or selling instruments or entering into offsetting positions.

The notional or contractual amounts of derivatives indicate the extent of the System's involvement in the various types and uses of derivative financial instruments and do not measure the System's exposure to credit or market risks and do not necessarily represent amounts exchanged by the parties. The amounts exchanged are determined by reference to the notional amounts and the other terms of the derivatives.

Futures contracts are contracts in which the buyer agrees to purchase and the seller agrees to make delivery of a specific financial instrument at a predetermined date and price. Gains and losses on futures contracts are settled daily based on a notional (underlying) principal value and do not involve an actual transfer of the specific instrument. Futures contracts are standardized and are traded on exchanges. The exchange assumes the risk that a counterparty will not pay and generally requires margin payments to minimize such risk. In addition, the System enters into short sales, sales of securities it does not presently own, to neutralize the market risk of certain equity positions. Initial margin requirements on futures contracts and collateral for short sales are provided by investment securities pledged as collateral and by cash held by various brokers. Although the System has the right to access individual pledged securities, it must maintain the amount pledged by substituting other securities for those accessed. The value of securities pledged and the amount of cash held at June 30, 2017 and 2016 represent a restriction on the amount of assets available at year-end for other purposes.

Option contracts provide the option purchaser with the right, but not the obligation, to buy or sell the underlying security at a set price during a period or at a specified date. The option writer is obligated to buy or sell the underlying security if the option purchaser chooses to exercise the option. The System generally uses exchange listed currency,

index, stock, and futures options. During FY 2017, the System purchased over-the-counter put options on the S&P 500 Index. The fair value of these option contracts of \$12,009,000 at June 30, 2017 is included in the Statement of Fiduciary Net Position. The System held no option positions at June 30, 2016.

Foreign exchange contracts involve an agreement to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. To reduce the risk of counterparty non-performance, the investment managers generally enter into these contracts with institutions regarded as meeting high standards of credit worthiness. The contracts reported in Table 5 primarily include forwards. The \$6,355,027,000 of foreign currency contracts outstanding at June 30, 2017 consist of "buy" contracts, which represent the U.S. dollar equivalents of commitments to purchase foreign currencies of \$149,081,000 and "sell" contracts, which represent U.S. dollar equivalents of commitments to sell foreign currencies of \$6,205,946,000. The \$5,558,947,000 of foreign currency contracts outstanding at June 30, 2016 consist of "buy" contracts of \$86,868,000 and "sell" contracts of \$5,472,080,000. The unrealized loss on contracts of \$(195,195,000) and \$(9,932,000) at June 30, 2017 and 2016, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts.

Swap agreements provide for periodic payments at predetermined future dates between parties based on the change in value of underlying securities, indexes, or interest rates. During the year ended June 30, 2017 and 2016, the System entered into total return type swaps. Under the total return type swap arrangements, the System receives the net return of certain equity securities or indexes in exchange for a short-term rate minus a spread or a predetermined fixed charge. The receivable (payable) on the total return type swap contracts of \$(2,413,000) and \$302,321,000 at June 30, 2017 and 2016, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts. The contracts have varying maturity dates ranging from July 1, 2017 to September 22, 2026.

The System also invests in mortgage-backed securities (MBS) such as CMOs and MBS forwards to maximize yields. These securities are sensitive to prepayments of mortgages, which may result from a drop in interest rates. The MBS forwards are subject to credit risk in the event of nonperformance by counterparties. The fair value of CMOs at June 30, 2017 and 2016 is \$517,910,000 and \$477,412,000, respectively.

Financial Section

Notes to Financial Statements (continued)

The System invests in U.S. Treasury STRIPS which essentially act as zero coupon bonds and are subject to market volatility from a rise or drop in interest rates.

Through certain collective trust funds, the System also indirectly holds various derivative financial instruments. The collective trust funds invest in futures and options thereon; forward foreign currency contracts; options; interest rate, currency, equity, index, and total return swaps; interest-only STRIPS; and CMOs, to enhance the performance and/or reduce the volatility of their portfolios.

6. Net Pension Liability of Participating Employers

The components of the net pension liability of the participating employers at June 30, 2017 were as follows:

(Dollar amounts in thousands)	
Total pension liability	\$ 102,543,741
Less: Plan fiduciary net position	53,155,336
Employer net pension liability	\$ 49,388,405
Plan fiduciary net position as a percentage of the total pension liability	51.84%

Actuarial Assumptions

The total pension liability at June 30, 2017 was determined by rolling forward the System's total pension liability at June 30, 2016 to June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 7.25%, includes inflation at 2.75%.
- Salary growth - Effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.
- PSERS' Board approved new actuarial assumptions effective for the June 30, 2016 actuarial valuation. The new assumptions were used to calculate the net pension liability at June 30, 2016 and are reflected above.

Investments

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 plan investment expense and inflation) are developed for each major asset

Table 6 - Pension Asset Allocation

Pension - Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global public equity	20.0%	5.1%
Fixed income	36.0%	2.6%
Commodities	8.0%	3.0%
Absolute return	10.0%	3.4%
Risk parity	10.0%	3.8%
Infrastructure/MLPs	8.0%	4.8%
Real estate	10.0%	3.6%
Alternative investments	15.0%	6.2%
Cash	3.0%	0.6%
Financing (LIBOR)	(20.0%)	1.1%
	100.0%	

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.

The pension plan's policy in regard to the allocation of invested plan assets is established and may be amended by the Board. Plan assets are managed with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension.

For the year ended June 30, 2017, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 10.15%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. Table 6 shows the Board's adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class at June 30, 2017.

Discount Rate

The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from employers will be made at contractually required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Notes to Financial Statements (continued)

Sensitivity of the Net Pension Liability

Table 7 presents the net pension liability, calculated using the discount rate of 7.25%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower (6.25%) or 1-percentage point higher (8.25%) than the current rate:

Table 7 - Sensitivity of the Net Pension Liability
(Dollar amounts in thousands)

	1% Decrease	Current Discount Rate	1% Increase
	6.25%	7.25%	8.25%
Net pension liability \$	60,792,831	\$ 49,388,405	\$ 39,759,842

- Salary growth - Effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.
- Premium Assistance reimbursement is capped at \$1,200 per year.
- Assumed Healthcare cost trends were applied to retirees with less than \$1,200 in premium assistance per year.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Investments

The Board has the responsibility to invest and reinvest available funds of the System in accordance with the guidelines and limitations set forth in the Code and other applicable state law. The Board accomplishes the daily management of the System's investments through investment advisors who act as agents for the System and through internal investment managers. Investments consist primarily of short term assets designed to protect the principal of plan assets. Table 8 reflects the Fund's OPEB asset allocation policy and best estimates of geometric real rates of return for each asset class at June 30, 2017.

7. Net Other Postemployment Benefits (OPEB) Liability of Participating Employers

The components of the net OPEB liability of the participating employers at June 30, 2017 for the Premium Assistance Program were as follows:

(Dollar amounts in thousands)

Total OPEB liability	\$ 2,161,155
Less: Plan fiduciary net position	123,743
Employer net OPEB liability	\$ 2,037,412
Plan fiduciary net position as a percentage of the total OPEB liability	5.73%

Table 8 - OPEB Asset Allocation

OPEB - Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Cash	76.4%	0.6%
Fixed Income	23.6%	1.5%
	100.0%	

Postemployment Healthcare Plans

PSERS provides a Health Insurance Premium Assistance program funded by employer contributions which makes up the OPEB liability.

HOP is a PSERS sponsored voluntary health insurance program funded exclusively by the premiums paid by its participants for benefit coverage they elect. The HOP is not part of the OPEB liability.

Under the program, employer contribution rates for Premium Assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of Premium Assistance benefits for each succeeding year.

Actuarial Assumptions

The total OPEB liability at June 30, 2017 was determined by rolling forward the System's total OPEB liability at June 30, 2016 to June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 3.13% - S&P 20 Year Municipal Bond Rate.

For the year ended June 30, 2017, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was 0.90%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Discount Rate

The discount rate used to measure the total OPEB liability was 3.13%. The Health Insurance Premium Assistance Program is funded by employer contributions. Under the

Notes to Financial Statements (continued)

plan’s funding method, the OPEB plan’s fiduciary net position was not projected to be sufficient to meet projected future benefit payments. Therefore, the plan is considered a “pay-as-you-go” plan and a discount rate of 3.13%, which represents the S&P 20 year Municipal Bond Rate at June 30, 2017, was applied to all projected benefit payments to measure the total OPEB liability.

Sensitivity of the Net OPEB Liability

Table 9 presents the net OPEB liability, calculated using the discount rate of 3.13%, as well as what the net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower (2.13%) or 1-percentage point higher (4.13%) than the current rate:

Table 9 - Sensitivity of the Net OPEB Liability
(Dollar amounts in thousands)

	1% Decrease 2.13%	Current Discount Rate 3.13%	1% Increase 4.13%
Net OPEB liability	\$ 2,315,996	\$ 2,037,412	\$ 1,805,991

Healthcare Cost Trend Rates

Healthcare cost trends were applied to retirees with less than \$1,200 in Premium Assistance per year. Premium Assistance is capped at a maximum of \$1,200 per year. At June 30, 2016, there were 91,797 members receiving the maximum amount allowed of \$1,200 in Premium Assistance per year and their Premium Assistance benefits are not subject to future healthcare cost increases. At June 30, 2016, there were 1,354 members receiving less than the maximum amount allowed of \$1,200 per year. The actual number of retirees receiving less than the \$1,200 per year cap is a small percentage of the total population and has a minimal impact from Healthcare Cost Trends, as depicted in Table 10.

Table 10 - Sensitivity of the Net OPEB Liability to Change in Healthcare Cost Trend Rates
(Dollar amounts in thousands)

	1% Decrease	Current Trend Rate	1% Increase
Net OPEB liability	\$ 2,036,880	\$ 2,037,412	\$ 2,037,839

8. Pension Plan for Employees of the System

(A) SERS’ Plan Description

The System contributes to SERS, a cost-sharing multiple-employer defined benefit pension plan established by the Commonwealth to provide pension benefits for employees of state government and certain independent agencies. SERS is a component unit of the Commonwealth and is included in the Commonwealth’s financial report as a pension trust fund.

Membership in SERS is mandatory for most state employees. SERS provides retirement, death, and disability benefits. Article II of the Commonwealth’s Constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly.

(B) SERS’ Benefits Provided to Employees of the System

SERS member retirement benefits are generally determined by taking years of credited service times final average salary times 2% or 2.5%, depending on date of hire. The normal retirement age ranges from 50 - 65, depending on the membership class.

According to the State Employees’ Retirement Code (SERC), all obligations of SERS will be assumed by the Commonwealth should SERS terminate.

(C) Contributions to SERS

The contribution requirements of SERS plan members is mandated by Commonwealth statute. The member contribution rate for the majority of SERS’ members is 6.25%. At December 31, 2016 and 2015 the blended employer contribution rates were 26.71% and 22.77%, respectively. Contributions to SERS from PSERS were \$5.9 million for the year ended June 30, 2017.

(D) Proportionate Share of Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources from SERS

At June 30, 2017, PSERS reported a liability of \$64.1 million and \$55.9 million at June 30, 2016, for its proportionate share of the net pension liability for the SERS plan in Other liabilities on the Statement of Fiduciary Net Position. The net pension liability was measured at December 31, 2016 and 2015, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation at December 31, 2016 and 2015. PSERS’ proportion of the net pension liability was calculated

Notes to Financial Statements (continued)

utilizing a projected-contribution method. At December 31, 2016, PSERS' proportion was 0.33288975 percent and 0.30753415 percent at December 31, 2015. Deferred outflows of resources of \$16.7 million and \$11.3 million at June 30, 2017, and June 30, 2016, respectively, are reported in Miscellaneous assets. Deferred inflows of resources of \$2.4 million and \$1.3 million at June 30, 2017, and June 30, 2016, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position.

(E) SERS' Pension Plan Fiduciary Net Position

Detailed information about SERS' fiduciary net position is available in SERS' Comprehensive Annual Financial Report which can be found on SERS' website at www.SERS.pa.gov.

9. Postemployment Healthcare Plan for Employees of the System

The System participates in the Commonwealth's Retired Employees Health Program (REHP). The REHP is a single-employer plan and provides certain healthcare benefits to qualifying individuals meeting specified age and/or service requirements. The Commonwealth's Office of Administration (OA), in its sole discretion, determines available REHP benefits on an ongoing basis. The Pennsylvania Employees Benefit Trust Fund (PEBTF) is a third-party administrator for the REHP under the provisions of an Administration Agreement between OA and PEBTF.

Employer costs for retiree healthcare benefits are charged as a component of payroll expenditures on a 'pay-as-you-go' basis. REHP funding is arranged between OA and the Governor's Budget Office. FY 2017 employer costs were charged at the rate of \$362/employee/bi-weekly pay period. Plan members who retired after June 30, 2005 contribute to the plan based on a percentage of their final annual gross base salary at the time of retirement. Plan member contribution rates vary based on their REHP enrollment date.

In August 2017, the Commonwealth released an Actuarial Valuation of its Post-Retirement Medical Plan with calculations made as of January 1, 2017. This valuation

provided Other Postemployment Benefits (OPEB) reporting that was used for FY 2017. For FY 2016 and FY 2017, the System's allocated Annual OPEB Cost (AOC) was \$5.3 million and \$5.2 million respectively. Based on the aggregate REHP qualifying contributions for FY 2016 and FY 2017, the net OPEB liability for the System was \$1.6 million and \$2.1 million, respectively.

10. Litigation and Contingencies

The System is subject to various threatened and pending lawsuits. These lawsuits include issues related to benefit calculations and eligibility. It is the opinion of management that the ultimate liability arising from such threatened and pending litigation will not have a material effect on the financial position of the System. The System is exposed to various other liabilities and risks related to fiduciary responsibilities of directors and officers.

11. Commitments

At June 30, 2017, PSERS had commitments for the future purchase of investments in alternative investments of \$6.1 billion and real estate of \$2.1 billion.

12. Subsequent Events

The System has performed an evaluation of subsequent events through September 25, 2017, the date the basic financial statements were available to be issued. No material events were identified by the System.

The AOCs and OPEB for fiscal years 2017, 2016, and 2015 are illustrated in the following table:

(Dollar Amounts in Thousands)

Fiscal Year	Commonwealth AOC	PSERS' AOC	PSERS' Net OPEB
2017	\$ 1,107,290	\$ 5,211	\$ 2,135
2016	1,169,885	5,307	1,607
2015	1,136,817	5,157	1,547

Required Supplementary Information

Schedule 1 Schedule of Changes in the Employer Net Pension Liability (Unaudited – See Accompanying Auditor’s Report) (Dollar Amounts in Thousands)

	2017	2016	2015	2014
Total pension liability				
Service cost	\$ 1,873,844	\$ 1,932,401	\$ 1,926,539	\$ 2,139,037
Interest	7,110,987	7,028,292	6,857,497	6,523,484
Changes of benefit terms	(449)	-	-	-
Differences between expected and actual experience	644,051	(348,429)	(223,437)	-
Changes of assumptions	-	2,236,118	-	-
Benefit payments	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Net change in total pension liability	3,154,854	4,488,057	2,339,998	2,609,016
Total pension liability - beginning	99,388,887	94,900,830	92,560,832	89,951,816
Total pension liability - ending (a)	<u>\$ 102,543,741</u>	<u>\$ 99,388,887</u>	<u>\$ 94,900,830</u>	<u>\$ 92,560,832</u>
Plan fiduciary net position				
Contributions - employer	\$ 3,832,773	\$ 3,189,510	\$ 2,596,731	\$ 1,992,084
Contributions - member	1,013,847	989,266	984,634	966,926
Net investment income	4,995,362	473,206	1,328,516	7,097,761
Benefit payments	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Administrative expense	(45,127)	(45,118)	(42,331)	(38,712)
Other	-	-	-	-
Net Change in plan fiduciary net position	3,323,276	(1,753,461)	(1,353,051)	3,964,554
Plan fiduciary net position - beginning	49,832,060	51,585,521	52,938,572	49,015,561
Plan fiduciary net position - ending (b)	<u>\$ 53,155,336</u>	<u>\$ 49,832,060</u>	<u>\$ 51,585,521</u>	<u>\$ 52,980,115</u>
Employer net pension liability - ending (a)-(b)	<u>\$ 49,388,405</u>	<u>\$ 49,556,827</u>	<u>\$ 43,315,309</u>	<u>\$ 39,580,717</u>

See accompanying independent auditor’s report and notes to the required supplementary information.

Required Supplementary Information

Schedule 2 Schedule of Employer Net Pension Liability (Unaudited – See Accompanying Auditor’s Report) (Dollar Amounts in Thousands)

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total pension liability	\$ 102,543,741	\$ 99,388,887	\$ 94,900,830	\$ 92,560,832
Less: Plan fiduciary net position	53,155,336	49,832,060	51,585,521	52,980,115
Employer net pension liability	<u>\$ 49,388,405</u>	<u>\$ 49,556,827</u>	<u>\$ 43,315,309</u>	<u>\$ 39,580,717</u>
Plan fiduciary net position as a percentage of the total pension liability	51.84%	50.14%	54.36%	57.24%
Covered payroll	\$ 13,313,900	\$ 12,951,077	\$ 12,866,473	\$ 12,760,785
Employer net pension liability as a percentage of covered payroll	370.95%	382.65%	336.65%	310.17%

Schedule 3 Schedule of Employer Pension Contributions (Unaudited – See Accompanying Auditor’s Report) (Dollar Amounts in Thousands)

	<u>Pension</u>			
	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially determined contribution	\$ 3,824,908	\$ 3,540,304	\$ 3,289,615	\$ 2,965,715
Contributions in relation to the actuarially determined contribution ⁽¹⁾⁽²⁾	3,824,908	3,181,438	2,582,114	1,992,084
Contribution deficiency	<u>\$ -</u>	<u>\$ 358,866</u>	<u>\$ 707,501</u>	<u>\$ 973,631</u>
Covered payroll	\$ 13,313,900	\$ 12,951,077	\$ 12,866,473	\$ 12,760,785
Contributions as a percentage of covered payroll	28.73%	24.57%	20.07%	15.61%

⁽¹⁾ Amounts for 2015-2017 exclude purchase of service contributions.

⁽²⁾ Same as contractually required contributions.

See accompanying independent auditor’s report and notes to the required supplementary information.

Required Supplementary Information

Schedule 4 Schedule of Changes in the Employer Net OPEB Liability (Unaudited – See Accompanying Auditor’s Report) (Dollar Amounts in Thousands)

	2017
Total OPEB liability	
Service cost	\$ 42,038
Interest	61,404
Differences between expected and actual experience	-
Changes of assumptions	(110,610)
Benefit payments	(110,229)
Net change in total OPEB liability	(117,397)
Total OPEB liability - beginning	2,278,552
Total OPEB liability - ending (a)	\$ 2,161,155
Plan fiduciary net position	
Contributions - employer	\$ 110,985
Net investment income	663
Benefit payments	(110,229)
Administrative expense	(2,239)
Net Change in plan fiduciary net position	(820)
Plan fiduciary net position - beginning	124,563
Plan fiduciary net position - ending (b)	\$ 123,743
Employer net OPEB liability - ending (a) - (b)	\$ 2,037,412

See accompanying independent auditor’s report and notes to the required supplementary information.

Required Supplementary Information

Schedule 5 Schedule of Employer Net OPEB Liability (Unaudited – See Accompanying Auditor’s Report) (Dollar Amounts in Thousands)

	2017	2016
Total OPEB liability	\$ 2,161,155	\$ 2,278,552
Less: Plan fiduciary net position	123,743	124,563
Employer net OPEB liability	\$ 2,037,412	\$ 2,153,989
Plan fiduciary net position as a percentage of the total OPEB liability	5.73%	5.47%
Covered payroll	\$ 13,313,900	\$ 12,951,077
Employer net OPEB liability as a percentage of covered payroll	15.30%	16.63%

Schedule 6 Schedule of Employer Premium Assistance Contributions (Unaudited – See Accompanying Auditor’s Report) (Dollar Amounts in Thousands)

	OPEB	
	2017	2016
Actuarially determined contribution	\$ 125,694	\$ 129,494
Contributions in relation to the actuarially determined contribution ^{(1) (2)}	110,558	112,557
Contribution deficiency	\$ 15,136	\$ 16,937
Covered payroll	\$ 13,313,900	\$ 12,951,077
Contributions as a percentage of covered payroll	0.83%	0.87%

⁽¹⁾ Amounts for 2017 and 2016 exclude purchase of service contributions.

⁽²⁾ Same as contractually required contributions.

See accompanying independent auditor’s report and notes to the required supplementary information.

Required Supplementary Information

Schedule 7 Schedule of Investment Returns - Pension and OPEB (Unaudited – See Accompanying Auditor’s Report)

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Annual money-weighted rate of return, net of investment expense- Pension	10.15%	1.11%	3.08%	14.98%
Annual money-weighted rate of return, net of investment expense- OPEB	0.90%	0.65%	0.30%	-

See accompanying independent auditor’s report and notes to the required supplementary information.

**Notes to Required Supplementary Information
for the Years Ended June 30, 2014 thru June 30, 2017**

Pension

Changes in benefit terms

With the passage of Act 5 class T-E & T-F members are now permitted to elect a lump sum payment of member contributions upon retirement.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2017

None.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2016

The Investment Rate of Return was adjusted from 7.50% to 7.25%. The inflation assumption was decreased from 3.00% to 2.75%.

Salary growth changed from an effective average of 5.50%, which was comprised of inflation of 3.00%, real wage growth and for merit or seniority increases of 2.50%, to an effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2000 Combined Healthy Annuitant Tables (male and female) with age set back 3 years for both males and females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale. For disabled annuitants the RP-2000 Combined Disabled Tables (male and female) with age set back 7 years for males and 3 years for females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Method and assumptions used in calculations of actuarially determined contributions

The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2016 actuarial valuation will be made during the fiscal year ended June 30, 2018. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 7.25%, includes inflation at 2.75% and the real rate of return 4.50%.
- Salary growth - Effective average of 5.00%, which reflects an allowance for inflation of 2.75%, real wage growth and merit or seniority of 2.25%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

10-year reporting requirements

Required Supplementary Schedules 1-3 and 7, as related to pensions, are intended to show information for 10 years. Additional years will be displayed as they become available.

The Accounting Valuation

The GASB 67 accounting valuation can be found on PSERS' website at www.psers.pa.gov.

**Notes to Required Supplementary Information
for the Years Ended June 30, 2014 thru June 30, 2017**

OPEB

Changes in benefit terms

None.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2017

The Discount Rate increased from 2.71% to 3.13%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2016

Salary growth changed from an effective average of 5.50%, which was comprised of inflation of 3.00%, real wage growth and for merit or seniority increases of 2.50%, to an effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2000 Combined Healthy Annuitant Tables (male and female) with age set back 3 years for both males and females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale. For disabled annuitants the RP-2000 Combined Disabled Tables (male and female) with age set back 7 years for males and 3 years for females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Method and assumptions used in calculations of actuarially determined contributions

The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2016 actuarial valuation will be made during the fiscal year ended June 30, 2018. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 3.13% - 20 year S&P Municipal Bond Rate.
- Salary growth - Effective average of 5.00%, which reflects an allowance for inflation of 2.75%, real wage growth and merit or seniority of 2.25%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.
- Assumed Healthcare cost trends were applied to retirees with less than \$1,200 in premium assistance per year.

10-year reporting requirements

Required Supplementary Schedules 4-7, as related to OPEB, are intended to show information for 10 years. Additional years will be displayed as they become available.

The Accounting Valuation

The GASB 74 accounting valuation can be found on PSERS' website at www.pfers.pa.gov.

Supplementary Schedule 1
Schedule of Administrative and Investment Expenses
Year Ended June 30, 2017
(Dollar Amounts in Thousands)

	Administrative Expenses			Total
	Pension	Post-employment Healthcare (1)	Investment Expenses (2)	
Personnel costs:				
Salaries and wages	\$ 15,202	\$ 1,355	\$ 5,509	\$ 22,066
Employee benefits	10,075	745	2,946	13,766
Total personnel costs	25,277	2,100	8,455	35,832
Operating costs:				
Investment managers' fees	-	-	454,744	454,744
Custodian fees	-	-	2,476	2,476
Specialized services	779	36,223	812	37,814
Rental of real estate, electricity	2,087	186	210	2,483
Consultant and legal fees	2,922	605	4,484	8,011
Treasury and other Commonwealth services	1,646	-	192	1,838
Postage	1,192	-	-	1,192
Contracted maintenance and repair services	1,809	-	18	1,827
Office supplies	115	-	4	119
Rental of equipment and software	3,683	-	219	3,902
Printing	154	-	-	154
Travel and training	216	4	29	249
Telecommunications	402	-	23	425
Equipment (non-capital assets)	365	-	-	365
Miscellaneous expenses	50	-	1,630	1,680
Total operating costs	15,420	37,018	464,841	517,279
Other charges:				
Depreciation	1,820	-	-	1,820
Total Administrative and Investment Expenses Before Pension Expense	42,517	39,118	473,296	554,931
Pension expense (3)	2,610	192	1,195	3,997
Total Administrative and Investment Expenses	\$ 45,127	\$ 39,310	\$ 474,491	\$ 558,928

(1) Administrative expenses for Postemployment Healthcare includes \$2,239 related to Premium Assistance and \$37,071 related to Healthcare Health Options Program for the fiscal year ended June 30, 2017.

(2) Includes investment expenses of \$24 related to Postemployment Healthcare Premium Assistance and \$26 related to Health Options Program for the fiscal year ended June 30, 2017 and does not include \$3,961 in capitalized broker commissions for the fiscal year ended June 30, 2017.

(3) Total GASB 68 pension expense is \$9.9 million and is reflected under Employee benefits and Pension expense. Employer contributions of \$5.9 million are included as Employee benefits under Personnel costs and \$4.0 million is reflected as Pension expense.

Supplementary Schedule 2
Summary of Investment Expenses*
Year Ended June 30, 2017
(Dollar Amounts in Thousands)

	<u>Investment Management</u>		<u>Other Expenses</u>	<u>Total</u>
	<u>Base</u>	<u>Performance</u>		
External management:				
Domestic equity	\$ 1,494	\$ 1,490	\$ -	\$ 2,984
International equity	19,771	5,392	-	25,163
Fixed income	87,464	21,061	-	108,525
Real estate	50,609	-	-	50,609
Alternative investments	102,714	-	-	102,714
Absolute return	78,202	50,784	-	128,986
Commodities	4,132	-	-	4,132
Master limited partnership	8,295	238	-	8,533
Risk parity	19,632	3,466	-	23,098
Total external management	<u>372,313</u>	<u>82,431</u>		<u>454,744</u>
Total internal management	<u>-</u>	<u>-</u>	<u>12,787</u>	<u>12,787</u>
Total investment management	<u>372,313</u>	<u>82,431</u>	<u>12,787</u>	<u>467,531</u>
Custodian fees	-	-	2,476	2,476
Consultant and legal fees	-	-	4,484	4,484
Total investment expenses	<u>\$ 372,313</u>	<u>\$ 82,431</u>	<u>\$ 19,747</u>	<u>\$ 474,491</u>

* External investment management fees classified on an asset allocation basis.

Supplementary Schedule 3
Schedule of Payments to Non-Investment Consultants
Year Ended June 30, 2017
(Dollar Amounts Greater than \$100,000)

Consultant	Fees	Services Provided
Coresource, Inc.	\$ 26,093,049	Postemployment healthcare benefits administration and claims adjudication
Optum, RX, Inc.	6,741,479	Administration of postemployment healthcare benefits and prescription drug plan
ViTech Systems Group, Inc.	5,500,000	Pension administration system services
The Segal Company	3,649,567	Actuarial services and consulting for HOP and prescription drug plan
Unisys Corporation	1,360,638	Server maintenance
Healthways, Inc.	763,843	Administration of the Silver Sneakers Fitness Program
Conduent HR Services	629,815	Pension benefit actuarial services
Independent Pharmaceutical Consultants, Inc.	565,944	Pharmacy benefit consulting services
OST, Inc.	520,367	Webmaster consulting



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INVESTMENT SECTION

Chief Investment Officer Letter.....	78
Portfolio Summary Statistics Asset Allocation as of June 30, 2017.....	86
Comparison of Actual Portfolio Distribution to Asset Allocation Plan as of June 30, 2017.....	87
Graph – Comparison of Actual Portfolio Distribution to Asset Allocation Plan.....	87
Graph – Portfolio Capital Distribution 10 Year Trend.....	88
10 Largest Holdings Schedules	
Common and Preferred Stock – Non - U.S. Equity.....	88
Common and Preferred Stock – U.S. Equity.....	89
Fixed Income.....	89
Absolute Return.....	90
Postemployment Healthcare Investments.....	90
Comparison of Investment Activity Income Fiscal Years Ended June 30, 2017 and 2016.....	91
Summary Schedule of Brokers’ Fees.....	91
Professional Consultants.....	92





COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

James H. Grossman Jr., CPA, CFA
Chief Investment Officer

October 27, 2017

Dear Members of The PSERS Board of Trustees:

It is a privilege to present to you the Investment Section of the Comprehensive Annual Financial Report for the fiscal year ended June 30, 2017.

Authority and Fiduciary Standard

The Board has the responsibility to invest funds of the System in accordance with guidelines and limitations set forth in the Code and other applicable state law. As fiduciaries, the members of the Board and Staff must act solely in the interests of the members of the System and for the exclusive benefit of the System's members. In performance of their duties, the members of the Board and Staff who have been delegated with investment authority shall be held to the Prudent Investor Standard.

The Prudent Investor Standard, as articulated in the Code, means "the exercise of that degree of judgment, skill, and care under the circumstances then prevailing which persons of prudence, discretion, and intelligence who are familiar with such matters exercise in the management of their own affairs not in regard to speculation, but in regard to the permanent disposition of the fund, considering the probable income to be derived therefrom as well as the probable safety of their capital."

The Prudent Investor Standard requires a trustee to act prudently and with caution, discretion, loyalty, and care but does not restrict the assets in which the Board can invest. Under the Prudent Investor Standard, which recognizes modern portfolio theory, the Board's investment and management decisions with respect to individual assets shall be considered in the context of the portfolio as a whole and as part of an overall investment strategy, and not in isolation. No specific investment or course of action, taken alone, shall be considered inherently prudent or imprudent. This Standard recognizes the trade-off between risk and return.

Policies and Objectives

The Board is responsible for the formulation of investment policies for the System. Staff is responsible for the implementation of those investment policies. The overall investment objectives of the System are as follows:

Return Objectives – the System has a return objective of meeting or exceeding the targeted actuarial rate of return of 7.25% over the long-term (i.e. 25 to 30 years). In addition, the Board has the following broad objectives:

1. The assets of the System shall be invested to maximize the returns for the level of risk taken; and,
2. The System shall strive to achieve a net of fee return that exceeds the Policy Index (the Policy Index is a custom benchmark, based on the Board-established asset allocation structure that seeks to generate a return that meets the actuarial rate of return assumption).

Risk Objectives

1. The assets of the System shall be diversified to minimize the risk of losses at the portfolio level and within any one asset class, investment type, industry or sector distribution, maturity date, or geographic location. Failure to do so could impair the System's ability to achieve its funding and long-term investment goals and objectives; and,
2. The System's assets shall be invested so that the probability of investment losses (as measured by the Policy Index) in excess of 15% in any one year is no greater than 2.5% (or two standard deviations below the expected return).

To achieve these objectives, the Board meets during the second half of the calendar year to review the overall asset allocation plan and investment policies for the System. Implementation of investment policies is accomplished through the use of external investment management firms, who act as agents for the System and through the use of internal investment managers. The Board also retains various investment consultants to assist with the formulation and implementation of investment policies.

Operations

The Board, via its Investment Committee, provides oversight of investment activities. The Investment Committee generally conducts six meetings per year and may meet more frequently as needed. Investment Office professionals, as well as external investment advisors, Investment Accounting staff, and Internal Audit staff, assist the Board in achieving investment objectives and monitoring compliance with investment policies. For the fiscal year ended June 30, 2017, Aon Hewitt Investment Consulting, Inc. (Aon Hewitt) served as the general investment consultant to assist the Board and Staff in formalizing investment objectives, establishing an asset allocation plan, conducting investment advisor searches, reviewing performance, and commenting on compliance with investment policies. In addition, the Board retained Aksia, LLC as an absolute return consultant, Courtland Partners, Ltd. as a real estate consultant, and Portfolio Advisors, LLC as an alternative investment consultant. Alternative investments generally consist of investments in private debt, private equity, and venture capital limited partnerships. Investment Office professionals implement the investment decisions within the guidelines established in the Investment Policy Statement, Objectives and Guidelines regarding asset allocation, manager selection, security selection, and other objectives directed by the Board.

The Board employs both external investment management firms and internal investment professionals to manage the investment portfolio of the System. At fiscal year-end, 39 external public market investment management firms were managing \$18.1 billion in assets of the System, \$17.1 billion in assets were managed by the System's internal investment professionals, and the remaining \$17.3 billion in assets were managed by numerous alternative investment and real estate investment managers. The performance of each external investment management firm and each internal professional is monitored quarterly against a pre-established benchmark as well as the performance of the manager's peer group.

Asset Allocation

The Board reviews the long-term asset allocation targets of the System annually. The Board will consult with its actuary, consultants, Investment Office professionals, and other sources of information it deems appropriate in formulating the asset allocation plan. The level of risk assumed by the System is largely determined by the Board's strategic asset allocation plan. The Board, in determining its long-term asset allocation, takes the following factors into consideration:

- The System's investment time horizon;
- The demographics of the plan participants and beneficiaries;
- The cash flow requirements of the System;
- The actuarial assumptions approved by the Board;
- The funded status of the System;
- The employers' (Commonwealth and school districts) financial strength; and,
- The Board's willingness and ability to take risk.

In approving the asset allocation for the System that is recommended by Investment Office professionals and PSERS' general investment consultant, the Board considers capital market expectations for expected return, volatility, and asset class correlations as prepared by its general investment consultant. The current long-term, top-down asset allocation targets of the Board, based on targeted exposures, are discussed in the following paragraphs. Targeted exposures include positions obtained through derivative exposure with minimal capital requirements.

The current target allocation as of June 30, 2017, included an equity target allocation of 35.0%, consisting of publicly traded stocks (19.0%) and private markets (16.0%). Specific publicly traded stock targets have been established for U.S. equity (7.4%) and non-U.S. equity (11.6%). Within the U.S. equity target, the portfolios are diversified between large and small capitalization investment mandates. The non-U.S. equity exposure includes both developed and emerging markets portfolios as well as large and small capitalization investment mandates. The non-U.S. developed markets equity exposure is 75% currency-hedged back to the U.S. Dollar. The primary vehicle used to invest funds in private markets is the limited partnership. The partnerships are established by individual management groups that have been selected by the System for

Investment Section

the purpose of investing in and managing private equity, venture capital, and debt positions on behalf of PSERS and other limited partners.

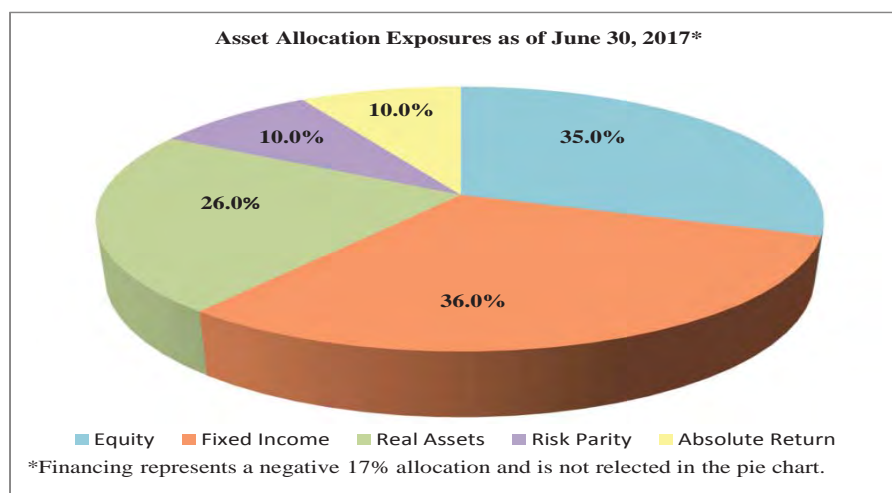
The fixed income target allocation of 36.0% consisted of investment grade exposure (9.0%), credit-related exposure (9.0%), inflation-protected exposure (15.0%) and cash (3.0%). Investment grade exposure consisted of U.S. core fixed income (5.0%), U.S. Long Treasuries (3.0%), and non-U.S. developed market fixed income (1.0%). Credit-related exposure consisted of high yield (8.0%) and emerging markets fixed income (1.0%). Inflation protected exposure consisted of U.S. and Non-U.S. inflation-linked bonds. Within these categories, all sectors of the fixed income market are represented. The high yield exposure is primarily private debt. The cash allocation consisted of short-duration, high quality government and investment grade securities. The Board, Investment Office professionals, and Aon Hewitt deemed it prudent to have an allocation to cash given the known and potential cash flow requirements of the System.

The real asset exposure of 26.0% consisted of real estate (12.0%), master limited partnerships (4.0%), infrastructure (2.0%) and commodities (8.0%, including 3% to gold). The real estate allocation consisted primarily of limited partnerships. The types of partnerships the System invests in include core, value-added, and opportunistic real estate limited partnerships. The commodities allocation consisted primarily of commodity futures, commodity swaps and commodity-related publicly traded stocks. Commodities are included in the allocation for inflation protection and to diversify the System's total portfolio risk. The Master Limited Partnership (MLP) allocation consisted of publicly traded partnerships that own and operate assets such as pipelines, processing facilities, and storage facilities for natural gas, crude oil, and refined products that are a vital part of the U.S. energy infrastructure. MLPs are included in the allocation due to their attractive current yields, reasonable growth potential, and ability to diversify the System's total portfolio risk. The Infrastructure allocation targets stable, defensive investments primarily within the energy, power, water, and transportation sectors. Infrastructure plays a strategic role within the System by providing steady returns and cash yields, defensive growth, inflation protection, capital preservation, and diversification benefits. Infrastructure consists of publicly traded companies.

The absolute return target allocation of 10.0% consisted primarily of investment managers retained by the System to generate positive returns over time that are independent of how the equity, fixed income, and commodity markets perform. Strategies implemented to achieve this target include, but are not limited to, global macro, event-driven, and relative value strategies such as insurance-linked securities and long/short credit. The absolute return program is included in the allocation to generate returns equal to or greater than LIBOR plus 3.5% with low volatility and low correlation to the public financial markets to diversify the System's total portfolio risk.

The risk parity allocation of 10.0% consisted primarily of global equities, global nominal bonds, global inflation-linked securities, and commodities in an allocation that balances risk across these asset classes with structurally offsetting biases to the primary drivers of asset class returns - growth and inflation. Risk parity provides diversification and liquidity to the System.

Leverage was utilized at the asset allocation level to provide additional exposure to diversifying asset classes. The System utilized 17.0% leverage through use of derivative instruments that allow the System to gain asset class exposure with minimal margin requirements. Leverage is utilized in the fixed income, real asset, and risk parity allocations.



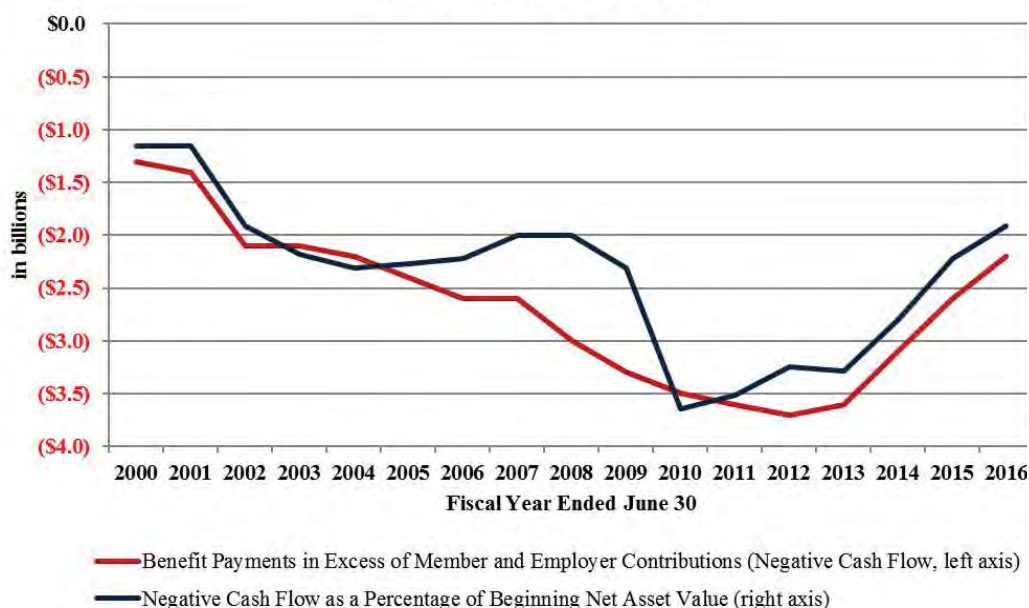
The System also participates in a securities lending program administered by Deutsche Bank AG. This program is designed to provide incremental income to the System by lending publicly traded securities in the System's portfolio held by the System's custodial bank, The Bank of New York Mellon, to securities dealers in exchange for cash collateral, which can be reinvested to generate income. This program generated \$11.8 million in net income during the year.

Liquidity and Asset Allocation

The System's risk profile is, in part, driven by its liquidity needs. Over the past fifteen fiscal years, the System has paid out \$42.2 billion more in benefits than it has received in member and employer contributions (i.e., the System has experienced negative cash flow). The average negative cash flow was approximately \$2.8 billion per year during this period. This annual funding deficiency has amounted to 3.0% or more of beginning net assets each year and represents the amount of investment return needed each year to make up the shortfall (i.e., if the System earned 3.0% in a given year with a 3.0% cash flow shortfall, then the net assets of the System will be unchanged). The large negative annual cash flow has improved significantly since fiscal year 2012 due to the implementation of Act 120 in 2010 (see the History of Cash Flows chart below). Act 120 provided for increased employer contributions to the actuarial required contribution levels. The large annual cash flow shortfall, while much improved, will continue over the next few years and necessitates a larger liquidity position and lower risk profile than a retirement system that has smaller liquidity requirements.

Given the significant net cash outflows, the Board has prudently reduced the risk profile of the System since the financial crisis in 2008. It has done so by decreasing its return dependence on the equity markets and increasing its risk exposures to asset classes that are less correlated to equity markets such as inflation-linked bonds, commodities, and absolute return. The goal of such an allocation is to generate the desired return profile with less volatility. While such an allocation will not provide for a large upside in returns, it is expected to minimize downside risks to the System's assets in the event of a large equity market drawdown as experienced during the financial crisis in 2008.

History of Cash Flows



The Economy During The Past Fiscal Year

The U.S. Economy

The U.S. economy improved, but growth remained modest this past fiscal year. Monetary conditions in the U.S. tightened this past year as the Federal Reserve increased interest rates three times. The Federal Reserve continues to contemplate shrinking its balance sheet that grew significantly from its quantitative easing programs since the Great Recession. The Federal Funds target rate increased by 0.75% during the past fiscal year and has a range of 1.00% to 1.25%. While interest

Investment Section

rates increased, they continue to be historically low which has provided a low cost of borrowing so that broad economic conditions can continue to improve. The U.S. real Gross Domestic Product (GDP) increased year-over-year an average of 2.1% per quarter during the past fiscal year with a range of 1.2% to 2.8%. The official unemployment rate (otherwise known as the U3 unemployment rate) fell during the fiscal year from 4.9% as of June 2016 to 4.4% as of June 2017, approaching what the Fed would consider full employment. The more encompassing U6 unemployment rate, which measures not only people without work seeking full-time employment (U3 unemployment rate) but also counts “marginally attached workers and those working part-time for economic reasons”, returned to more normal levels at 8.6% as of fiscal year end, down from 9.6% at the end of the last fiscal year. However, the U.S. Labor Participation Rate (LPR), which measures the total labor force as a percentage of the working age population, remains depressed relative to historical levels. The LPR modestly increased from 62.7% in June 2016 to 62.8% in June 2017. The LPR was as high as 67.3% in March 2000. If the LPR were at 2000 levels today, the official unemployment rate would probably be significantly higher.

The U.S. economy showed increasing momentum during the fiscal year as measured by the manufacturing Institute of Supply Management (ISM) Purchasing Managers Index (PMI), an indicator of activity in the sector. During the fiscal year, the ISM PMI increased by 5.0 points to 57.8 at June 30, 2017, solidly in expansionary territory (a contraction/expansion is indicated whenever the index is below 50/above 50). Concurrently, U.S. consumer confidence, as measured by the Conference Board’s Consumer Confidence Index, increased from 97.4 at June 2016 to 117.3 at June 2017.

Inflation in the United States, even with improving economic conditions and very accommodative interest rates, remains below the Fed’s target inflation rate of 2.0% as the burdens of high global debt create a more deflationary environment worldwide. The U.S. Core Consumer Price Index (CPI) increased 1.6% year-over-year as of June 2017, an increase from 1.0% year-over-year as of June 2016. During the middle of the fiscal year, there were transitory increases in CPI to as high as 2.7% as oil prices spiked in the middle of the year but fell back by the end of the fiscal year.

Select Non-U.S. Economies

The Euro Area economy has shown improvement from last year. As of the second quarter 2017, the Euro Area is growing at a 2.2% annual pace, an improvement from the 1.6% pace one year earlier. The unemployment rate, while still elevated, has significantly improved to 9.1% as of June 2017 from 10.1% a year earlier. Inflation, while below the European Central Bank (ECB) target of 2.0%, has also significantly improved from a year earlier. Inflation during the past year was 1.3% versus 0.1% in the previous year. Evidence of an improving Euro Area economy can be found in the improvement in the Markit Eurozone Manufacturing PMI which increased 4.6 points during the past fiscal year from 52.8 to 57.4. Aggressive actions by the ECB have generated improvements in economic growth, employment, and inflation. The ECB has continued its policy of very accommodative overnight interest rates (negative 0.4%) and is purchasing \$68 billion (down from \$88 billion last year) a month in euro-denominated sovereign and corporate debt in an effort to put liquidity into the economy as well as ease financial conditions.

Japan’s economy has grown for six straight quarters, the longest streak in 11 years. As of the second quarter 2017, Japan’s real GDP increased by an annualized rate of 4.0%, but grew much slower in the first three quarters of the past year. Japan’s demographics are poor as the population ages which generally means that robust growth will be difficult to sustain over the long term. However, since the size of the working age population is decreasing, unemployment has been very low and was 2.9% in June 2017, down from 3.2% last year. The inflation rate in Japan was positive 0.4% over the past year, up from negative 0.4% at the end of last year. Japanese policy makers continue to aggressively attempt to stimulate their economy through a combination of low interest rates (the Bank of Japan policy rate is negative 0.1%), the purchase of higher risk assets by the Bank of Japan, coordinated diversification into higher risk assets by large public investors, and fiscal spending policies to encourage liquidity to move into riskier assets. Economic conditions are improving as evidenced by the Nikkei Japan Manufacturing PMI increasing 4.3 points from 48.1 at June 2016 to 52.4 at June 2017. Time will tell if the necessary economic and structural reforms can be put in place for a sustained period of economic prosperity.

China had robust growth compared to the other developed regions of the world. China’s real GDP increased by 6.9% over the past year, slightly faster than the 6.7% pace as of June 2016. Inflation in China has remained relatively stable over the past year at 1.5% compared to 1.9% last year. Economic conditions have been relatively stable as evidenced by the China Manufacturing PMI increasing 1.7 from 50.0 at June 2016 to 51.7 at June 2017. As noted in previous years, China is struggling to rebalance its economy from an investment-oriented economy to a consumer-oriented economy, while

maintaining political stability. The Chinese government is continuing to target economic growth of between 6.5% and 7.0% over the foreseeable future.

Investment Results

Aon Hewitt calculates the total investment return of the System as well as the performance of each external investment management firm and each internal investment manager retained by the Board to invest the System's assets. Performance is calculated using a time-weighted return methodology.

For the one-year period ended June 30, 2017, the System generated a total net of fee return of 10.14%. This return exceeded not only the actuarial required return of 7.25%, but also the total fund Policy Index return of 6.39% by 375 basis points. Annualized total net of fee returns for the three-, five-, ten-, and twenty five-year periods ended June 30, 2017 were 4.76%, 7.35%, 3.80%, and 8.03%, respectively. The three-, five- and ten-year returns ended June 30, 2017 exceeded the total fund Policy Index returns by 127, 188, and 100 basis points, respectively.

Significant positive contributors to performance this past fiscal year included:

- U.S. Equity, as represented by the MSCI USA Investible Market Index (IMI), was up by 18.4% and Non-U.S. Equity, as represented by the MSCI All-Country World Indexed ex. U.S. IMI was up 19.7%. Returns in equities were driven by improving growth, improving company earnings, expectations of reflationary policies under a Donald Trump presidency, and reduced political risk in Europe;
- High Yield Fixed Income, as represented by the Barclays Corporate High Yield Index, was up 12.70%, as fundamentals were strong and credit spreads fell, driving high yield bond prices higher.

Significant detractors from performance this past fiscal year included:

- U.S. Long Treasuries, as represented by the Barclays Capital U.S. Treasury Long Index, were down 7.2%. Returns in long-term treasuries were driven by increasing interest rates (the 10-year yield increased from 1.47% at June 30, 2016 to 2.30% at June 30, 2017) and decreased demand for safe haven assets;
- Commodities, as represented by the Bloomberg Commodity Index, were down 6.9%, led by a fall in oil prices, precious metals and some agricultural commodities such as sugar; and
- Gold, as represented by the Bloomberg Gold Index, was down 6.5%. Gold represents a safe haven asset and benefits from global uncertainty and ultra-low and negative interest rates in many global markets. Given the increasing appetite of investors to take risk, gold prices fell.

The fiscal year can be characterized as a “risk-on” period where taking concentrated equity risk paid off as opposed to holding a diversified portfolio of assets. Improving economic fundamentals, improving global growth, low but rising inflation, and improving corporate profitability were all contributors to strong equity performance. Three other events helped to propel equity prices during the past fiscal year. The first was the Brexit vote in the United Kingdom at the end of last fiscal year which sharply reduced expectations of interest rate increases by major central banks and boosted equity returns. The second was the election of Donald Trump as President of the United States in November 2016. Expectations of reflationary policies under a Trump administration, such as infrastructure spending, tax cuts, and fewer regulations, drove a rotation out of bonds and into stocks in the U.S. The third was an easing of the political risks in Europe with the election of pro-European Union candidate Emmanuel Macron in France in May 2017. His election encouraged greater risk appetite in the European region. In addition, central banks globally remained generally very accommodative with the European Central Bank and the Bank of Japan keeping short-term interest rates in negative territory and the Federal Reserve Bank in the U.S. increasing interest rates slower than expected.

Diversification is Undeniably Effective

Diversification into asset classes such as U.S. Long Treasuries, commodities, and gold were a drag on overall performance this past fiscal year. Many investment professionals discuss diversification using terms such as standard deviation, correlation, and co-variance. However, at its most basic level, diversification is insurance against bad future outcomes. The System diversifies simply because it doesn't know how actual events in the future will transpire relative to what is priced into the market. Diversification is a very humble approach to investing. If an investor knew with certainty which asset class would perform best the next month, quarter, or year, the investor would simply invest in that one asset class. However, without such perfect foresight, the downside risk of such a strategy could be devastating. As Peter Bernstein,

Investment Section

the late American financial historian, economist, and educator once wrote, “Diversification is the only rational deployment of our ignorance.”

Accomplishments

A significant accomplishment during the past fiscal year was the completion of a nine-month-long performance audit of the System by the Pennsylvania Department of the Auditor General that had no findings of violations of law, regulations, by-laws and other policies in areas covered by the audit. The audit commended the System’s reporting and transparency practices and noted that they surpass peer organizations. The audit also noted that the System appropriately manages investment expenses. Finally, the audit stated that the System’s attention to diversification, risk management, and asset allocation were all adequate and reasonable and recommended continuation of these policies and practices. I commend the professionalism of the Auditor General’s staff and appreciate all of the time and effort that the Investment Office and other PSERS’ staff committed to this audit.

Summary

This past fiscal year, investment performance was solid with a net of fee return of 10.14%. However, pension plans like PSERS are built to generate long-term returns, so one good or bad year is not going to make or break the Fund. The System focuses on long-term returns. Since the end of the Great Recession, our annualized net of fee return for that eight-year period was 9.28%, comfortably above our actuarial assumed rate of return of 7.25%. Looking forward, even with cash rates having risen to around 1%, the System still needs to take prudent risks to achieve its long-term goal of a 7.25%. The System has built a diversified allocation to allow it to collect risk premiums over the long-term. In the short-term, no one knows what will happen and the System should expect to go through years where returns are below 7.25%, perhaps significantly below. The System continues to believe the best way to achieve its long-term objectives is to maintain a very diversified portfolio which includes virtually all asset classes available to us, such as equities, fixed income, real assets, risk parity and absolute return. In any given year, the System expects some assets to perform well, such as U.S. and non-U.S. equities did this past fiscal year, and some to not do as well, such as U.S. Long Treasuries and commodities this past fiscal year. However, over the long run, the System expects each of its asset classes to generate a positive return commensurate with the risks taken. The future is uncertain, but we believe we are well positioned to accomplish our objectives.



James H. Grossman Jr., CPA, CFA
Chief Investment Officer

The following table provides the System's total time-weighted investment returns for each major asset class and the total portfolio, including, where applicable and available, respective benchmark indexes used by asset class and median performance by asset class:

	Annualized Total Returns (%)			
	Net of Fees			
	Ended June 30, 2017			
	1 Year	3 Years	5 Years	10 Years
PSERS Total Portfolio	10.14	4.76	7.35	3.80
Total Fund Policy Index	6.39	3.49	5.47	2.80
Median Public Defined Benefit Plan (DBP) Fund Universe (Aon Hewitt Database)	11.73	5.04	8.58	5.20
PSERS U.S. Equity Portfolios	19.32	9.68	15.04	7.15
U.S. Equity Policy Index (1)	18.43	9.14	14.59	7.21
PSERS Non-U.S. Equity Portfolios	22.57	7.12	10.97	3.96
Non-U.S. Equity Policy Index (2)	22.32	5.60	10.19	2.96
PSERS Fixed Income Portfolios (10)	5.22	4.51	5.17	7.36
Fixed Income Policy Index (3)	3.09	2.69	2.83	6.10
PSERS Commodity Portfolios (10)	-3.48	-8.02	-4.62	-3.42
Commodity Policy Index (4)	-6.41	-10.45	-6.49	-5.08
PSERS Absolute Return Portfolios	9.00	3.16	4.09	4.99
Absolute Return Policy Index (5)	4.53	4.10	5.45	6.67
PSERS Risk Parity Portfolios (11)	7.17	2.05	N/A	N/A
Risk Parity Policy Index (6)	5.81	3.33	N/A	N/A
PSERS Master Limited Partnership (MLP) Portfolios	4.19	-8.71	7.23	N/A
Standard & Poor's MLP Index	3.23	-11.25	2.48	5.99
PSERS Real Estate (7) (10)	8.38	10.36	11.18	0.66
Blended Real Estate Index (8)	2.92	7.38	8.59	5.20
PSERS Alternative Investments (7)	14.36	6.68	8.89	7.74
Burgiss Median, Vintage Year Weighted Index (9)	3.00	3.50	4.33	3.02

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI ACWI ex USA IMI with DM 75% Hedged to USD (Net) Index effective April 1, 2016. From October 1, 2014 to March 31, 2016, the index was the MSCI ACWI ex USA IMI with DM 100% Hedged to USD (Net) Index. From July 1, 2008 to September 30, 2014, the index was the MSCI All Country World (ACW) ex. USA Investable Market Index. Before July 1, 2008, the MSCI ACW ex. U.S. Index was used. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (17.5%), Barclays Capital Global Aggregate GDP Weighted Dev x U.S. (Unhedged) Index (3.5%), Barclays Capital Emerging Mkt 10% Country Cap Index (7.0%), Barclays Capital U.S. Treasury Long Index (8.8%), Barclays Capital U.S. High Yield Index (21.1%), and Barclays Capital U.S. TIPS Index (42.1%) effective April 1, 2016. Prior to July 1, 2013, the blend was Barclays Capital U.S. Universal Index (24.7%), JP Morgan GBI EM Global Diversified Index (9.4%), Barclays Capital U.S. High Yield Index (28.2%), Barclays Capital Multiverse Index (14.1%), and Blended Policy (Net Levered TIPS) (23.6%).
4. Returns presented are a blend of the Bloomberg Commodity Gold Index (37.5%) and the Bloomberg Commodity Index (62.5%). On July 1, 2014, the indices names were changed from DJ/UBS to Bloomberg. The returns have been adjusted for leverage.
5. Three month LIBOR +3.50% effective July 1, 2014. Previously, was based on the assumed actuarial rate of return for the Fund which was 8.0% from July 1, 2009 through June 30, 2011. The assumed rate changed to 7.5% on July 1, 2011 and was used as the Absolute Return Policy Index through June 30, 2014.
6. Effective July 1, 2014 returns presented are a blend of MSCI ACW Index (\$Net) (50%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (55%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Gold Subindex (5%); and 3-Month LIBOR (-100%). The weights to these indices have varied in previous quarters. The returns have been adjusted for volatility.
7. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
8. Effective April 1, 2015, comprised of a blended benchmark consisting of the National Council of Real Estate Investment Fiduciaries (NCREIF) – Open End Diversified Core Equity (ODCE) Index and Burgiss Private iQ (for Value-Added Real Estate and Opportunistic Real Estate) reported on a one-quarter lag. For periods between April 1, 2010 and March 31, 2015, the benchmark was comprised of a blended benchmark of NCREIF-ODCE (core) and various private real estate benchmarks for Value-Added and Opportunistic (including NCREIF-Closed-End Value-Added (CEVA), NCREIF/Townsend and NCREIF-NPI) reported on a one-quarter lag. For all prior periods, the benchmark was comprised of a blended benchmark strategically split between public/private using various public REIT indices (FTSE EPRA/NAREIT Global Real Estate, Wilshire Real Estate Securities and Wilshire REIT) and NCREIF-NPI (for all non-core) reported on a one-quarter lag.
9. Burgiss Median, Vintage Year Weighted Index effective January 1, 2011. Previously, the Thompson ONE, Vintage Year Weighted Index was used. Returns reported on a one-quarter lag.
10. Returns are presented on an unleveraged basis for comparability purposes to the Policy Index.
11. Returns are presented on a volatility-adjusted basis for comparability purposes to the Policy Index.

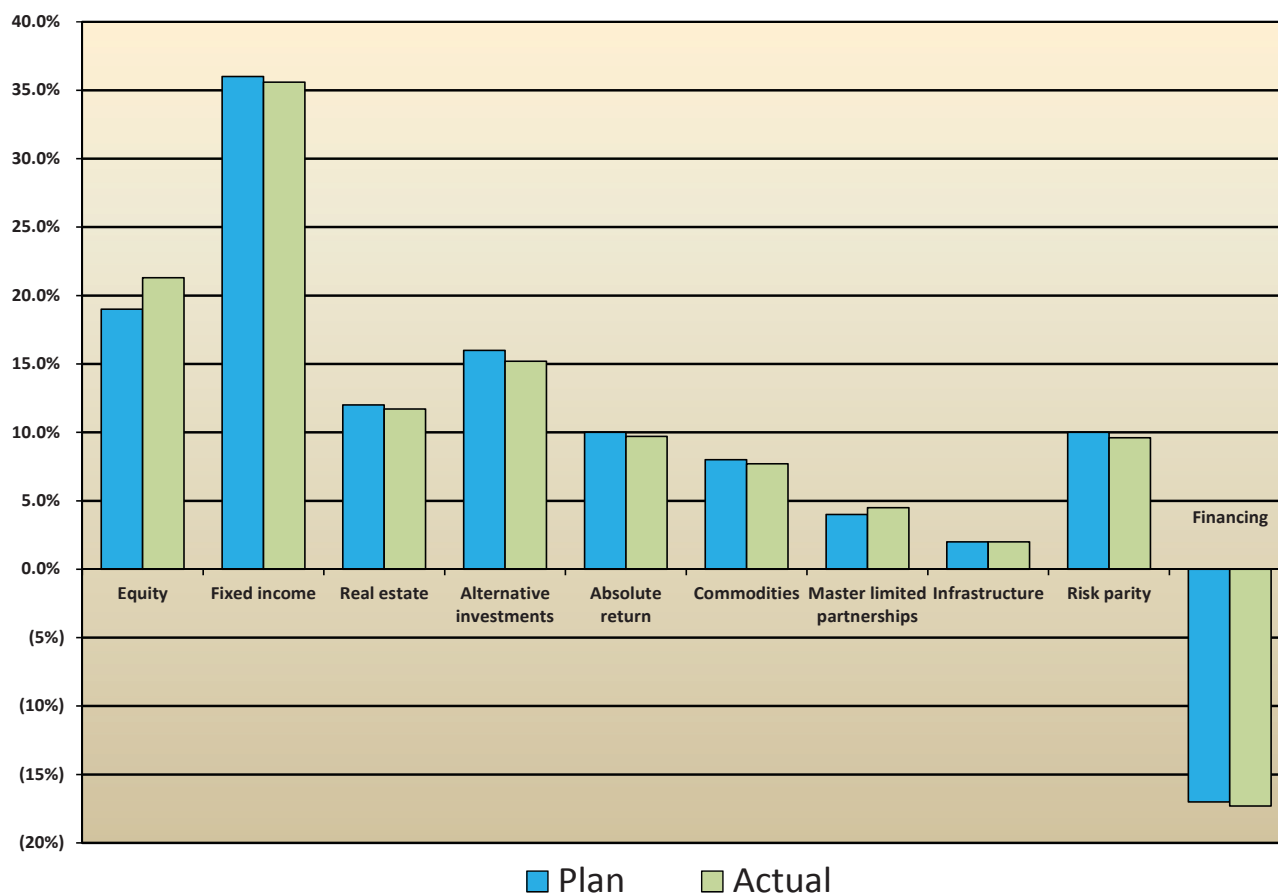
Portfolio Summary Statistics
Asset Allocation
As of June 30, 2017
(Dollar Amounts in Thousands)

Pension investments	Fair Value	% Fair Value
Common and preferred stock (Equity):		
Large and mid cap stocks	\$ 4,961,290	9.5
Small cap stocks	793,825	1.5
Emerging markets stocks	1,155,026	2.2
Total Non-U.S. equity	6,910,141	13.2
Large cap stocks	2,841,884	5.4
Mid and small cap stocks	1,379,985	2.6
Microcap stocks	21,570	0.1
Total U.S. equity	4,243,439	8.1
Total Common and preferred stock - Asset Allocation Basis	11,153,580	21.3
Fixed income:		
Investment grade fixed income	7,753,813	14.8
High yield fixed income	4,486,570	8.6
Total U.S. Fixed income	12,240,383	23.4
Non-U.S. developed markets fixed income	4,542,528	8.7
Emerging markets fixed income	345,980	0.6
Total Non-U.S. Fixed income	4,888,508	9.3
Cash and cash equivalents	1,531,579	2.9
Total Fixed income - Asset Allocation Basis	18,660,470	35.6
Real estate	6,146,728	11.7
Alternative investments:		
Private equity	5,895,261	11.3
Special situations (Private debt)	1,028,670	2.0
Venture capital	985,995	1.9
Total Alternative investments - Asset Allocation Basis	7,909,926	15.2
Absolute return	5,082,149	9.7
Commodities	4,052,402	7.7
Master limited partnerships	2,369,627	4.5
Infrastructure	1,055,092	2.0
Risk parity	5,038,035	9.6
Financing	(9,070,910)	(17.3)
Total Pension investments - Asset Allocation Basis	52,397,099	100.0
Net Asset Allocation Adjustment*	(213,956)	
Pension investments per Statement of Fiduciary Net Position	52,183,143	
Postemployment Healthcare investments	\$ 302,668	100.0

* Includes reclassifications of certain investments between asset classes and investment receivables/payables to adjust the Statement of Fiduciary Net Position classification to the basis used to measure Asset Allocation. See the table and graph which follow.

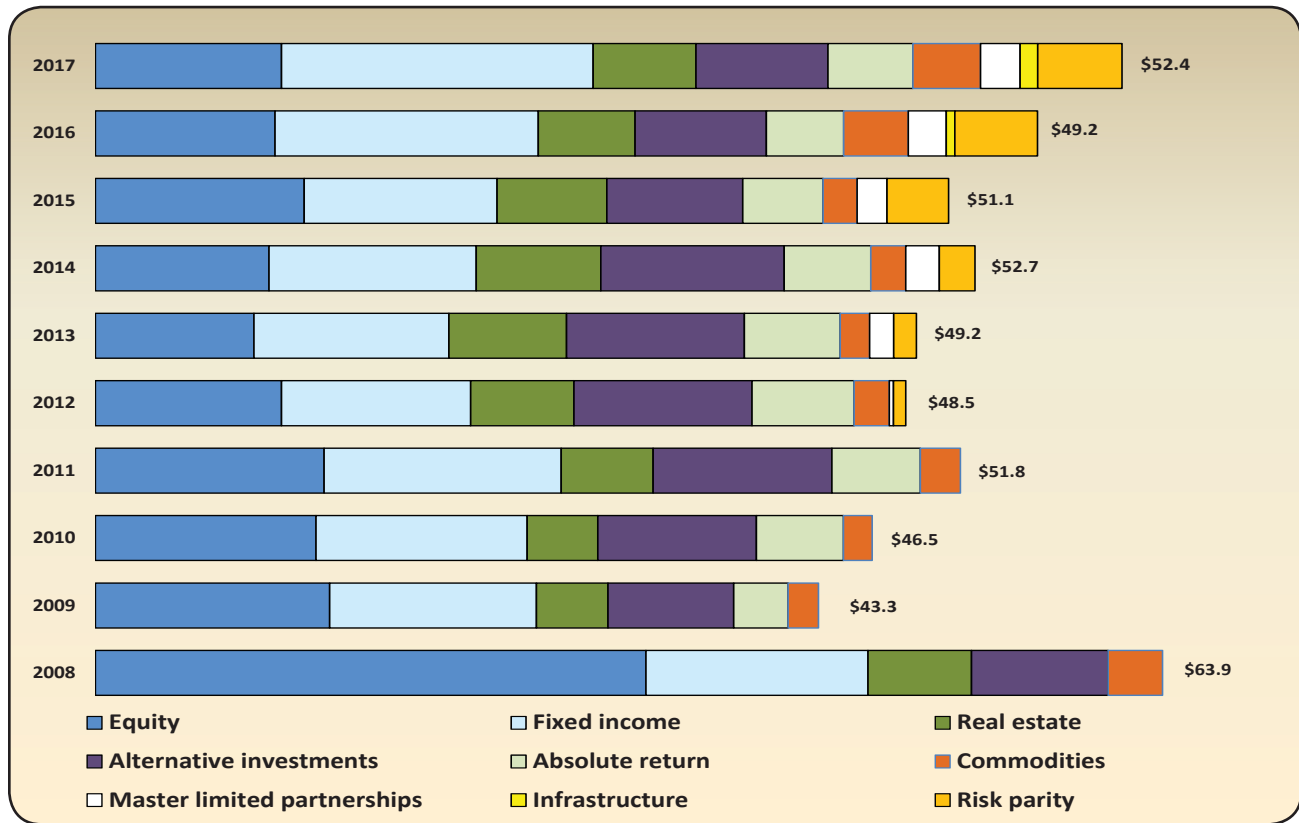
Comparison of Actual Portfolio Distribution to Asset Allocation Plan As of June 30, 2017

Asset Category	Plan	Actual
Common and preferred stock (Equity)	19.0%	21.3%
Fixed income	36.0	35.6
Real estate	12.0	11.7
Alternative investments	16.0	15.2
Absolute return	10.0	9.7
Commodities	8.0	7.7
Master limited partnerships	4.0	4.5
Infrastructure	2.0	2.0
Risk parity	10.0	9.6
Financing	(17.0)	(17.3)
Total	100.0%	100.0%



Portfolio Capital Distribution 10 Year Trend*

(Fair Value - Dollar Amounts in Billions)



*Financing is not reflected in the Portfolio Capital Distribution 10 Year Trend Chart.

The following lists of portfolio detail statistics present the ten largest holdings by descending order of fair value for the largest public market asset classes. Information on the complete holdings of the System can be downloaded from the PSERS website at www.psers.pa.gov.

Common and Preferred Stock - Non-U.S. Equity 10 Largest Holdings in Descending Order by Fair Value As of June 30, 2017 (Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
BlackRock Emerging Markets Alpha Advantage Fund Ltd.- Class D	319	\$ 413,829
iShares MSCI ETF	3,973	203,065
The 32 Capital Fund Ltd.	93	178,300
BlackRock Emerging Markets Alpha Advantage Fund Ltd.- Class P	35	136,835
Nestle SA	824	71,792
Taiwan Semiconductor Manufacturing Company	7,747	53,099
Samsung Electronics Co., Ltd.	25	52,892
Royal Dutch Shell PLC	1,568	45,655
SAP SE	377	39,327
Roche Holding AG	143	36,508
Total of 10 Largest Holdings		\$ 1,231,302

Common and Preferred Stock - U.S. Equity
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2017
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
SPDR Trust Unit Series 1	1,980	\$ 478,781
Enterprise Products Partners, L.P.	10,735	290,714
Energy Transfer Partners, L.P.	11,859	241,812
Energy Transfer Equity, L.P.	10,181	182,855
Security Capital Preferred Growth MPLX, L.P.	13,039	180,458
Williams Partners, L.P.	3,812	127,327
Plains All American Pipeline, L.P.	3,154	126,497
Magellan Midstream Partners, L.P.	3,873	101,735
Buckeye Partners, L.P.	1,251	89,184
	1,372	87,698
Total of 10 Largest Holdings		\$ 1,907,061

Fixed Income
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2017
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Bridgewater International Inflation-Linked Bond Fund	426	\$ 1,445,933
BlackRock US Extended Core Global Alpha Bond Fund Ltd.	448	935,238
Bridgewater Pure Alpha Fund II Ltd.	138	575,828
iShares TIPS Bond ETF	4,884	554,003
PIMCO Multi-Sector Strategy Fund Ltd.	346	409,723
Bain Capital Credit Managed Account, L.P.	N/A	362,672
Bain Capital Distressed and Special Situations 2013 A, L.P.	N/A	297,822
Garda Inflation Opportunity Fund Class B	323	295,800
Brigade Structured Credit Offshore Fund Ltd.	200	255,515
TAO Partners Parallel Fund, L.P.	N/A	253,400
Total of 10 Largest Holdings		\$ 5,385,934

Absolute Return
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2017
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Bridgewater Pure Alpha Fund II, Ltd.	240	\$ 865,200
Capula Global Relative Value Fund, Ltd.	3,000	424,246
Garda Fixed Income Relative Value Opportunity Fund Ltd.	291	399,386
Capula Tail Risk Fund Ltd.	3,977	326,172
Brigade Leveraged Capital Structures Offshore Ltd.	170	303,259
BlackRock Capital Structure Investments Offshore Fund Ltd.	198	287,843
PIMCO Global Credit Opportunity Offshore Fund Ltd.	280	278,754
PIMCO Absolute Return Strategy V Offshore Fund Ltd.	259	266,119
Palmetto Fund Ltd.	191	249,928
OWS Credit Opportunity Offshore Fund III, Ltd.	200	243,955
Total of 10 Largest Holdings		\$ 3,644,862

Postemployment Healthcare Investments
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2017
(Dollar Amounts in Thousands)

Description	Maturity Date	Interest Rate (%)	Par Value	Fair Value
PSERS Short-Term Investment Fund	Various	Various	\$ 152,012	\$ 152,012
Wilmington US Government MM	N/A	Various	90,065	90,065
American Honda Finance Corp	09/20/17	1.724%	2,403	2,405
Capital One Multi-Asset Execution Trust	07/15/20	1.480%	2,390	2,391
Government National Mortgage Association	12/16/49	3.813%	2,132	2,144
American Express Credit Account Master Trust	06/15/20	1.430%	1,600	1,600
SLM Student Loan Trust 2005-5	04/25/25	1.256%	1,177	1,176
Berkshire Hathaway Finance Corp	01/12/18	1.456%	1,000	1,001
PFS Financing Corp	10/15/19	1.759%	1,000	1,001
Mercedes-Benz Auto Lease Trust 2017-A	04/16/18	1.150%	991	991
Total of 10 Largest Holdings				\$ 254,786

Comparison of Investment Activity Income
Fiscal Years Ended June 30, 2017 and 2016
(Dollar Amounts in Thousands)

Investment Activity	2017	2016
Net appreciation in fair value of investments	\$ 4,204,248	\$ (160,866)
Short-term	69,422	18,489
Fixed income	156,837	145,326
Common and preferred stock	295,427	311,356
Collective trust funds	3,379	3,168
Real estate	236,650	246,217
Alternative investments	493,426	314,270
Total investment activity income	\$ 5,459,389	\$ 877,960

Brokers' fees on equity investment transactions for the fiscal year ended June 30, 2017 were \$4.0 million. The System has commission recapture contracts with several brokers. These contracts generally stipulate that the brokers rebate a percentage of commissions earned on investment transactions directly to the System. During the fiscal year ended June 30, 2017, the System earned \$70,000 from the commissions recapture program. A list of the brokers receiving fees in excess of \$100,000 during the fiscal year follows:

Summary Schedule of Brokers' Fees
(Cumulative Fiscal Year Amounts Exceeding \$100,000)
Fiscal Year Ended June 30, 2017

Broker Name	Fees Paid	Broker Name	Fees Paid
Citigroup Inc.	\$ 428,210	Bank of America Merrill Lynch	\$ 135,656
Instinet Corporation	257,110	Macquarie Bank Ltd.	124,988
Fimat USA	226,455	Bloomberg Tradebook, LLC	123,163
UBS Securities	205,667	Credit Suisse	117,664
JP Morgan Chase & Company	147,511	ITG Securities	104,451
Jones Trading	141,432	FBN Securities	104,314
Morgan Stanley & Company	136,871	Goldman Sachs & Company	100,556
Liquidnet Inc.	136,638		

Professional Consultants
External Investment Advisors
As of June 30, 2017

Absolute Return Managers

- ◆ Apollo Aviation Services II & III, LP
- ◆ Aeolus Capital Management, Ltd.
- ◆ BlackRock Financial Management, Inc.
- ◆ Bridgewater Associates, Inc.
- ◆ Brigade Capital Management
- ◆ Capula Investment Management, LLP
- ◆ Caspian Capital, LP
- ◆ Garda Asset Management, LLC
- ◆ Ellis Lake Capital, LLC
- ◆ Independence Reinsurance Partners, LP
- ◆ Nephila Capital, Ltd.
- ◆ Oceanwood Capital Management, Ltd.
- ◆ One William Street Capital Management, LP
- ◆ Pacific Investment Management Company
- ◆ Perry Capital, LLC
- ◆ Two Sigma Risk Premia Enhanced Fund
- ◆ Venor Capital Offshore Fund

Publicly-Traded Real Estate Securities Manager

- ◆ Security Capital Research & Management, Inc.

Non-U.S. Equity Managers

- ◆ Acadian Asset Management, Inc.
- ◆ Baillie Gifford Overseas, Ltd.
- ◆ BlackRock Financial Management, Inc.
- ◆ Fidelity Institutional Asset Management, LLC
- ◆ Marathon Asset Management, LLP
- ◆ Oberweis Asset Management, Inc.
- ◆ QS Investors, LLC
- ◆ Wasatch Advisors, Inc.

Commodity Managers

- ◆ Gresham Investment Management, LLC
- ◆ Pacific Investment Management Company
- ◆ Wellington Management Company, LLP

U.S. Core Plus Fixed Income Managers

- ◆ BlackRock Financial Management, Inc.
- ◆ Pugh Capital Management, Inc.
- ◆ SEI Investment Management Corporation

High Yield Fixed Income Managers

- ◆ Apollo Management International, LLP
- ◆ Avenue Capital Group
- ◆ BlackRock Financial Management, Inc.
- ◆ Brigade Capital Management
- ◆ Cerberus Institutional Partners, LP
- ◆ Haymarket Financial, LLP
- ◆ Intermediate Capital Group, PLC
- ◆ Latitude Real Estate Investors, Inc.
- ◆ LBC Credit Partners

- ◆ Mariner Investment Group, LLC
- ◆ Oaktree Capital Management, LP
- ◆ Park Square Capital, LLP
- ◆ Radcliffe Capital Management, LP
- ◆ Sankaty Advisors, LLC
- ◆ Summit Partners
- ◆ The Carlyle Group
- ◆ TPG Partners, LP
- ◆ Varde Partners

Non-U.S. Developed Markets Fixed Income Manager

- ◆ AllianceBernstein, LP

Emerging Markets Debt Manager

- ◆ Franklin Templeton Investments

Multi-Sector Fixed Income Manager

- ◆ Pacific Investment Management Company

Global Treasury Inflation - Protected Securities Managers

- ◆ Bridgewater Associates, Inc.
- ◆ Garda Asset Management, LLC

Passive Currency Hedging Overlay Program Manager

- ◆ Pareto Investment Management, Ltd.

Risk Parity Managers

- ◆ BlackRock Financial Management, Inc.
- ◆ Bridgewater Associates, Inc.
- ◆ D.E. Shaw Investment Management, LLC

Master Limited Partnership Advisors

- ◆ Atlantic Trust Private Wealth Management
- ◆ Harvest Fund Advisors, LLC
- ◆ Salient Capital Advisors, LLC

Real Estate Advisors

- ◆ Charter Oak Advisors, Inc.
- ◆ GF Management, Inc.
- ◆ L&B Realty Advisors, LLP

Real Estate Partnerships

- ◆ AG Core Plus Realty Fund III, LP
- ◆ Almanac Realty Securities V & VI, LP
- ◆ Apollo Real Estate Finance Corp.
- ◆ AREFIN Co-Invest Corp.
- ◆ Ares European Real Estate Fund III, LP
- ◆ Ares U.S. Real Estate Fund VII, LP
- ◆ AvalonBay Value Added Fund I, LP
- ◆ Avenue Real Estate Fund, LP
- ◆ Bell Institutional Fund IV, V, & VI, LP
- ◆ BlackRock Asia Property Fund III, LP

Professional Consultants (Continued)

- ◆ BlackRock Europe Property Fund III, LP
- ◆ Blackstone Real Estate Debt Strategies II, LP
- ◆ Blackstone Real Estate Partners V, VI, & VII, LP
- ◆ Blackstone Real Estate Partners Europe III & IV, LP
- ◆ BPG/PSERS Co-Investment Fund, LP
- ◆ Brookfield Strategic Real Estate Partners I & II, LP
- ◆ Cabot Industrial Value Fund III & IV, LP
- ◆ Carlyle Realty Partners III, IV, V, & VI, LP
- ◆ DRA Growth and Income Fund VI & VII, LLC
- ◆ Exeter Core Industrial Club Fund II, LP
- ◆ Exeter Industrial Value Fund II, LP
- ◆ Fortress Investment Fund I, IV, & V, LP
- ◆ JP Morgan Strategic Property Fund
- ◆ LAI Real Estate Investors, LLC
- ◆ Latitude Management Real Estate Capital III, Inc.
- ◆ Legg Mason Real Estate Capital I & II, Inc.
- ◆ LEM Multifamily Senior Equity Fund
- ◆ LEM Real Estate High Yield Debt and Preferred Equity Fund III, LP
- ◆ LEM Real Estate Mezzanine Fund II, LP
- ◆ Paramount Group, Inc.
- ◆ Pramerica Real Estate Capital VI, LP
- ◆ PRISA
- ◆ Prudential Agricultural Group
- ◆ RCG Longview Debt Fund IV, V, & VI, LP
- ◆ RCG Longview Equity Fund, LP
- ◆ Senior Housing Partnership Fund IV, LP
- ◆ Silverpeak Legacy Partners I, LP
- ◆ Stockbridge Real Estate Fund I, II, & III, LP
- ◆ Strategic Partners II, III, & IV RE, LP
- ◆ UBS (US) Trumbull Property Fund, LP

Farmland Advisor

- ◆ Prudential Agricultural Group

Private Equity/Venture Capital Partnerships

- ◆ ABS Capital Partners II, LP
- ◆ Actis Emerging Markets 3, LP
- ◆ Actis Global 4, LP
- ◆ Adams Capital Management, LP
- ◆ Aisling Capital Partners II, III & IV, LP
- ◆ Allegheny New Mountain Partners, LP
- ◆ Apax Europe VII, LP
- ◆ Bain Capital Asia Fund II & III, LP
- ◆ Bain Capital Fund XI, LP
- ◆ Baring Asia Private Equity Fund III, IV, & V, LP
- ◆ Blue Point Capital Partners I, II, & III, LP
- ◆ Bridgepoint Capital II, LP
- ◆ Bridgepoint Europe I, II, III, IV & V, LP
- ◆ Capital International Private Equity Fund V & VI, LP
- ◆ Catterton Growth Partners I, II & III, LP
- ◆ Catterton Partners V, VI, & VII, LP
- ◆ Co-Investment Fund 2000, LP
- ◆ Co-Investment Fund II, LP
- ◆ Collier International Partners VI & VII, LP
- ◆ Crestview Partners I & II, LP
- ◆ Cross Atlantic Technology Fund I & II, LP
- ◆ CVC Capital Partners Asia Pacific III, LP
- ◆ CVC European Equity Partners V, LP
- ◆ DCPF VI Oil and Gas Co-Investment Fund, LP
- ◆ Denham Commodity Partners VI, LP
- ◆ Equistone Partners Europe Fund VE, LP
- ◆ Evergreen Pacific Partners I & II, LP
- ◆ First Reserve Fund XI & XII, LP
- ◆ Goldpoint Partners Co-Investment Fund V, LP
- ◆ HgCapital 7, LP
- ◆ HGGC Fund II
- ◆ Incline Equity Partners III, LP
- ◆ Irving Place Capital Partners II & III, LP
- ◆ KBL Healthcare Ventures, LP
- ◆ Landmark Equity Partners IV, V, XIII, & XIV, LP
- ◆ Landmark Mezzanine Partners, LP
- ◆ Lexington Capital Partners I, LP
- ◆ Lindsay, Goldberg & Bessemer, LP
- ◆ LLR Equity Partners I, II, III, & IV, LP
- ◆ Milestone Partners II, III, & IV, LP
- ◆ Morgan Stanley Dean Witter Capital Partners IV, LP
- ◆ North Haven Private Equity Asia Fund IV, LP
- ◆ NEPA Venture Fund II, LP
- ◆ New Mountain Partners I & III, LP
- ◆ New York Life Capital Partners I, II, III, & IV, LP
- ◆ NGP Natural Resources X, LP
- ◆ Novitas Capital I & II, LP
- ◆ Odyssey Investment Partners, LLC
- ◆ Orchid Asia V, LP
- ◆ PAI Europe IV & V, LP
- ◆ Palladium Equity Partners II-A & IV, LP
- ◆ Partners Group Secondary 2008, 2011 & 2015, LP
- ◆ Permira IV, LP
- ◆ Perseus-Soros Bio-Pharmaceutical Fund, LP
- ◆ Platinum Equity Capital Partners I, II, III, & IV, LP
- ◆ PNC Equity Partners I & II, LP
- ◆ Psilos Group Partners III, LP
- ◆ Quadrangle Capital Partners I, LP
- ◆ Quaker BioVentures I & II, LP
- ◆ SCP Private Equity Partners I & II, LP
- ◆ StarVest Partners I & II, LP
- ◆ StepStone International Investors III, LP
- ◆ Sterling Capital Partners, LP
- ◆ Sterling Venture Partners, LP
- ◆ Strategic Feeder, LP
- ◆ Strategic Partners II, III, III-B, & III-VC, IV, IV-VC, V, VI, & VII, LP
- ◆ Summit Partners Growth Equity Fund VIII & IX, LP
- ◆ Summit Partners Venture Capital Fund III & IV, LP
- ◆ Tenaya Capital IV-P, V-P, & VI, LP
- ◆ The Energy & Minerals Group
- ◆ The Fifth Cinven Fund No. 1, LP
- ◆ The Fourth Cinven Fund
- ◆ Trilantic Capital Partners IV, LP

Investment Section

Professional Consultants (Continued)

- ◆ Trilantic Capital Partners V (North America), LP

Special Situations (Private Debt) Partnerships

- ◆ Apollo Investment Fund VIII, LP
- ◆ Avenue Asia Special Situations Fund II, III, & IV, LP
- ◆ Avenue Special Situations Fund IV, V, & VI, LP
- ◆ Cerberus Institutional Partners, II, III, IV, V & VI, LP
- ◆ Clearlake Capital Partners IV, LP
- ◆ Gleacher Mezzanine Fund I & II
- ◆ Gold Hill Venture Lending, LP
- ◆ GSC Partners CDO Investors IV, LP
- ◆ GSC Recovery II & III, LP
- ◆ New York Life Investment Management Mezzanine Partners I & II, LP
- ◆ OCM Opportunities Fund VII & VII-B, LP
- ◆ Searchlight Capital II, LP
- ◆ Venor Special Situations Fund II, LP
- ◆ Versa Capital Fund I, II & III, LP
- ◆ Windjammer Senior Equity Fund III & IV, LP

Alternative Investment Consultant

- ◆ Portfolio Advisors, LLC

Custodian Bank

- ◆ The Bank of New York Mellon Corporation

Securities Lending Agent

- ◆ Deutsche Bank AG

Absolute Return Consultant

- ◆ Aksia, LLC

Investment Accounting Application Service Provider

- ◆ STP Investment Services, LLC

Investment Evaluator and General Investment Consultant

- ◆ Aon Hewitt Investment Consulting, Inc.

Proxy Voting Agent

- ◆ Glass, Lewis & Co., LLC

Real Estate Investment Consultant

- ◆ Courtland Partners, Ltd.

ACTUARIAL SECTION

Actuary's Certification Letter.....	96
Summary of Results of Actuarial Valuation as of June 30, 2016.....	99
History of Contribution Rates and Funded Ratios.....	100
Description of Actuarial Assumptions and Methods.....	101
Schedule of Active Members.....	103
Schedules of Retired Members and Beneficiaries.....	104
Solvency Tests.....	105
Analysis of Past Financial Experience Reconciliation of Employer Contribution Rates.....	106
Schedule of Funding Progress for Pensions.....	107
Schedule of Funding Progress for Pensions for Postemployment Benefits Other Than Pensions.....	107
Schedule of Employer Contributions for Postemployment Benefits Other Than Pensions.....	108





April 7, 2017

Board of Trustees
Pennsylvania Public School Employees' Retirement System
5 North 5th Street
Harrisburg, Pennsylvania 17101-1905

Re: Actuary's Certification Letter

Members of the Board:

An actuarial valuation of the Pennsylvania Public School Employees' Retirement System (Retirement System or PSERS) is performed annually to measure the ongoing costs and progress towards the funding goals of the Retirement System over time. The most recent actuarial valuation was completed as of June 30, 2016. The financing objective of the Retirement System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method,
- Liquidate the unfunded accrued liability based on level percentage of pay amortization schedules required by the Public School Employees' Retirement Code, 24 Pa. C.S. §8101 et. seq. (Retirement Code) as amended by Act 2010-120, which requires amortization over 24 years of the unfunded accrued liability as of June 30, 2010, and of each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any increases in the unfunded liability arising from legislation enacted after June 30, 2010, are to be amortized over 10 years; and
- As directed by Act 2010-120, use pension rate collars to moderate the rise of annual employer pension contribution rates to reach the full actuarially determined contribution funding level in a budgetarily sound manner and within a financially responsible period of time. Effective with the fiscal year during which the pension rate collar no longer applies, the employer contribution rate will be the actuarially determined pension contribution rate, subject to a new minimum employer contribution rate that will be the employer pension normal cost rate. Effective with the June 30, 2015 valuation (FY2016/2017), the pension rate collars no longer apply.

The contribution policy of the Retirement System is set by statute. The Commonwealth's General Assembly has the authority to amend the benefit terms and funding policy for the System by passing bills in the Senate and House of Representatives and sending them to the Governor for approval.

Based on the June 30, 2016, actuarial valuation, a total contribution rate of 32.57% (31.74% Pension plus 0.83% Premium Assistance) of payroll payable by employers for FY2017/2018, when taken together with the contributions payable by the members, current assets, and expected future asset returns, is sufficient to achieve the financing objective. The Act 120 minimum employer pension rate is the employer pension normal cost rate of 7.70%.

As required by the Retirement Code, the valuation takes into account all of the promised benefits to which members are entitled as of June 30, 2016, including pension and survivor benefits, as the basis for the contribution rate for fiscal year 2017/2018. There were no legislative or administrative changes made to the benefits payable by PSERS since the prior valuation.

As required under Section 8502(j) of the Retirement Code, experience studies are performed for PSERS every five years, the most recent having been made as of June 30, 2015. This valuation was prepared on the basis of the demographic and economic assumptions that were recommended on the basis of the July 1, 2010 – June 30, 2015 Experience Review and approved by the Board of Trustees at its June 10, 2016 meeting, which includes a 7.25% per annum rate of investment return.



In our opinion, the actuarial assumptions used for funding purposes are reasonably related to the experience of the System and to reasonable long-term expectations. These assumptions were selected in accordance with applicable Actuarial Standards of Practice published by the Actuarial Standards Board.

The actuarial assumptions and methods used by PSERS for financial reporting meet the requirements set forth in Governmental Accounting Standards Board (GASB) Statement No. 67. Based on the experience study noted above, the demographic and economic assumptions were changed as of June 30, 2016 from the prior valuation. The Health Insurance funding provisions of the Retirement Code differ from the GASB 43 disclosure requirements. For funding purposes, the actuarial liability equals the assets in the health insurance account, and a contribution is determined to provide for solvency of the account through the third fiscal year following the valuation date. For GASB 43 purposes the Health Insurance actuarial liability and normal cost requirements are determined under the entry age actuarial cost method, with 30-year level-dollar funding. The entry age actuarial cost method meets the GASB 43 requirements for determining actuarial liability and normal cost and is the cost method specified by the Retirement Code for the PSERS pension plan.

The Retirement System reported the individual data for members of the Retirement System 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 Retirement System. 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.

In our opinion, the attached schedules of valuation results fairly represent the status of the Public School Employees' Retirement System and present an accurate view of historical data. The underlying assumptions and methods used for both funding and GASB disclosure purposes are consistent with the statutory specifications and represent a best estimate of the aggregate future experience of the Retirement System.

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

- Summary of Results of Actuarial Valuation as of June 30, 2016
- History and Projection of Contribution Rates and Funded Ratios
- Summary of Actuarial Assumptions and Methods
- Schedule of Active Member Valuation Data
- Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- Solvency Test
- Analysis of Past Financial Experience - Reconciliation of Employer Contribution Rates

In addition, Conduent prepared the "Schedule of Changes in the Employer Net Pension Liability," "Schedule of Employer Net Pension Liability," "Schedule of Employer Pension Contributions," "Schedule of Changes in the Employer Net OPEB Liability," "Schedule of Employer Net OPEB Liability," and the "Schedule of Employer Premium Assistance Contributions" in the Financial Section.



This report was prepared solely for the Pennsylvania Public School Employees' Retirement System for the purposes herein stated and may not be appropriate to use for other purposes. Conduent does not intend to benefit and assumes no duty or liability to other parties who receive this work. Use of this report for any other purposes or by anyone other than PSERS and its auditors 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. The attached pages should not be provided without a copy of this cover letter. 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.

David L. Driscoll is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. Edward Quinn and Salvador Nakar are Members of the American Academy of Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

Respectfully submitted,

A handwritten signature in black ink that reads "David L. Driscoll".

David L. Driscoll, FSA, MAAA, EA
Principal, Consulting Actuary

A handwritten signature in black ink that reads "Edward A. Quinn".

Edward A. Quinn, MAAA, EA
Director, Retirement Actuary

A handwritten signature in black ink that reads "Salvador Nakar".

Salvador Nakar, MAAA, EA
Senior Consultant

**SUMMARY OF RESULTS OF ACTUARIAL VALUATION
AS OF JUNE 30, 2016
(\$ Amounts in Thousands)**

Item	June 30, 2016	June 30, 2015
Member Data		
1. Number of Members		
a) Active Members	257,080	259,868
b) Vesteess ¹	23,437	21,909
c) Annuitants, Beneficiaries and Survivor Annuitants ²	224,828	219,775
d) Total	505,345	501,552
2. Annualized Salaries ³	\$ 12,851,289	\$ 12,678,213
3. Annual Annuities	\$ 5,666,392	\$ 5,520,620
Valuation Results		
4. Present Value of Future Pension Benefits		
a) Active Members	\$ 61,864,737	\$ 61,134,713
b) Inactive Members and Vesteess	1,829,457	1,613,862
c) Annuitants, Beneficiaries and Survivor Annuitants	55,314,858	52,739,489
d) Total	\$ 119,009,052	\$ 115,488,064
5. Present Value of Future Pension Normal Cost		
a) Active Members	\$ 9,737,924	\$ 10,232,272
b) Employer	9,281,727	10,679,082
c) Total	\$ 19,019,651	\$ 20,911,354
6. Pension Accrued Liability		
a) Active Members (4a) – (5c)	\$ 42,845,086	\$ 40,223,359
b) Inactive Members and Vesteess	1,829,457	1,613,862
c) Annuitants, Beneficiaries and Survivor Annuitants	55,314,858	52,739,489
d) Total	\$ 99,989,401	\$ 94,576,710
7. Health Insurance Assets for Premium Assistance	\$ 124,563	\$ 120,643
8. Total Accrued Liability for Funding (6) + (7)	\$ 100,113,964	\$ 94,697,353
9. Actuarial Value of Assets	\$ 57,390,069	\$ 57,361,859
10. Funded Status (9) / (8)	57.3%	60.6%
11. Unfunded Accrued Liability (8) – (9)	\$ 42,723,895	\$ 37,335,764
12. Total Normal Cost Rate	15.24%	15.83%
13. Member Contribution Rate	7.54%	7.52%
14. Employer Normal Cost Rate (12) – (13)	7.70%	8.31%
Employer Annual Funding Requirement		
15. Employer Contribution Rate Calculated by Actuary	Fiscal 2017/2018	Fiscal 2016/2017
a) Normal	7.70%	8.31%
b) Unfunded Accrued Liability	24.04%	20.89%
c) Preliminary Pension Rate	31.74%	29.20%
d) Health Insurance	0.83%	0.83%
e) Total Rate ⁴	32.57%	30.03%

¹ Excludes 120,083 and 115,277 inactive members as of June 30, 2016 and June 30, 2015, respectively, who are no longer participating and are valued for their accumulated deductions only.

² Excludes 1,181 and 1,446 beneficiaries as of June 30, 2016 and June 30, 2015, respectively, who are only entitled to a pending lump sum distribution.

³ The salaries shown represent an annual rate of pay for members who were in active service on the valuation date.

⁴ Minimum Pension Rate for the June 30, 2016 valuation is 7.70% and for the June 30, 2015 valuation is 8.31%.

HISTORY OF CONTRIBUTION RATES AND FUNDED RATIOS

Fiscal Year Ending June 30	Appropriation Payroll (thousands)	Contribution Rates ¹							
		Employee	Employer Normal Cost	Employer Unfunded Liability	Preliminary Employer Pension	Final Employer Pension ⁵	Employer Health Insurance	Total Employer	Funded Ratio
2007 ²	\$ 11,821,951	7.21%	6.62%	(0.95)%	5.67%	5.72%	0.74%	6.46%	85.8%
2008	12,881,244	7.25	6.68	(0.24)	6.44	6.44	0.69	7.13	86.0
2009	12,500,000	7.29	6.68	(3.37)	3.31	4.00	0.76	4.76	79.2
2010 ³	12,899,000	7.32	7.35	(3.72)	3.63	4.00	0.78	4.78	75.1
2011 ^{3,4}	13,510,000	7.34	8.08	(0.50)	7.58	5.00	0.64	5.64	69.1
2012	14,112,000	7.37	8.12	10.15	18.27	8.00	0.65	8.65	66.4
2013 ⁶	14,297,000	7.40	8.66	12.99	21.65	11.50	0.86	12.36	63.8
2014	13,720,000	7.43	8.57	15.25	23.82	16.00	0.93	16.93	62.0
2015	13,482,000	7.46	8.46	17.51	25.97	20.50	0.90	21.40	60.6
2016	13,375,000	7.49	8.38	19.44	27.82	25.00	0.84	25.84	57.3
2017	13,549,000	7.52	8.31	20.89	29.20	29.20	0.83	30.03	*
2018 ⁷	13,449,000	7.54	7.70	24.04	31.74	31.74	0.83	32.57	*

- In general, the Preliminary Employer Pension Rate equals the sum of the rates for the Employer Normal Cost and the Unfunded Liability; and the Final Employer Pension Rate is the greater of the Preliminary Pension Rate and any Pension Rate Floor or Collar stated in the Retirement Code. The Total Employer Rate is the sum of the Final Employer Pension Rate and the Employer Health Insurance Rate.
- Revised actuarial assumptions based on a five-year experience review ending June 30, 2005 were used to determine the contributions for the fiscal year ended June 30, 2007. Since the benefit changes under Act 2001-9 had not been in effect throughout the entire period covered by the study the Board decided, at its December 2005 meeting, to delay making any changes to the retirement rate assumptions until further data became available. The 5.72% Final Employer Pension Rate equals the 6.46% Total Employer Rate certified by the Board at that meeting, minus the 0.74% Employer Health Insurance Rate. The 5.67% Preliminary Employer Pension Rate equals the sum of the Employer Normal Cost and Unfunded Liability rates. The Normal Cost and Unfunded Liability rates were calculated by the actuary in January 2006, based on the package of assumptions adopted at the December 2005 meeting.
- At its January 2009 meeting, the Board voted to reduce the interest rate from 8.50% to 8.25% for the June 30, 2008 valuation and to 8.00% for subsequent valuations.
- Act 2010-46 recertified the fiscal year ended June 30, 2011 pension rate from 7.58% to 5.00%.
- The Final Employer Pension rate is limited by the Act 2010-120 pension rate collars for fiscal years 2012 through 2016.
- Revised actuarial assumptions based on a five-year experience review ended June 30, 2010 were used to determine the contributions for the fiscal year ending June 30, 2013 and thereafter, which include an interest rate of 7.50%.
- Revised actuarial assumptions based on a five-year experience review ended June 30, 2015 were used to determine the contributions for the fiscal year ending June 30, 2018 and thereafter, which include an interest rate of 7.25%.

* Not Available

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

ASSUMPTIONS

Investment Rate of Return: 7.25% per annum, compounded annually (adopted as of June 30, 2016). The components are 2.75% for inflation and 4.50% for the real rate of return. Actuarial equivalent benefits are determined based on an interest rate of 4% (since 1960).

Discount Rate for GASB 67 Accounting: 7.25% as of June 30, 2016 and 7.50% as of June 30, 2015. Rates were determined in accordance with the methods prescribed in GASB Statement No. 67.

Discount Rate for GASB 74 Accounting: 2.71% as of June 30, 2016. This rate represents the S&P 20 Year Municipal Bond Rate. Rates were determined in accordance with the methods prescribed in GASB Statement No. 74.

Separation from Service: Illustrative rates of assumed separation from service are shown in the following table (adopted as of June 30, 2016).

Age	Annual Rate of:						
	Non-Vested Withdrawal	Withdrawal		Death*	Disability	Early Retirement**	Superannuation Retirement
		Less Than 10 Years of Service	10 or More Years of Service				
MALES							
25	14.85%	5.70%	2.57%	0.041%	0.020%		
30	12.74	3.37	2.57	0.039	0.020		
35	13.39	3.21	1.50	0.044	0.058		
40	14.49	3.97	1.34	0.050	0.116		
45	14.42	4.53	1.37	0.084	0.160		19.16%
50	14.31	4.45	1.92	0.138	0.284		19.16
55	12.17	4.43	3.38	0.233	0.442	18.57%	26.59
60	12.43	5.58	5.57	0.379	0.582	14.42	30.87
65				0.700	0.087		21.39
69				1.067	0.135		19.34
FEMALES							
25	13.41%	7.47%	5.02%	0.013%	0.018%		
30	13.81	6.05	4.02	0.017	0.023		
35	14.22	5.53	2.85	0.024	0.055		
40	11.79	4.87	1.60	0.032	0.096		
45	11.54	4.51	1.65	0.051	0.135		15.00%
50	11.66	4.43	2.06	0.088	0.229		15.00
55	11.75	4.38	3.11	0.133	0.368	18.59%	10.02
60	12.25	5.97	6.40	0.196	0.360	17.05	35.77
65				0.327	0.082		22.23
69				0.443	0.115		22.79

* These base mortality tables will then be projected on a generational basis using the Conduent Modified 2015 projection scale to the valuation date and thereafter.

** Early Retirement – Age 55 with 25 years of service, but not eligible for Superannuation retirement.

**DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS
(Continued)**

Death after Retirement:

Male annuitants: RP-2014 male mortality table adjusted backward to 2006 with the MP-2014 improvement scale and projected to the valuation date with the Conduent Modified 2015 projection scale.

Female Annuitants: RP-2014 male mortality table adjusted backward to 2006 with the MP-2014 mortality improvement scale, projected to 2013 with the Conduent Modified 2015 projection scale adjusted for credibility. This base mortality table will then be projected on a generational basis using the Conduent Modified 2015 projection scale to the valuation date.

Disabled annuitants: RP-2014 male and female disabled mortality tables adjusted backward to 2006 with the MP-2014 mortality improvement scale and projected to the valuation date with the Conduent Modified 2015 projection scale.

These base mortality tables will then be projected on a generational basis using the Conduent Modified 2015 projection scale from the valuation date.

For determination of actuarial equivalence, a unisex table based on the above base tables, with weightings of 25% of male and 75% of female mortality probabilities, is utilized. This table is then projected on a generational basis to 2020 using the Conduent Modified 2015 projection scale.

Salary Increase: Effective average of 5.00% per annum, compounded annually (adopted as of June 30, 2016). The components are 2.75% for inflation, 2.25% for real wage growth and merit or seniority increases. Representative values are as follows:

Age	Annual Rate of Salary Increase
20	10.25%
30	7.75
40	5.75
50	3.75
55	3.25
60	3.25
65	3.25
70	3.25

Payroll Growth: 3.50% per annum.

MISCELLANEOUS

Annuity Optional Forms Assumption for Retiring Active Members:

- 50% will elect Maximum Straight Life Annuity (MSLA)

- 20% will elect OPTION 1 (Straight life annuity with guaranteed payments equal to present value of MSLA)
- 20% will elect OPTION 2 (100% Joint and Survivor with males 3 years older than females)
- 10% will elect OPTION 3 (50% Joint and Survivor with males 3 years older than females)
- 0% will elect OPTION 4 annuity

Option 4 Lump Sum Elections: 80% of Class T-C and Class T-D members are assumed to elect a refund of contributions and a reduced annuity.

Withdrawal Annuity: 90% of members are assumed to commence payment immediately and 10% are assumed to defer payment to superannuation age.

Health Insurance

Elections: 63% of eligible retirees are assumed to elect premium assistance.

Administrative Expenses: Assumed equal to 2% of contributions made during the year.

Summary of Changes since the June 30, 2015 Valuation:

As required under Section 8502(j) of the Retirement Code, experience studies are performed once in every five-year period. This valuation was prepared on the basis of the demographic and economic assumptions that were selected on the basis of the July 1, 2010 to June 30, 2015 Experience Review and adopted by the Board of Trustees at their June 10, 2016 meeting, which include a 7.25% per annum rate of investment return.

The proportion of eligible participants who are assumed to elect Premium Assistance coverage was changed from 64% to 63% to reflect a refinement of this estimate per discussions with the Plan Sponsor.

METHODS

Calculations: The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Retirement System, and on actuarial assumptions that are internally consistent and reasonable based on the actual experience of the System.

Asset Valuation Method: A ten-year moving market average (five-year moving market average prior to June 30, 2010) value of assets that recognizes the 7.25% (7.50% prior to June 30, 2016, 8.25% prior to June 30, 2009, and 8.50% prior to June 30, 2008) actuarial expected investment return immediately

**DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS
(Continued)**

and spreads the difference between the actual return on the market value of assets and the expected return on the actuarial value of assets over a period of ten years. The averaging period is being phased-in from fiscal year 2007/2008.

Actuarial Cost Method for Pension Funding: Entry Age Normal Cost Method (modified slightly as of June 30, 2005 to use a pay-weighted average normal contribution rate). The results of each June 30 valuation normally determine the employer contribution rate for the second succeeding fiscal year. Act 120 revised the funding method effective with the June 30, 2010 valuation. Act 120 mandated that the outstanding balance of the unfunded accrued liability as of June 30, 2010, including changes in the unfunded accrued liability due to the funding reforms of Act 120, be amortized over a 24-year period, as a level percent of pay, beginning July 1, 2011. Future valuation gains and losses, and changes in the unfunded accrued liability resulting from changes in actuarial assumptions and methods, are amortized over a 24-year period, as a level percent of pay. Future increases in the unfunded accrued liability due to legislation will be amortized over a 10-year period, as a level percent of pay. Act 120 also modified the employer pension contribution requirements by imposing collars on the rate at which employer contributions may rise from year to year. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014 the pension contribution rate can be no more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate. Beginning with the fiscal year in which the actuarially required contribution rate is less than the collared rate, the final contribution rate is the actuarially determined

contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

Actuarial Cost Method for Health Insurance Funding: The actuarial liability equals the assets in the health insurance account, and the results of the June 30 valuation determine the contribution rate for the second succeeding fiscal year. The rate so determined is the rate necessary to establish reserves sufficient to cover administrative expenses and provide premium assistance payments for all participating eligible annuitants during the third fiscal year that follows the valuation date.

Actuarial Cost Method for GASB 43 Accounting for Health Insurance: The actuarial liability is determined under the entry age actuarial cost method, and the Annual Required Contribution for the second fiscal year that follows the valuation date is equal to the entry age normal cost for health insurance plus an amount that will amortize the entry age unfunded actuarial liability for health insurance over a period of 30 years.

DATA

Census and Assets: The valuation was based on members of the Retirement System as of June 30, 2016 and does not take into account future members. All census data was supplied by the Retirement System and was subject to reasonable consistency checks. The actuary adjusts the data to account for service and pay earned by members on or before the valuation that is not reported by the Retirement System until after the actuarial valuation is performed. Asset data was supplied by the Retirement System.

**SCHEDULE OF ACTIVE MEMBERS
VALUATION DATA**

Valuation as of June 30	Number of Participating Employers	Number of Active Members	Annual Compensation (Thousands)	Average Compensation	% Increase in Average
2016	781	257,080	\$ 12,851,289	\$ 49,989	2.46%
2015	784	259,868	12,678,213	48,787	1.79
2014	784	263,312	12,620,862	47,931	1.92
2013	782	267,428	12,577,105	47,030	1.17
2012	773	273,504	12,714,371	46,487	0.52
2011	747	279,152	12,910,043	46,247	1.99
2010	747	282,041	12,788,847	45,344	1.26
2009	742	279,701	12,524,593	44,779	2.43
2008	739	272,690	11,921,469	43,718	1.16
2007	739	264,023	11,410,257	43,217	(0.33)

**SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
ADDED TO AND REMOVED FROM ROLLS**

Valuation Date as of June 30	Added to Rols		Removed from Rols		Rols at End of Year		% Increase in Annual Allowance	Average Annual Allowance
	Number	Annual Allowance (Millions)	Number	Annual Allowance (Millions)	Number	Annual Allowance* (Millions)		
2016	12,686	\$ 267.1	7,633	\$ 93.5	224,828	\$ 5,666.4	2.64%	\$ 25,203
2015	15,017	297.3	9,142	91.7	219,775	5,520.6	3.39	25,119
2014	15,225	300.5	8,878	84.9	213,900	5,339.5	3.74	24,962
2013	16,404	377.6	10,866	83.7	207,553	5,147.1	5.63	24,800
2012	14,579	332.7	7,186	66.6	202,015	4,872.9	4.78	24,122
2011	16,228	453.7	6,540	76.4	194,622	4,650.8	7.17	23,897
2010	12,649	372.8	5,678	77.6	184,934	4,339.6	8.59	23,466
2009	9,651	314.9	5,228	74.4	177,963	3,996.3	4.85	22,456
2008	10,911	345.3	5,397	73.9	173,540	3,811.5	8.18	21,963
2007	10,612	307.5	4,399	56.0	168,026	3,523.4	7.60	20,970

* Reflects changes in annuities for continuing payees due to finalization of benefit calculations and due to the commencement of supplemental annuity payments.

**POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS
SCHEDULE OF RETIRED MEMBERS ADDED TO AND REMOVED FROM ROLLS**

Valuation Date as of June 30	Added to Rols		Removed from Rols		Rols at End of Year		% Increase in Annual Premium Assistance	Average Annual Premium Assistance
	Number*	Annual Premium Assistance (Millions)	Number*	Annual Premium Assistance (Millions)	Number*	Annual Premium Assistance (Millions)		
2016	5,758	\$ 4.4	3,516	\$ 2.7	145,496	\$ 110.0	0.00%	\$ 1,200
2015	6,516	5.0	3,635	2.8	143,254	110.0	0.46	1,200
2014	4,969	3.9	2,289	1.8	140,373	109.5	0.37	1,200
2013	6,759	5.4	2,364	1.9	137,693	109.1	3.31	1,200
2012	5,751	4.6	1,372	1.1	133,298	105.6	3.43	1,200
2011	8,185	6.5	2,074	1.6	128,919	102.1	4.93	1,200
2010	6,709	5.3	2,323	1.8	122,808	97.3	3.73	1,200
2009	6,285	5.0	3,079	2.4	118,422	93.8	2.74	1,200
2008	8,792	7.0	6,050	4.8	115,216	91.3	2.47	1,200
2007	7,072	5.6	2,637	2.1	112,474	89.1	4.09	1,200

* Number of retired members eligible to participate in the Health Insurance Premium Assistance; 63% of eligible retirees are assumed to elect premium assistance as of June 30, 2016; 64% of eligible retirees are assumed to elect premium assistance as of June 30, 2015; 65% of eligible retirees are assumed to elect premium assistance as of June 30, 2014; 66% of eligible retirees are assumed to elect premium assistance for the periods June 30, 2007 to June 30, 2013.

SOLVENCY TESTS
COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND
ACTUARIAL VALUE OF ASSETS
(\$ Amounts in Thousands)

PENSIONS

Valuation as of June 30	Accrued Liabilities for			Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed		(1)	(2)	(3)
2016	\$ 14,907,731	\$ 55,314,858	\$ 29,766,812	\$ 57,265,506	100%	77%	0%
2015	14,079,658	52,739,489	27,757,563	57,240,946	100	82	0
2014	13,554,229	51,425,295	27,373,459	57,231,799	100	85	0
2013	13,089,342	49,979,444	26,883,030	57,353,262	100	89	0
2012	12,535,442	47,511,912	27,713,306	58,227,622	100	96	0
2011	12,242,308	45,648,780	27,749,295	59,141,131	100	100	5
2010	11,850,031	40,284,383	26,871,014	59,306,848	100	100	27
2009	11,087,345	37,112,318	27,321,073	59,781,575	100	100	42
2008	10,532,683	34,617,953	25,695,001	60,922,157	100	100	61
2007	10,183,433	31,603,788	24,708,649	57,057,838	100	100	62

POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS

Valuation as of June 30	Accrued Liabilities for			Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed		(1)	(2)	(3)
2016	\$ 0	\$ 978,207	\$ 453,280	\$ 124,563	N/A	13%	0%
2015	0	957,954	410,135	120,643	N/A	13	0
2014	0	959,079	415,033	112,060	N/A	12	0
2013	0	961,701	423,332	100,349	N/A	10	0
2012	0	934,506	430,161	93,753	N/A	10	0
2011	0	909,076	430,368	111,258	N/A	12	0
2010	0	767,587	394,632	116,831	N/A	15	0
2009	0	759,891	399,164	105,114	N/A	14	0
2008	0	749,070	383,941	95,785	N/A	13	0
2007	0	684,677	373,415	97,292	N/A	14	0

The solvency test compares the actuarial accrued liabilities by various categories with the System's actuarial value of assets.

**ANALYSIS OF PAST FINANCIAL EXPERIENCE
RECONCILIATION OF EMPLOYER CONTRIBUTION RATES**

Fiscal Year Ending June 30	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Effective Prior Year Contribution Rate	30.03%	25.84%	21.40%	16.93%	12.36%	8.65%	5.64%	4.78%	4.76%	7.13%
Prior Year Adjustment for Legislation	N/A	2.82	5.47	7.82	10.15	10.27	2.58	(0.37)	(0.69)	N/A
Net Change Due to:										
Change in Normal Rate	(0.23)	(0.07)	(0.08)	(0.11)	(0.09)	(0.22)	0.04	0.00	(0.02)	0.00
Payroll Growth and Liability Experience	0.96	0.14	0.58	0.68	0.72	(0.21)	0.40	(0.03)	0.33	(0.88)
Investment Loss/(Gain)	1.08	0.83	0.66	0.81	0.78	0.59	1.94	2.04	(1.71)	(2.25)
Health Insurance Contribution Change	0.01	(0.01)	(0.06)	(0.03)	0.07	0.21	0.01	(0.14)	0.02	0.07
Assumption/Method Change	0.44	N/A	N/A	N/A	N/A	3.04	N/A	1.94	1.72	N/A
Act 40 4.00% Floor*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.37	0.69
Act 120 Funding Reforms	N/A	N/A	N/A	N/A	N/A	N/A	8.31	N/A	N/A	N/A
Amortization of Prior Legislation Deferrals	0.28	0.48	0.69	0.77	0.76	0.18	N/A	N/A	N/A	N/A
Legislation Deferrals:										
Act 46 Rate Cap**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(2.58)	N/A	N/A
Act 120 Collar***	N/A	N/A	(2.82)	(5.47)	(7.82)	(10.15)	(10.27)	N/A	N/A	N/A
Actual Contribution Rate:	32.57%	30.03%	25.84%	21.40%	16.93%	12.36%	8.65%	5.64%	4.78%	4.76%

* Act 2003-40 amended the Retirement Code to increase the Employer Pension Rate Floor from 1% to 4%.

** Act 2010-46 recertified the fiscal year ending June 30, 2011 pension rate from 7.58% to 5.00%.

*** The Final Employer Pension rate is limited by the Act 2010-120 pension rate collar. For the fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014 the pension contribution rate can be no more than 3%, 3.5%, and 4.5%, respectively, of total compensation of all active members, greater than the prior year's final contribution rate. Beginning with fiscal year 2017, the actuarially required contribution rate is less than the collared rate and the final contribution rate is the actuarially determined contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

SCHEDULE OF FUNDING PROGRESS FOR PENSIONS*

(\$ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2016	\$ 57,265,506	\$ 99,989,401	\$ 42,723,895	57.3%	\$ 12,851,289	332.4%
2015	57,240,946	94,576,710	37,335,764	60.5	12,678,213	294.5
2014	57,231,799	92,352,983	35,121,184	62.0	12,620,862	278.3
2013	57,353,262	89,951,816	32,598,554	63.8	12,577,105	259.2
2012	58,227,622	87,760,660	29,533,038	66.3	12,714,371	232.3
2011	59,141,131	85,640,383	26,499,252	69.1	12,910,043	205.3
2010	59,306,848	79,005,428	19,698,580	75.1	12,788,847	154.0
2009	59,781,575	75,520,736	15,739,161	79.2	12,524,593	125.7
2008	60,922,157	70,845,637	9,923,480	86.0	11,921,469	83.2
2007	57,057,838	66,495,870	9,438,032	85.8	11,410,257	82.7

* The amounts reported above include assets and liabilities for Pensions.

**SCHEDULE OF FUNDING PROGRESS FOR
POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS****

(\$ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2016	\$ 124,563	\$ 1,431,487	\$ 1,306,924	8.7%	\$ 12,851,289	10.2%
2015	120,643	1,368,089	1,247,446	8.8	12,678,213	9.8
2014	112,060	1,374,112	1,262,052	8.2	12,620,862	10.0
2013	100,349	1,385,033	1,284,684	7.2	12,577,105	10.2
2012	93,753	1,364,667	1,270,914	6.9	12,714,371	10.0
2011	111,258	1,339,444	1,228,186	8.3	12,910,043	9.5
2010	116,831	1,162,219	1,045,388	10.1	12,788,847	8.2
2009	105,114	1,159,055	1,053,941	9.1	12,524,593	8.4
2008	95,785	1,133,011	1,037,226	8.5	11,921,469	8.7
2007	97,292	1,058,092	960,800	9.2	11,410,257	8.4

** The amounts reported above include assets and liabilities for Health Insurance Premium Assistance. The health insurance liabilities for GASB 43 disclosure have been calculated under the entry age normal cost method, which provides liabilities that differ from those determined under the funding requirements of the Retirement Code.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS FOR
POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS
(\$ Amounts in Thousands)**

Fiscal Year Ended June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
2016	\$ 129,494	\$ 113,307	87%
2015	128,489	116,808	91
2014	121,260	117,471	97
2013	113,016	107,993	96
2012	102,104	80,936	79
2011	119,320	88,796	74
2010	117,187	102,703	88
2009	109,531	92,493	84
2008	101,352	81,317	80
2007	94,970	86,763	91

The Annual Required Contribution (ARC) presented above was determined as part of the actuarial valuation as of two years prior to the date indicated (i.e., the ARC for the fiscal year ended June 30, 2016 was determined by the valuation completed as of June 30, 2014, which was based on a 7.50% interest rate).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2016
Actuarial Cost Method:	Entry Age
Amortization Method:	Level Dollar, Open
Remaining Amortization Period:	30 Years
Asset Valuation Method:	Market
Actuarial Assumptions:	
-Investment Rate of Return*	7.25%
-Projected Salaried Increases*	5.00%
*Includes Inflation at:	2.75%

STATISTICAL SECTION

Narrative	110
Schedule of Trend Data	111
10 Year Trend Schedules	
Total Changes in Fiduciary Net Position - Pension	112
Additions to Fiduciary Net Position - Pension	113
Deductions from Fiduciary Net Position - Pension	113
Total Changes in Fiduciary Net Position - Postemployment Healthcare Plans	114
Additions to Fiduciary Net Position - Postemployment Healthcare Plans	115
Deductions from Fiduciary Net Position - Postemployment Healthcare Plans	115
Summary Membership Data	116
Summary Annuity Data	116
Pension Benefit and Refund Deductions from Fiduciary Net Position	117
Average Monthly Pension Benefit Payments	118
Average Monthly Pension Benefit Payments and Average Final Average Salary.....	120
Average Monthly Premium Assistance Benefit Payments and Average Final Average Salary.....	121
Ten Largest Employers	122
Schedule of Employers	123



Statistical Section Narrative

To assist readers in the assessment of the System's economic condition, the Statistical Section of this Comprehensive Annual Financial Report presents information to add historical perspective, context, and detail to the financial statements, notes to financial statements, and required supplementary information presented in the preceding sections. To provide historical perspective and a sense of trend, the exhibits in this Section are presented in multiple-year formats. The information is categorized into three topical groups: *Financial Trends*, *Demographic and Economic Information*, and *Operating Information*.

Financial Trends

The Financial Trend Schedules and Graphs provide detailed information to present how PSERS' financial position has changed over time.

The following Financial Trend Schedules are presented:

- Schedule of Trend Data
- Total Changes in Fiduciary Net Position - Pension
- Total Changes in Fiduciary Net Position - Postemployment Healthcare Plans

The following Financial Trend Graphs are presented:

- Additions to Fiduciary Net Position - Pension
- Additions to Fiduciary Net Position - Postemployment Healthcare Plans
- Deductions from Fiduciary Net Position - Pension
- Deductions from Fiduciary Net Position - Postemployment Healthcare Plans

Demographic and Economic Information

Some of the following schedules listed are dependent upon an actuarial valuation. For those schedules, the most recent information is presented as of the year ended June 30, 2016, the date of PSERS' most current actuarial valuation completed at the time of publication.

- Summary Membership Data
- Summary Annuity Data
- Pension Benefit and Refund Deductions from Fiduciary Net Position
- Average Monthly Pension Benefit Payments
- Average Monthly Pension Benefit Payments and Average Final Average Salary
- Average Monthly Premium Assistance Benefit Payments and Average Final Average Salary

Operating Information

- Ten Largest Employers
- Schedule of Employers

Schedule of Trend Data
(Dollar Amounts in Thousands)*

For years ended June 30	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Contribution Rates:										
Total Pension %	29.20	25.00	20.50	16.00	11.50	8.00	5.00	4.00	4.00	6.44
Health Care Insurance Premium Assistance %	.83	.84	.90	.93	.86	.65	.64	.78	.76	.69
Total Employer %	30.03	25.84	21.40	16.93	12.36	8.65	5.64	4.78	4.76	7.13
Average Member %	7.52	7.49	7.46	7.43	7.40	7.37	7.34	7.32	7.29	7.25
Total Employer Contributions	3,943,758	3,302,817	2,713,539	2,109,952	1,555,078	1,085,927	747,753	638,034	608,372	834,849
Average Annual Member Compensation \$ *	50,925	49,989	48,787	47,931	47,030	46,487	46,247	45,344	44,779	43,718
Market Value of Assets \$	53,279,000	49,957,000	51,706,000	53,092,000	49,116,000	48,628,000	51,311,000	45,715,000	43,101,000	62,569,000
Actuarial Value of Assets \$	**	57,390,000	57,362,000	57,344,000	57,454,000	58,321,000	59,252,000	59,424,000	59,887,000	61,018,000
Accrued Actuarial Liability \$	**	100,114,000	95,945,000	92,465,000	90,052,000	87,854,000	85,752,000	79,122,000	75,626,000	70,941,000
Funded Ratio %	**	57.3	60.6	62.0	63.8	66.4	69.1	75.1	79.2	86.0
Total Benefits & Refunds \$	6,923,904	6,779,577	6,614,154	6,417,455	6,373,363	5,992,979	5,617,247	5,269,175	4,931,854	4,941,681
Average Pension \$ *	25,287	25,203	25,119	24,962	24,799	24,122	23,897	23,466	22,456	21,963
Annuitants & Beneficiaries	230,014	224,828	219,775	213,900	207,553	202,015	194,622	184,934	177,963	173,540
Active Members	255,945	257,080	259,868	263,312	267,428	273,504	279,152	282,041	279,701	272,690
Retirements	9,479	10,135	10,813	9,888	12,468	12,228	11,546	9,255	8,753	9,701

* All dollar amounts are in thousands, except Average Annual Member Compensation and Average Pension.

** Data for these categories relate to the actuarial valuation for fiscal year ended June 30, 2017. Results for this valuation were not available at publication date.

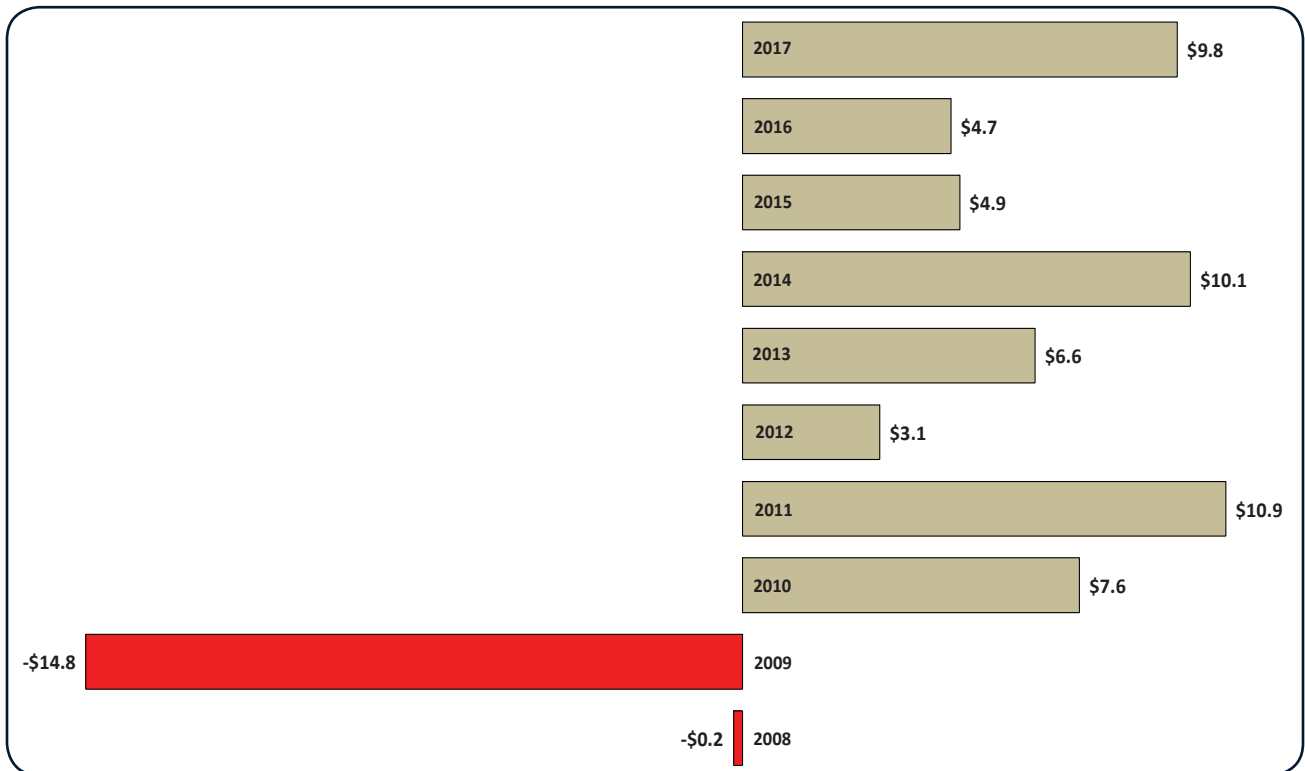
Total Changes in Fiduciary Net Position - Pension 10 Year Trend (Dollar Amounts in Thousands)

Year Ended June 30	Additions to Fiduciary Net Position					Deductions from Fiduciary Net Position					Net Increase / (Decrease)
	Member Contributions	Employer Contributions	Net Investment Income	Total Additions	Benefit Payments	Refunds of Contributions	Administrative*	Net Transfers**	Total Deductions		
2017	\$ 1,013,847	\$ 3,832,773	\$ 4,995,362	\$ 9,841,982	\$ 5,673,309	\$ 780,015	\$ 45,127	\$ (673)	\$ 6,518,706	\$ 3,323,276	
2016	989,266	3,189,510	473,206	4,651,982	5,522,662	815,131	45,118	2,463	6,405,443	(1,753,461)	
2015	984,634	2,596,731	1,328,516	4,909,881	5,356,085	840,167	42,331	3,429	6,262,932	(1,353,051)	
2014	966,926	1,992,084	7,097,761	10,056,771	5,166,777	862,018	38,712	1,887	6,092,217	3,964,554	
2013	991,087	1,446,402	4,126,002	6,563,491	4,905,200	1,111,692	37,480	2,893	6,081,726	481,765	
2012	952,887	1,004,584	1,093,319	3,050,790	4,691,250	964,056	34,242	2,765	5,716,988	(2,666,198)	
2011	1,042,707	658,511	9,246,091	10,947,309	4,322,520	958,703	37,028	9,844	5,345,790	5,601,519	
2010	952,047	535,331	6,113,679	7,601,057	4,095,334	866,888	12,105	7,015	4,998,062	2,602,995	
2009	911,118	515,889	(16,201,701)	(14,774,694)	3,885,286	754,011	35,639	7,947	4,703,252	(19,477,946)	
2008	879,598	753,532	(1,782,628)	(149,498)	3,623,652	1,012,688	35,863	17,157	4,718,073	(4,867,571)	

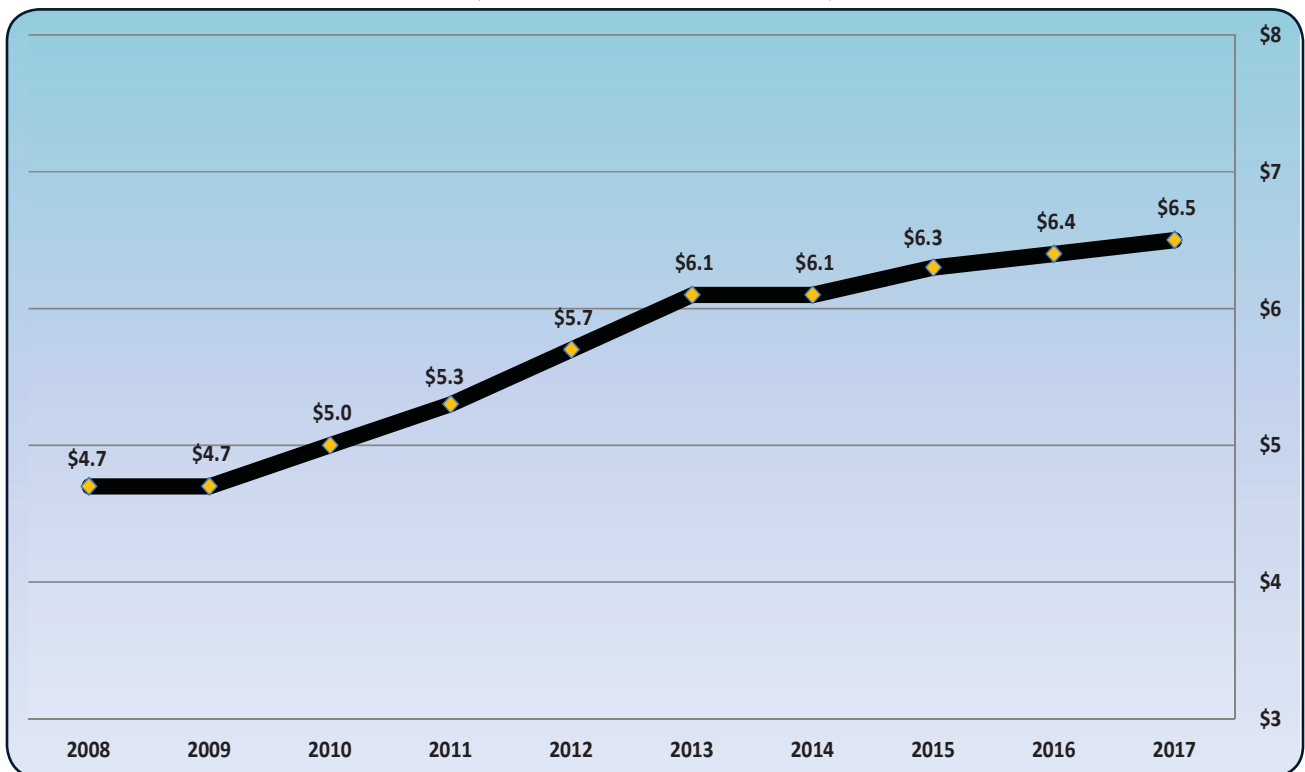
* Reporting of administrative expenses for fiscal year ended June 30, 2010 includes effects of the capitalization of intangible assets as a result of PSERS' implementation of GASB Statement No. 51 *Accounting and Financial Reporting for Intangible Assets*.

*** Net transfers to the Commonwealth of Pennsylvania State Employees' Retirement System.

Additions to Fiduciary Net Position - Pension 10 Year Trend (Dollar Amounts in Billions)



Deductions from Fiduciary Net Position - Pension 10 Year Trend (Dollar Amounts in Billions)



Total Changes in Fiduciary Net Position - Postemployment Healthcare Plans 10 Year Trend

(Dollar Amounts in Thousands)

Premium Assistance

Year Ended June 30	Additions to Fiduciary Net Position			Deductions from Fiduciary Net Position			Net Increase / (Decrease)
	Employer Contributions	Net Investment Income	Total Additions	Benefits	Administrative	Total Deductions	
2017	\$ 110,985	\$ 663	\$ 111,648	\$ 110,229	\$ 2,239	\$ 112,468	\$ (820)
2016	113,307	542	113,849	108,273	1,656	109,929	3,920
2015	116,808	215	117,023	106,298	2,142	108,440	8,583
2014	117,868	70	117,938	104,197	2,030	106,227	11,711
2013	108,676	110	108,786	100,078	2,112	102,190	6,596
2012	81,343	423	81,766	97,206	2,065	99,271	(17,505)
2011	89,242	691	89,933	93,518	1,988	95,506	(5,573)
2010	102,703	869	103,572	89,911	1,944	91,855	11,717
2009	92,493	1,861	94,354	83,206	1,819	85,025	9,329
2008	81,317	2,755	84,072	84,335	1,244	85,579	(1,507)

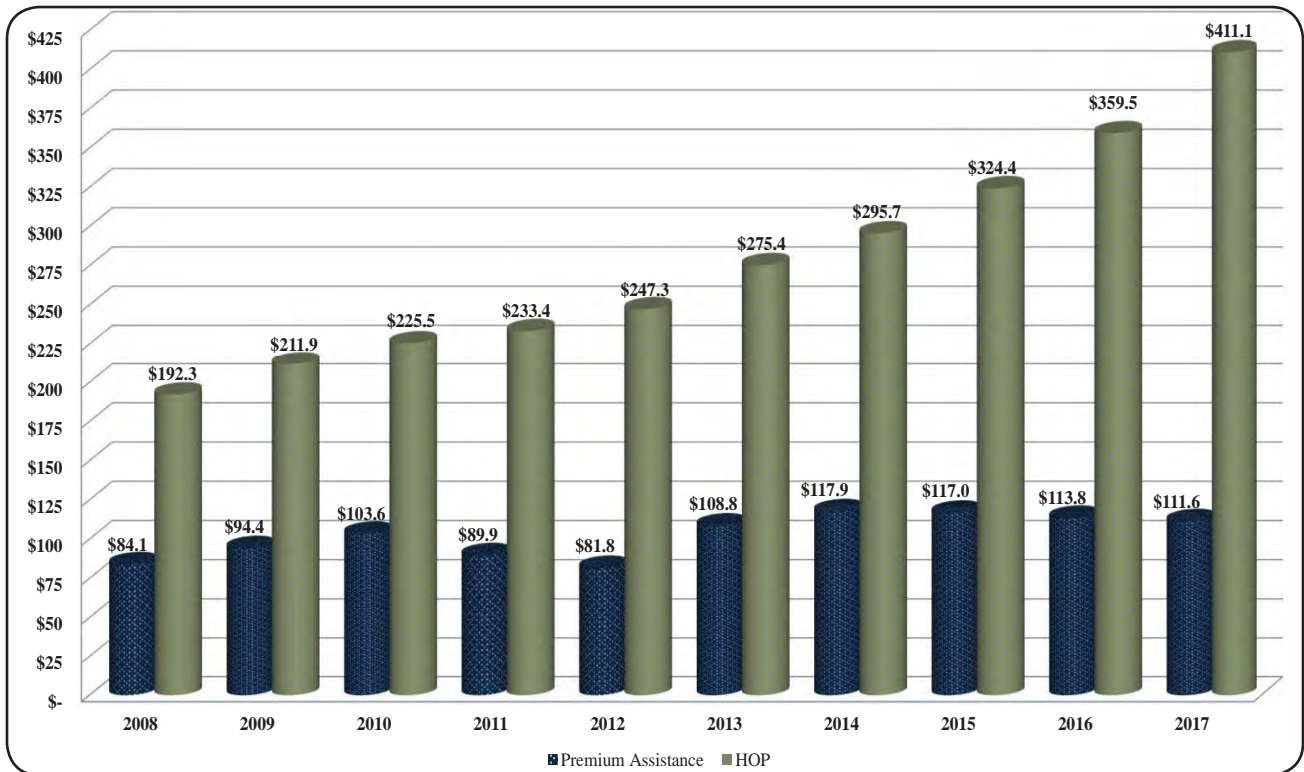
Health Options Program

Year Ended June 30	Additions to Fiduciary Net Position			Deductions from Fiduciary Net Position			Net Increase / (Decrease)
	Participant Premiums	CMS Contributions	Net Investment Income	Benefits	Administrative	Total Deductions	
2017	\$ 336,646	\$ 73,771	\$ 678	\$ 340,096	\$ 37,071	\$ 377,167	\$ 33,928
2016	308,132	51,034	299	310,979	33,457	344,436	15,029
2015	281,855	42,436	152	287,255	28,027	315,282	9,161
2014	257,740	37,759	191	259,753	25,975	285,728	9,962
2013	234,516	40,698	226	229,039	22,644	251,683	23,757
2012	213,642	33,462	237	213,027	20,213	233,240	14,101
2011	201,014	32,080	310	214,967	18,729	233,696	(292)
2010	191,184	33,901	440	193,307	16,443	209,750	15,775
2009	178,801	31,556	1,528	181,035	13,817	194,852	17,033
2008	159,563	28,426	4,288	175,136	12,143	187,279	4,998

Additions to Fiduciary Net Position - Postemployment Healthcare Plans

10 Year Trend

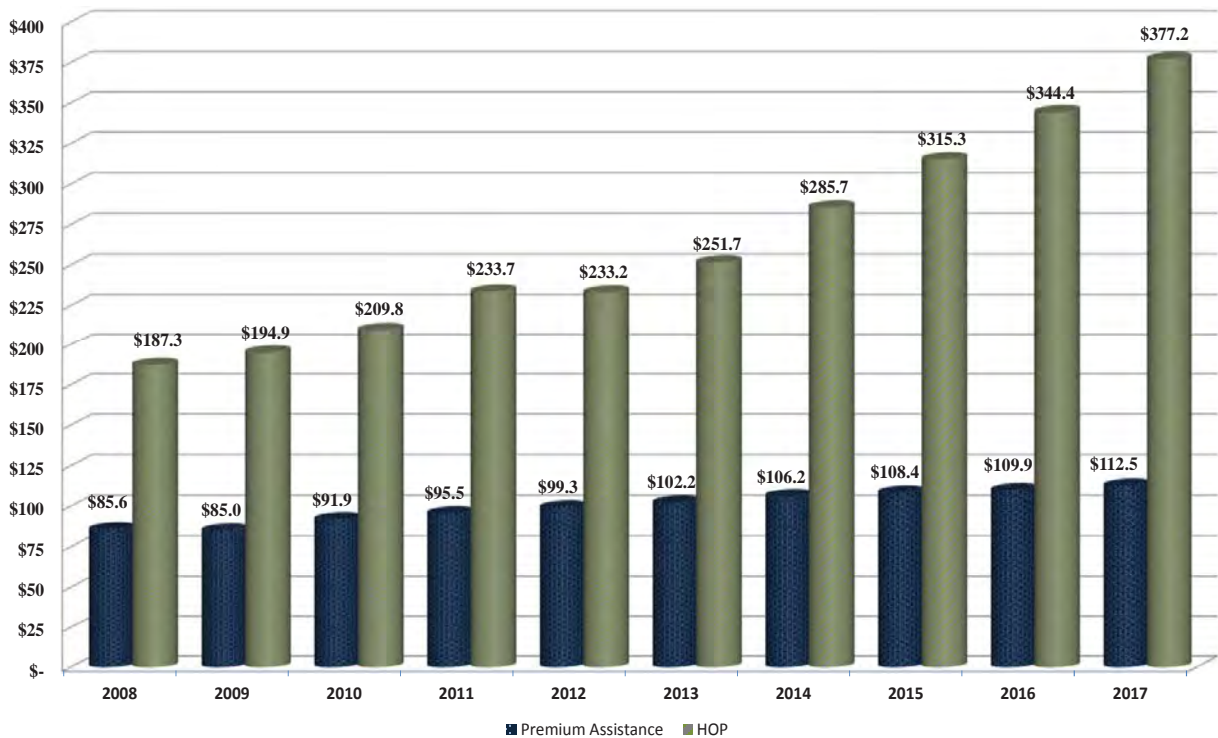
(Dollar Amounts in Millions)



Deductions from Fiduciary Net Position - Postemployment Healthcare Plans

10 Year Trend

(Dollar Amounts in Millions)



**Summary Membership Data
10 Year Trend ***

For year ended June 30	Male			Female			Total Number of Active Members
	Average Age	Average Service	Average Annual Salaries	Average Age	Average Service	Average Annual Salaries	
2016	44.8	11.6	\$ 55,518	45.2	11.1	\$ 47,912	257,080
2015	44.6	11.5	54,269	45.0	11.0	46,720	259,868
2014	44.5	11.2	53,248	45.0	10.9	45,918	263,312
2013	44.4	11.1	52,413	44.9	10.7	45,005	267,428
2012	44.3	10.9	51,751	44.9	10.6	44,513	273,504
2011	44.1	10.8	51,678	44.6	10.3	44,209	279,152
2010	44.2	10.9	50,770	44.6	10.3	43,306	282,041
2009	44.4	11.2	50,613	44.7	10.3	42,606	279,701
2008	44.5	11.4	49,818	44.7	10.4	41,440	272,690
2007	44.5	11.7	49,220	44.7	10.5	40,958	264,023

* Actuarial Valuation for year ended June 30, 2016 is most current valuation completed at publication date.

**Summary Annuity Data
10 Year Trend ****

For year ended June 30	Number of Annuitants & Beneficiaries	Total Annual Annuities***	Average Annual Annuity
2016	224,828	\$ 5,666,392	\$ 25,203
2015	219,775	5,520,620	25,119
2014	213,900	5,339,477	24,962
2013	209,204	5,147,060	24,603
2012	202,015	4,872,918	24,122
2011	194,622	4,650,798	23,897
2010	184,934	4,339,639	23,466
2009	177,963	3,996,000	22,456
2008	173,540	3,812,000	21,963
2007	168,026	3,523,000	20,970

** Actuarial Valuation for year ended June 30, 2016 is most current valuation completed at publication date.

*** Total Annual Annuities dollar amounts expressed in thousands.

Pension Benefit and Refund Deductions from Fiduciary Net Position 10 Year Trend

(Dollar Amounts in Thousands)

For year ended June 30	Retirements *							Total Pension Benefits and Refund Deductions
	Normal	Early	Disability	Pension Lump Sum Benefits	Survivor and Beneficiary	Net Transfers***	Refunds	
2017	\$ 3,292,906	\$ 2,040,966	\$ 186,674	\$ 678,736	\$ 254,042	\$ (673)	\$ 20,928	\$ 6,473,579
2016	3,203,542	2,007,372	182,320	686,988	257,571	2,463	20,069	6,360,325
2015	3,088,036	1,986,684	177,693	709,240	234,599	3,429	20,920	6,220,601
2014	2,953,187	1,928,614	167,676	741,386	237,932	1,887	22,823	6,053,505
2013	2,811,906	1,845,269	161,995	933,049	264,673	2,893	24,461	6,044,246
2012	2,629,151	1,758,581	149,000	887,244	231,330	2,765	24,675	5,682,746
2011	2,420,883	1,664,903	141,273	847,482	206,682	9,844	17,695	5,308,762
2010	2,273,819	1,600,435	136,174	733,333	218,461	7,015	16,720	4,985,957
2009	2,110,018	1,538,421	130,820	666,827	193,211	7,947	20,369	4,667,613
2008	4,636,340	**	**	**	**	17,157	28,713	4,682,210

* Data presented in Normal column for 2008 is an aggregate amount for all Retirement Types.

** Detailed data is not available.

*** Net transfers to the Commonwealth of Pennsylvania State Employees' Retirement System.

Average Monthly Pension Benefit Payments*
Total Annuitants Grouped by Years of Credited Service
10 Year Trend

Years of Credited Service									
< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total

Fiscal year ended June 30, 2016

Normal and Early	4,437	19,030	25,603	21,411	21,273	25,037	46,029	36,489	5,534	204,843
	\$ 93	\$ 189	\$ 373	\$ 798	\$ 1,383	\$ 2,200	\$ 3,247	\$ 4,250	\$ 4,616	\$ 2,173
Disability	-	1,829	2,149	1,714	1,567	1,337	554	17	9	9,176
	\$ -	\$ 777	\$ 1,001	\$ 1,342	\$ 1,985	\$ 2,807	\$ 3,588	\$ 3,078	\$ 2,353	\$ 1,613
Beneficiary and Survivor	-	6,100	580	574	593	609	1,008	943	402	10,809
	\$ -	\$ 1,256	\$ 278	\$ 421	\$ 613	\$ 902	\$ 1,233	\$ 1,452	\$ 1,508	\$ 1,129

Fiscal year ended June 30, 2015

Normal and Early	4,360	17,744	24,820	20,719	20,682	24,379	45,677	36,248	5,532	200,161
	\$ 94	\$ 186	\$ 359	\$ 772	\$ 1,344	\$ 2,153	\$ 3,218	\$ 4,222	\$ 4,564	\$ 2,169
Disability	-	1,841	2,134	1,686	1,534	1,332	550	19	9	9,105
	\$ -	\$ 762	\$ 980	\$ 1,306	\$ 1,937	\$ 2,773	\$ 3,602	\$ 3,235	\$ 2,353	\$ 1,584
Beneficiary and Survivor	-	5,481	619	621	628	648	1,067	1,018	427	10,509
	\$ -	\$ 1,219	\$ 271	\$ 399	\$ 611	\$ 883	\$ 1,221	\$ 1,420	\$ 1,497	\$ 1,089

Fiscal year ended June 30, 2014

Normal and Early	4,232	16,238	24,007	20,109	20,068	23,694	45,272	35,798	5,468	194,886
	\$ 94	\$ 183	\$ 346	\$ 743	\$ 1,292	\$ 2,097	\$ 3,186	\$ 4,181	\$ 4,448	\$ 2,157
Disability	-	1,812	2,038	1,624	1,495	1,316	557	20	8	8,870
	\$ -	\$ 752	\$ 954	\$ 1,266	\$ 1,888	\$ 2,712	\$ 3,598	\$ 3,216	\$ 2,240	\$ 1,560
Beneficiary and Survivor	-	4,733	672	674	678	697	1,124	1,100	466	10,144
	\$ -	\$ 1,192	\$ 256	\$ 397	\$ 606	\$ 875	\$ 1,213	\$ 1,392	\$ 1,455	\$ 1,052

Fiscal year ended June 30, 2013

Normal and Early	4,051	14,757	23,095	19,499	19,506	22,897	44,704	35,277	5,384	189,170
	\$ 93	\$ 179	\$ 331	\$ 708	\$ 1,243	\$ 2,041	\$ 3,151	\$ 4,142	\$ 4,354	\$ 2,146
Disability	-	1,749	1,950	1,554	1,455	1,283	547	17	10	8,565
	\$ -	\$ 729	\$ 925	\$ 1,249	\$ 1,843	\$ 2,654	\$ 3,546	\$ 3,163	\$ 2,311	\$ 1,532
Beneficiary and Survivor	-	5,659	724	729	728	745	1,191	1,190	503	11,469
	\$ -	\$ 814	\$ 254	\$ 387	\$ 620	\$ 854	\$ 1,195	\$ 1,368	\$ 1,442	\$ 866

Fiscal year ended June 30, 2012

Normal and Early	3,881	13,459	22,313	18,971	18,919	21,855	43,662	34,024	5,170	182,254
	\$ 111	\$ 176	\$ 317	\$ 680	\$ 1,202	\$ 1,972	\$ 3,105	\$ 4,078	\$ 4,196	\$ 2,110
Disability	-	1,698	1,882	1,517	1,397	1,257	531	15	9	8,306
	\$ -	\$ 694	\$ 875	\$ 1,166	\$ 1,748	\$ 2,583	\$ 3,465	\$ 2,917	\$ 2,147	\$ 1,467
Beneficiary and Survivor	-	5,234	772	784	780	797	1,261	1,281	546	11,455
	\$ -	\$ 702	\$ 245	\$ 390	\$ 603	\$ 850	\$ 1,175	\$ 1,341	\$ 1,412	\$ 811

* Actuarial valuation for year ended June 30, 2016 is the most current valuation completed at the publication date.

**Average Monthly Pension Benefit Payments
Total Annuitants Grouped by Years of Credited Service
10 Year Trend (Continued)**

	Years of Credited Service									Total
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	

Fiscal year ended June 30, 2011

Normal and Early	3,695	12,263	21,497	18,343	18,199	21,042	42,507	33,045	5,045	175,636
	\$ 114	\$ 174	\$ 305	\$ 656	\$ 1,158	\$ 1,921	\$ 3,064	\$ 4,041	\$ 4,133	\$ 2,091
Disability	-	1,629	1,798	1,473	1,366	1,216	523	15	9	8,029
	\$ -	\$ 680	\$ 839	\$ 1,136	\$ 1,686	\$ 2,548	\$ 3,476	\$ 2,878	\$ 2,147	\$ 1,441
Beneficiary and Survivor	-	4,389	817	819	804	842	1,322	1,362	602	10,957
	\$ -	\$ 652	\$ 239	\$ 372	\$ 583	\$ 842	\$ 1,170	\$ 1,322	\$ 1,383	\$ 796

Fiscal year ended June 30, 2010

Normal and Early	4,695	11,529	20,812	17,777	17,356	19,973	40,625	30,716	4,755	168,238
	\$ 1,023	\$ 349	\$ 287	\$ 613	\$ 1,093	\$ 1,839	\$ 3,004	\$ 3,933	\$ 3,896	\$ 2,037
Disability	-	1,633	1,761	1,453	1,352	1,227	517	18	11	7,972
	\$ -	\$ 694	\$ 819	\$ 1,098	\$ 1,654	\$ 2,513	\$ 3,475	\$ 2,563	\$ 1,958	\$ 1,424
Beneficiary and Survivor	-	2,604	772	735	755	773	1,192	1,280	613	8,724
	\$ -	\$ 1,008	\$ 217	\$ 336	\$ 525	\$ 770	\$ 1,075	\$ 1,200	\$ 1,241	\$ 872

Fiscal year ended June 30, 2009

Normal and Early	4,395	10,474	20,503	17,544	17,134	19,821	39,700	28,187	4,448	162,206
	\$ 376	\$ 178	\$ 279	\$ 602	\$ 1,090	\$ 1,828	\$ 2,966	\$ 3,780	\$ 3,720	\$ 1,945
Disability	-	1,566	1,713	1,417	1,313	1,205	485	12	2	7,713
	\$ -	\$ 661	\$ 802	\$ 1,103	\$ 1,658	\$ 2,507	\$ 3,461	\$ 3,318	\$ 2,348	\$ 1,412
Beneficiary and Survivor	-	1,824	788	744	767	786	1,207	1,304	624	8,044
	\$ -	\$ 838	\$ 218	\$ 336	\$ 524	\$ 770	\$ 1,070	\$ 1,201	\$ 1,248	\$ 820

Fiscal year ended June 30, 2008

Normal and Early	4,054	9,541	20,539	17,450	16,748	19,166	38,331	27,318	4,509	157,656
	\$ 355	\$ 165	\$ 270	\$ 584	\$ 1,032	\$ 1,733	\$ 2,904	\$ 3,732	\$ 3,629	\$ 1,896
Disability	-	1,468	1,664	1,364	1,280	1,178	466	14	1	7,435
	\$ -	\$ 876	\$ 949	\$ 1,205	\$ 1,854	\$ 2,714	\$ 3,707	\$ 3,681	\$ 4,550	\$ 1,595
Beneficiary and Survivor	789	402	964	874	879	917	1,381	1,522	721	8,449
	\$ 1,127	\$ 121	\$ 223	\$ 347	\$ 533	\$ 783	\$ 1,083	\$ 1,223	\$ 1,255	\$ 817

Fiscal year ended June 30, 2007

Normal and Early	2,812	8,675	20,554	17,448	16,304	18,664	37,422	25,100	5,382	152,361
	\$ 54	\$ 149	\$ 256	\$ 553	\$ 971	\$ 1,662	\$ 2,821	\$ 3,574	\$ 3,488	\$ 1,820
Disability	-	1,437	1,689	1,370	1,307	1,154	430	11	1	7,399
	\$ -	\$ 595	\$ 770	\$ 1,044	\$ 1,569	\$ 2,476	\$ 3,466	\$ 3,576	\$ 4,550	\$ 1,356
Beneficiary and Survivor	94	430	1,025	930	936	980	1,453	1,628	790	8,266
	\$ 47	\$ 119	\$ 218	\$ 342	\$ 530	\$ 768	\$ 1,075	\$ 1,201	\$ 1,234	\$ 767

**Average Monthly Pension
Benefit Payments and Average Final Average Salary *
New Annuitants Grouped by Years of Credited Service
10 Year Trend**

Years of Credited Service								
< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+

Fiscal year ended June 30, 2016

Number of retired members	373	1,865	1,576	1,443	1,334	1,352	1,160	775	181
Final Average Salary	\$ 18,335	\$ 31,100	\$ 37,355	\$ 48,242	\$ 56,310	\$ 68,557	\$ 75,449	\$ 79,529	\$ 78,836
Monthly Benefit	\$ 129	\$ 269	\$ 634	\$ 1,302	\$ 1,964	\$ 2,958	\$ 3,890	\$ 4,845	\$ 5,464

Fiscal year ended June 30, 2015

Number of retired members	393	2,099	1,649	1,469	1,381	1,412	1,286	961	234
Final Average Salary	\$ 17,942	\$ 30,693	\$ 37,628	\$ 47,743	\$ 57,560	\$ 67,961	\$ 76,491	\$ 80,236	\$ 79,194
Monthly Benefit	\$ 113	\$ 264	\$ 637	\$ 1,274	\$ 2,031	\$ 2,929	\$ 3,995	\$ 4,884	\$ 5,402

Fiscal year ended June 30, 2014

Number of retired members	426	1,957	1,442	1,195	1,098	1,191	1,209	894	187
Final Average Salary	\$ 18,745	\$ 31,795	\$ 35,935	\$ 45,981	\$ 56,674	\$ 64,895	\$ 74,770	\$ 78,322	\$ 82,919
Monthly Benefit	\$ 126	\$ 267	\$ 605	\$ 1,242	\$ 2,043	\$ 2,795	\$ 3,973	\$ 4,811	\$ 5,835

Fiscal year ended June 30, 2013

Number of retired members	404	1,967	1,662	1,386	1,471	1,680	2,013	1,517	298
Final Average Salary	\$ 22,052	\$ 30,966	\$ 36,735	\$ 46,773	\$ 55,331	\$ 67,805	\$ 77,241	\$ 83,353	\$ 85,981
Monthly Benefit	\$ 156	\$ 280	\$ 658	\$ 1,265	\$ 1,988	\$ 2,956	\$ 4,161	\$ 5,200	\$ 6,066

Fiscal year ended June 30, 2012

Number of retired members	384	1,716	1,395	1,226	1,373	1,440	1,998	1,704	319
Final Average Salary	\$ 19,074	\$ 30,273	\$ 35,706	\$ 44,534	\$ 54,305	\$ 64,007	\$ 74,534	\$ 80,285	\$ 80,899
Monthly Benefit	\$ 126	\$ 286	\$ 635	\$ 1,216	\$ 1,977	\$ 2,815	\$ 4,097	\$ 5,033	\$ 5,630

Fiscal year ended June 30, 2011

Number of retired members	380	1,591	1,323	1,131	1,247	1,418	2,309	2,023	281
Final Average Salary	\$ 17,212	\$ 30,174	\$ 34,363	\$ 44,577	\$ 52,788	\$ 64,398	\$ 73,905	\$ 79,420	\$ 79,799
Monthly Benefit	\$ 98	\$ 315	\$ 645	\$ 1,238	\$ 1,908	\$ 2,893	\$ 4,031	\$ 4,981	\$ 5,491

Fiscal year ended June 30, 2010

Number of retired members	312	1,294	989	826	947	1,035	1,992	1,731	218
Final Average Salary	\$ 21,528	\$ 28,957	\$ 34,500	\$ 42,207	\$ 52,104	\$ 63,290	\$ 72,258	\$ 79,239	\$ 80,405
Monthly Benefit	\$ 312	\$ 269	\$ 634	\$ 1,140	\$ 1,906	\$ 2,833	\$ 3,979	\$ 4,963	\$ 5,550

Fiscal year ended June 30, 2009

Number of retired members	259	1,213	857	753	835	902	1,959	1,757	165
Final Average Salary	\$ 18,802	\$ 27,718	\$ 31,600	\$ 39,456	\$ 48,973	\$ 61,459	\$ 71,256	\$ 76,947	\$ 77,351
Monthly Benefit	\$ 106	\$ 230	\$ 556	\$ 1,063	\$ 1,726	\$ 2,764	\$ 3,915	\$ 4,834	\$ 5,343

Fiscal year ended June 30, 2008

Number of retired members	253	1,304	903	857	798	1,038	2,318	1,936	139
Final Average Salary	\$ 18,146	\$ 26,404	\$ 31,479	\$ 38,271	\$ 47,220	\$ 57,595	\$ 70,232	\$ 75,942	\$ 75,041
Monthly Benefit	\$ 104	\$ 210	\$ 556	\$ 1,010	\$ 1,647	\$ 2,551	\$ 3,863	\$ 4,775	\$ 5,164

Fiscal year ended June 30, 2007

Number of retired members	274	1,348	920	884	836	1,163	2,702	2,105	142
Final Average Salary	\$ 17,233	\$ 26,678	\$ 29,390	\$ 38,155	\$ 45,934	\$ 56,810	\$ 68,962	\$ 73,165	\$ 77,381
Monthly Benefit	\$ 85	\$ 231	\$ 502	\$ 1,011	\$ 1,591	\$ 2,534	\$ 3,800	\$ 4,604	\$ 5,421

* Actuarial valuation for year ended June 30, 2016 is the most current valuation completed at the publication date.

**Average Monthly Premium Assistance
Benefit Payments and Average Final Average Salary *
New Annuitants Grouped by Years of Credited Service
10 Year Trend**

Years of Credited Service								
< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+

Fiscal year ended June 30, 2016

Number of retired members		11	18	364	490	751	679	477	119
Final Average Salary		\$ 49,259	\$ 54,492	\$ 55,542	\$ 61,110	\$ 71,925	\$ 76,944	\$ 82,180	\$ 80,265
Monthly Benefit		\$ 100	\$ 98	\$ 99	\$ 99	\$ 99	\$ 99	\$ 99	\$ 99

Fiscal year ended June 30, 2015

Number of retired members		9	23	375	505	779	729	632	154
Final Average Salary		\$ 43,082	\$ 49,673	\$ 55,760	\$ 61,127	\$ 71,418	\$ 79,086	\$ 80,931	\$ 78,375
Monthly Benefit		\$ 98	\$ 100	\$ 100	\$ 98	\$ 99	\$ 99	\$ 98	\$ 99

Fiscal year ended June 30, 2014

Number of retired members		20	24	279	402	628	723	549	127
Final Average Salary		\$ 44,134	\$ 45,734	\$ 50,908	\$ 61,032	\$ 67,662	\$ 74,376	\$ 80,928	\$ 85,627
Monthly Benefit		\$ 99	\$ 100	\$ 99	\$ 99	\$ 98	\$ 99	\$ 98	\$ 100

Fiscal year ended June 30, 2013

Number of retired members		10	29	345	521	945	1,169	937	191
Final Average Salary		\$ 39,856	\$ 61,571	\$ 51,758	\$ 57,669	\$ 69,854	\$ 76,812	\$ 83,780	\$ 84,225
Monthly Benefit		\$ 99	\$ 100	\$ 99	\$ 100	\$ 98	\$ 98	\$ 98	\$ 100

Fiscal year ended June 30, 2012

Number of retired members		8	18	259	342	594	819	666	128
Final Average Salary		\$ 33,448	\$ 38,655	\$ 45,382	\$ 54,454	\$ 64,728	\$ 74,849	\$ 79,041	\$ 77,220
Monthly Benefit		\$ 100	\$ 69	\$ 100	\$ 100	\$ 99	\$ 98	\$ 97	\$ 99

Fiscal year ended June 30, 2011

Number of retired members		24	39	325	475	853	1,543	1,402	207
Final Average Salary		\$ 41,609	\$ 51,763	\$ 48,062	\$ 54,261	\$ 67,086	\$ 74,658	\$ 79,436	\$ 77,751
Monthly Benefit		\$ 100	\$ 100	\$ 98	\$ 99	\$ 97	\$ 96	\$ 97	\$ 98

Fiscal year ended June 30, 2010

Number of retired members		20	21	227	381	597	1,371	1,253	165
Final Average Salary		\$ 36,052	\$ 48,277	\$ 45,245	\$ 55,323	\$ 65,244	\$ 73,207	\$ 80,413	\$ 80,328
Monthly Benefit		\$ 100	\$ 100	\$ 98	\$ 98	\$ 98	\$ 97	\$ 97	\$ 100

Fiscal year ended June 30, 2009

Number of retired members		32	33	202	353	555	1,324	1,273	129
Final Average Salary		\$ 30,120	\$ 44,926	\$ 44,889	\$ 49,416	\$ 62,449	\$ 72,314	\$ 76,742	\$ 79,676
Monthly Benefit		\$ 100	\$ 96	\$ 99	\$ 98	\$ 97	\$ 95	\$ 96	\$ 97

Fiscal year ended June 30, 2008

Number of retired members		32	36	242	336	609	1,686	1,435	114
Final Average Salary		\$ 31,419	\$ 41,391	\$ 41,714	\$ 49,709	\$ 59,708	\$ 70,486	\$ 75,903	\$ 72,718
Monthly Benefit		\$ 97	\$ 100	\$ 99	\$ 99	\$ 97	\$ 95	\$ 95	\$ 96

Fiscal year ended June 30, 2007

Number of retired members		29	36	271	370	741	1,986	1,609	101
Final Average Salary		\$ 36,165	\$ 39,981	\$ 37,907	\$ 46,781	\$ 59,682	\$ 69,722	\$ 73,808	\$ 78,288
Monthly Benefit		\$ 9	\$ 99	\$ 98	\$ 99	\$ 96	\$ 93	\$ 93	\$ 98

* Actuarial valuation for year ended June 30, 2016 is the most current valuation completed at the publication date.

Ten Largest Employers
Current Year and Nine Years Ago
 (Based on number of reported members)

As of June 30, 2017

	Employer	Number of Reported Members	Percentage of Total
1.	Philadelphia City School District	17,375	6.78%
2.	Pittsburgh School District	4,189	1.63%
3.	Central Bucks School District	2,880	1.12%
4.	Allentown City School District	2,172	0.85%
5.	North Penn School District	2,069	0.81%
6.	Bethlehem Area School District	1,841	0.72%
7.	Reading School District	1,823	0.71%
8.	Lower Merion School District	1,624	0.63%
9.	Pennsbury School District	1,609	0.63%
10.	Downingtown Area School District	1,608	0.63%

As of June 30, 2008

	Employer	Number of Reported Members	Percentage of Total
1.	Philadelphia City School District	28,632	10.50%
2.	Pittsburgh School District	5,999	2.20%
3.	Central Bucks School District	2,454	0.90%
4.	Reading School District	2,182	0.80%
5.	Allentown City School District	2,154	0.79%
6.	North Penn School District	1,909	0.70%
7.	Bethlehem Area School District	1,882	0.69%
8.	Pocono Mountain School District	1,663	0.61%
9.	Erie City School District	1,636	0.60%
10.	Pennsbury School District	1,609	0.59%

**Schedule of Employers
for FY 2017
School Districts**

A _____
 Abington
 Abington Heights
 Albert Gallatin
 Aliquippa
 Allegheny Valley
 Allegheny-Clarion Valley
 Allentown City
 Altoona Area
 Ambridge Area
 Annville-Cleona
 Antietam
 Apollo-Ridge
 Armstrong
 Athens Area
 Austin Area
 Avella Area
 Avon Grove
 Avonworth

B _____
 Bald Eagle Area
 Baldwin-Whitehall
 Bangor Area
 Beaver Area
 Bedford Area
 Belle Vernon Area
 Bellefonte Area
 Bellwood-Antis
 Bensalem Township
 Benton Area
 Bentworth
 Berlin Brothersvalley
 Bermudian Springs
 Berwick Area
 Bethel Park
 Bethlehem Area
 Bethlehem-Center
 Big Beaver Falls Area
 Big Spring
 Blackhawk
 Blacklick Valley
 Blairsville-Saltsburg
 Bloomsburg Area
 Blue Mountain
 Blue Ridge
 Boyertown Area
 Bradford Area
 Brandywine Heights Area
 Brentwood Borough
 Bristol Borough
 Bristol Township

Brockway Area
 Brookville Area
 Brownsville Area
 Burgettstown Area
 Burrell
 Butler Area

C _____
 California Area
 Cambria Heights
 Cameron County
 Camp Hill
 Canon-McMillan
 Canton Area
 Carbondale Area
 Carlisle Area
 Carlynton
 Carmichaels Area
 Catasauqua Area
 Centennial
 Central Bucks
 Central Cambria
 Central Columbia
 Central Dauphin
 Central Fulton
 Central Greene
 Central Valley
 Central York
 Chambersburg Area
 Charleroi Area
 Chartiers Houston
 Chartiers Valley
 Cheltenham Township
 Chester-Upland
 Chestnut Ridge
 Chichester
 Clairton City
 Clarion Area
 Clarion-Limestone Area
 Claysburg-Kimmel
 Clearfield Area
 Coatesville Area
 Cocalico
 Colonial
 Columbia Borough
 Commodore Perry
 Conemaugh Township Area
 Conemaugh Valley
 Conestoga Valley
 Conewago Valley
 Conneaut
 Connellsville Area

Conrad Weiser Area
 Cornell
 Cornwall-Lebanon
 Corry Area
 Coudersport Area
 Council Rock
 Cranberry Area
 Crawford Central
 Crestwood
 Cumberland Valley
 Curwensville Area

D _____
 Dallas
 Dallastown Area
 Daniel Boone Area
 Danville Area
 Deer Lakes
 Delaware Valley
 Derry Area
 Derry Township
 Donegal
 Dover Area
 Downingtown Area
 Dubois Area
 Dunmore
 Duquesne City

E _____
 East Allegheny
 East Lycoming
 East Penn
 East Pennsboro Area
 East Stroudsburg Area
 Eastern Lancaster County
 Eastern Lebanon County
 Eastern York
 Easton Area
 Elizabeth Forward
 Elizabethtown Area
 Elk Lake
 Ellwood City Area
 Ephrata Area
 Erie City
 Everett Area
 Exeter Township

F _____
 Fairfield Area
 Fairview
 Fannett Metal
 Farrell Area

Statistical Section

Schedule of Employers (Continued)

Ferndale Area
Fleetwood Area
Forbes Road
Forest Area
Forest City Regional
Forest Hills
Fort Cherry
Fort LeBoeuf
Fox Chapel Area
Franklin Area
Franklin Regional
Frazier
Freedom Area
Freeport Area

G

Galeton Area
Garnet Valley
Gateway
General McLane
Gettysburg Area
Girard
Glendale
Governor Mifflin
Great Valley
Greater Johnstown
Greater Latrobe
Greater Nanticoke Area
Greencastle-Antrim
Greensburg Salem
Greenville Area
Greenwood
Grove City Area

H

Halifax Area
Hamburg Area
Hampton Township
Hanover Area
Hanover Public
Harbor Creek
Harmony Area
Harrisburg City
Hatboro-Horsham
Haverford Township
Hazleton Area
Hempfield
Hempfield Area
Hermitage
Highlands
Hollidaysburg Area
Homer-Center
Hopewell Area
Huntingdon Area

I

Indiana Area
Interboro
Iroquois

J

Jamestown Area
Jeannette City
Jefferson-Morgan
Jenkintown
Jersey Shore Area
Jim Thorpe Area
Johnsonburg Area
Juniata County
Juniata Valley

K

Kane Area
Karns City Area
Kennett Consolidated
Keystone
Keystone Central
Keystone Oaks
Kiski Area
Kutztown Area

L

Lackawanna Trail
Lakeland
Lake-Lehman
Lakeview
Lampeter-Strasburg
Lancaster
Laurel
Laurel Highlands
Lebanon
Leechburg Area
Lehighton Area
Lewistown Area
Ligonier Valley
Line Mountain
Littlestown Area
Lower Dauphin
Lower Merion
Lower Moreland Township
Loyalsock Township

M

Mahanoy Area
Manheim Central
Manheim Township
Marion Center Area
Marple Newtown
Mars Area

McGuffey
McKeesport Area
Mechanicsburg Area
Mercer Area
Methacton
Meyersdale Area
Mid Valley
Middletown Area
Mid-West
Midland Borough
Mifflin County
Mifflinburg Area
Millcreek Township
Millersburg Area
Millville Area
Milton Area
Minersville Area
Mohawk Area
Monessen
Moniteau
Montgomery Area
Montour
Montoursville Area
Montrose Area
Moon Area
Morrisville Borough
Moshannon Valley
Mount Carmel Area
Mount Pleasant Area
Mount Union Area
Mountain View
Mt. Lebanon
Muhlenberg
Muncy

N

Nazareth Area
Neshaminy
Neshannock Township
New Brighton Area
New Castle Area
New Hope-Solebury
New Kensington-Arnold
Newport
Norristown Area
North Allegheny
North Clarion County
North East
North Hills
North Penn
North Pocono
North Schuylkill
North Star
Northampton Area

Schedule of Employers (Continued)

Northeast Bradford	Pocono Mountain	Solanco
Northeastern York	Port Allegany	Somerset Area
Northern Bedford County	Portage Area	Souderton Area
Northern Cambria	Pottsgrove	South Allegheny
Northern Lebanon	Pottstown	South Butler County
Northern Lehigh	Pottsville Area	South Eastern
Northern Potter	Punxsutawney Area	South Fayette Township
Northern Tioga	Purchase Line	South Middleton
Northern York County		South Park
Northgate	Q _____	South Side Area
Northwest Area	Quaker Valley	South Western
Northwestern	Quakertown Community	South Williamsport Area
Northwestern Lehigh		Southeast Delco
Norwin	R _____	Southeastern Greene
O _____	Radnor Township	Southern Columbia Area
Octorara Area	Reading	Southern Fulton
Oil City Area	Red Lion Area	Southern Huntingdon County
Old Forge	Redbank Valley	Southern Lehigh
Oley Valley	Reynolds	Southern Tioga
Oswayo Valley	Richland	Southern York County
Otto-Eldred	Ridgway Area	Southmoreland
Owen J. Roberts	Ridley	Spring Cove
Oxford Area	Ringgold	Spring Grove Area
	Riverside	Springfield
P _____	Riverside Beaver County	Springfield Township
Palisades	Riverview	Spring-Ford Area
Palmerton Area	Rochester Area	State College Area
Palmyra Area	Rockwood Area	Steel Valley
Panther Valley	Rose Tree Media	Steelton-Highspire
Parkland		Sto-Rox
Pen Argyl Area	S _____	Stroudsburg Area
Penn Cambria	Saint Clair Area	Sullivan County
Penn Hills	Saint Marys Area	Susquehanna Community
Penn Manor	Salisbury Township	Susquehanna Township
Penncrest	Salisbury-Elk Lick	Susquenita
Penn-Delco	Saucon Valley	
Pennridge	Sayre Area	T _____
Penns Manor	Schuylkill Haven Area	Tamaqua Area
Penns Valley Area	Schuylkill Valley	Titusville Area
Pennsbury	Scranton	Towanda Area
Penn-Trafford	Selinsgrove Area	Tredyffrin-Easttown
Pequea Valley	Seneca Valley	Trinity Area
Perkiomen Valley	Shade Central City	Tri-Valley
Peters Township	Shaler Area	Troy Area
Philadelphia City	Shamokin Area	Tulpehocken Area
Philipsburg-Osceola Area	Shanksville-Stonycreek	Tunkhannock Area
Phoenixville Area	Sharon City	Turkeyfoot Valley Area
Pine Grove Area	Sharpsville Area	Tuscarora
Pine-Richland	Shenandoah Valley	Tussey Mountain
Pittsburgh	Shenango Area	Twin Valley
Pittston Area	Shikellamy	Tyrone Area
Pleasant Valley	Shippensburg Area	
Plum Borough	Slippery Rock Area	
	Smethport Area	

Statistical Section

Schedule of Employers (Continued)

U _____

Union
Union Area
Union City Area
Uniontown Area
Unionville-Chadds Ford
United
Upper Adams
Upper Darby
Upper Dauphin Area
Upper Dublin
Upper Merion Area
Upper Moreland Township
Upper Perkiomen
Upper Saint Clair

V _____

Valley Grove
Valley View

W _____

Wallenpaupack Area
Wallingford-Swarthmore

Warren County
Warrior Run
Warwick
Washington
Wattsburg Area
Wayne Highlands
Waynesboro Area
Weatherly Area
Wellsboro Area
West Allegheny
West Branch Area
West Chester Area
West Greene
West Jefferson Hills
West Middlesex Area
West Mifflin Area
West Perry
West Shore
West York Area
Western Beaver County
Western Wayne
Westmont Hilltop
Whitehall-Coplay

Wilkes-Barre Area
Wilkesburg Borough
William Penn
Williams Valley
Williamsburg Community
Williamsport Area
Wilmington Area
Wilson
Wilson Area
Windber Area
Wissahickon
Woodland Hills
Wyalusing Area
Wyoming Area
Wyoming Valley West
Wyomissing Area

Y _____

York City
York Suburban
Yough

Area Vocational Technical Schools

A. W. Beattie Career Center
Admiral Peary AVTS
Beaver County AVTS
Bedford County Technical Center
Berks CTC
Bethlehem AVTS
Bucks County Technical High School
Butler County AVTS
Carbon Career & Technical Institute
Career Institute of Technology
Central Montco Technical High School
Central PA Institute of Science &
Technology
Central Westmoreland CTC
Clarion County Career Center
Clearfield County CTC
Columbia-Montour AVTS
Crawford County CTC
CTC of Lackawanna County
Cumberland-Perry AVTS
Dauphin County Technical School
Delaware County AVTS
Eastern Center for Arts & Technology
Eastern Westmoreland CTC
Erie County Technical School
Fayette County AVTS
Forbes Road CTC
Franklin County CTC
Fulton County AVTS

Greater Altoona CTC
Greater Johnstown AVTS
Greene County CTC
Huntingdon County CTC
Indiana County Technology Center
Jefferson County-DuBois AVTS
Lancaster County CTC
Lawrence County CTC
Lebanon County CTC
Lehigh Career & Technical Institute
Lenape Tech
Lycoming CTC
Mercer County Career Center
Middle Bucks Institute of Technology
Mifflin County Academy of Science &
Technology
Mon Valley CTC
Monroe Career & Tech Institute
North Montco Technical Career Center
Northern Tier Career Center
Northern Westmoreland CTC
Northumberland County AVTS
Parkway West CTC
Reading-Muhlenberg CTC
Schuylkill Technology Center
Somerset County Technology Center
Steel Center AVTS
SUN Area Technical Institute
Susquehanna County CTC

Upper Bucks County AVTS
Venango Technology Center
West Side AVTS
Western Area CTC
Western Center for Technical Studies
Wilkes-Barre Area CTC
York County School of Technology

Schedule of Employers (Continued)**Intermediate Units**

Allegheny #3	Colonial #20	Schuylkill #29
Appalachia #8	Delaware County #25	Seneca Highlands #9
Arin #28	Intermediate Unit #1	Tuscarora #11
Beaver Valley #27	Lancaster-Lebanon #13	Westmoreland #7
Berks County #14	Lincoln #12	
BLaST #17	Luzerne #18	
Bucks County #22	Midwestern #4	
Capital Area #15	Montgomery County #23	
Carbon-Lehigh #21	Northeastern Educational #19	
Central #10	Northwest Tri-County #5	
Central Susquehanna #16	Pittsburgh-Mt. Oliver #2	
Chester County #24	Riverview #6	

Colleges / Universities

State System of Higher Education	Bucks County Community College	Westmoreland County Community College
• Bloomsburg University	Butler County Community College	
• California University	Community College of Allegheny County	
• Cheyney University	Community College of Beaver County	
• Clarion University of Pennsylvania	Community College of Philadelphia	
• East Stroudsburg University	Delaware County Community College	
• Edinboro University	Harrisburg Area Community College	
• Indiana University	Lehigh Carbon Community College	
• Kutztown University	Luzerne County Community College	
• Lock Haven University	Montgomery County Community College	
• Mansfield University	Northampton County Community College	
• Millersville University	Penn State University	
• Shippensburg University	Pennsylvania College of Technology	
• Slippery Rock University	Pennsylvania Highlands Community College	
• West Chester University	Reading Area Community College	

Other

Berks County Earned Income Tax Bureau	Pennsylvania School for the Deaf
Department of Education - Commonwealth of Pennsylvania	Thaddeus Stevens College of Technology
Lancaster County Academy	Western Pennsylvania School for Blind Children
Overbrook School for the Blind	Western Pennsylvania School for the Deaf
Pennsylvania School Boards Association	York Adams Academy

Charter Schools (C S)

21st Century Cyber C S	Bear Creek Community C S	Chester County Family Academy C S
Achievement House C S	Belmont Academy C S	Christopher Columbus C S
Act Academy Cyber C S	Belmont C S	Circle of Seasons C S
Ad Prima C S	Birney Preparatory Academy C S	City Charter High School
Agora Cyber C S	Boys' Latin of Philadelphia C S	Collegium C S
Alliance For Progress C S	Bucks County Montessori C S	Commonwealth Connections Academy C S
Antonia Pantoja C S	Casa C S	Community Academy of Philadelphia C S
Architecture and Design Charter High School	Center for Student Learning Charter School at Pennsbury	Crispus Attucks Youthbuild C S
Arts Academy C S	Central Pennsylvania Digital Learning Foundation C S	Delaware Valley C S
Aspira Bilingual Cyber C S	Centre Learning Community C S	Discovery C S
Avon Grove C S		Dr. Robert Ketterer C S
Baden Academy C S		Eastern University Academy C S

Statistical Section

Schedule of Employers (Continued)

Environmental Charter School at Frick Park	Mastery Charter School - Shoemaker Campus	Souderton Charter School Collaborative
Erie Rise Leadership Academy C S	Mastery Charter School - Simon Gratz	Spectrum C S
Esperanza Academy C S	Mastery Charter School - Smedley Elementary	Stone Valley Community C S
Esperanza Cyber C S	Mastery Charter School - Thomas Campus	Sugar Valley Rural C S
Eugenio Maria de Hostos Community Bilingual C S	Math Civics and Sciences C S	SusQ - Cyber C S
Evergreen Community C S	Mathematics, Science & Technology Community C S	Sylvan Heights Science C S
Fell C S	Medical Academy C S	Tacony Academy C S
First Philadelphia Charter School for Literacy	Memphis Street Academy C S - J.P. Jones	Tidioute Community C S
Folk Arts - Cultural Treasures C S	Montessori Regional C S	Universal Alcorn C S
Franklin Towne Charter Elementary School	Multi-Cultural Academy C S	Universal Audenried C S
Franklin Towne Charter High School	New Day C S	Universal Bluford C S
Freire C S	New Foundations C S	Universal Creighton C S
Frederick Douglas Mastery C S	Nittany Valley C S	Universal Daroff C S
Gettysburg Montessori C S	Northside Urban Pathways C S	Universal Institute C S
Gillingham C S	Northwood Academy C S	Universal Vare C S
Global Leadership Academy C S	Olney Charter High School	Urban League of Pittsburgh C S
Green Woods C S	Pan American Academy C S	Urban Pathways K - 5 College C S
Hardy Williams Academy C S	Penn Hills C S for Entrepreneurship	Vida C S
Helen Thackston C S	Pennsylvania Cyber C S	West Oak Lane C S
Hill House Passport Academy C S	Pennsylvania Distance Learning C S	West Philadelphia Achievement Charter Elementary School
Hope for Hyndman C S	Pennsylvania Leadership C S	Wissahickon C S
Howard Gardner Multiple Intelligence C S	Pennsylvania Virtual C S	Wonderland C S
I-Lead C S	People for People C S	World Communications C S
Imani Education Circle C S	Perseus House Charter School of Excellence	York Academy Regional C S
IMHOTEP Institute C S	Philadelphia Academy C S	Young Scholars C S
Independence C S	Philadelphia Charter School for Arts & Sciences at H.R. Edmunds	Young Scholars of Central Pennsylvania C S
Infinity C S	Philadelphia Electrical & Technology Charter High School	Young Scholars of Western Pennsylvania C S
John B Stetson C S	Philadelphia Harambee Institute of Science and Technology C S	
Keystone Academy C S	Philadelphia Montessori C S	
Keystone Education Center C S	Philadelphia Performing Arts C S	
Khepera C S	Premier Arts & Science C S	
Kipp Academy C S	Preparatory Charter School of Mathematics, Science, Technology & Careers	
Kipp West Philadelphia Preparatory C S	Propel - East C S	
La Academia: The Partnership C S	Propel - Northside	
Laboratory C S	Propel Charter School - Braddock Hills	
Lehigh Valley Academy Regional C S	Propel Charter School - Hazelwood	
Lehigh Valley Charter School for the Performing Arts	Propel Charter School - Homestead	
Lehigh Valley Dual Language C S	Propel Charter School - McKeesport	
Lincoln C S	Propel Charter School - Montour	
Lincoln Leadership Academy C S	Propel Charter School - Pitcairn	
Lincoln Park Performing Arts C S	Renaissance Academy - Edison C S	
Manchester Academic C S	Richard Allen Preparatory C S	
Mariana Bracetti Academy C S	Robert Benjamin Wiley Community C S	
Maritime Academy C S	Roberto Clemente C S	
Mastery Charter High School	Roberto Clemente Elementary C S	
Mastery Charter School - Cleveland Elementary	Russell Byers C S	
Mastery Charter School - Clymer Elementary	Sankofa Freedom Academy C S	
Mastery Charter School - Francis D Pastorius Elementary	School Lane C S	
Mastery Charter School - Harrity Elementary	Seven Generations C S	
Mastery Charter School - Mann Elementary		
Mastery Charter School - Pickett Campus		

