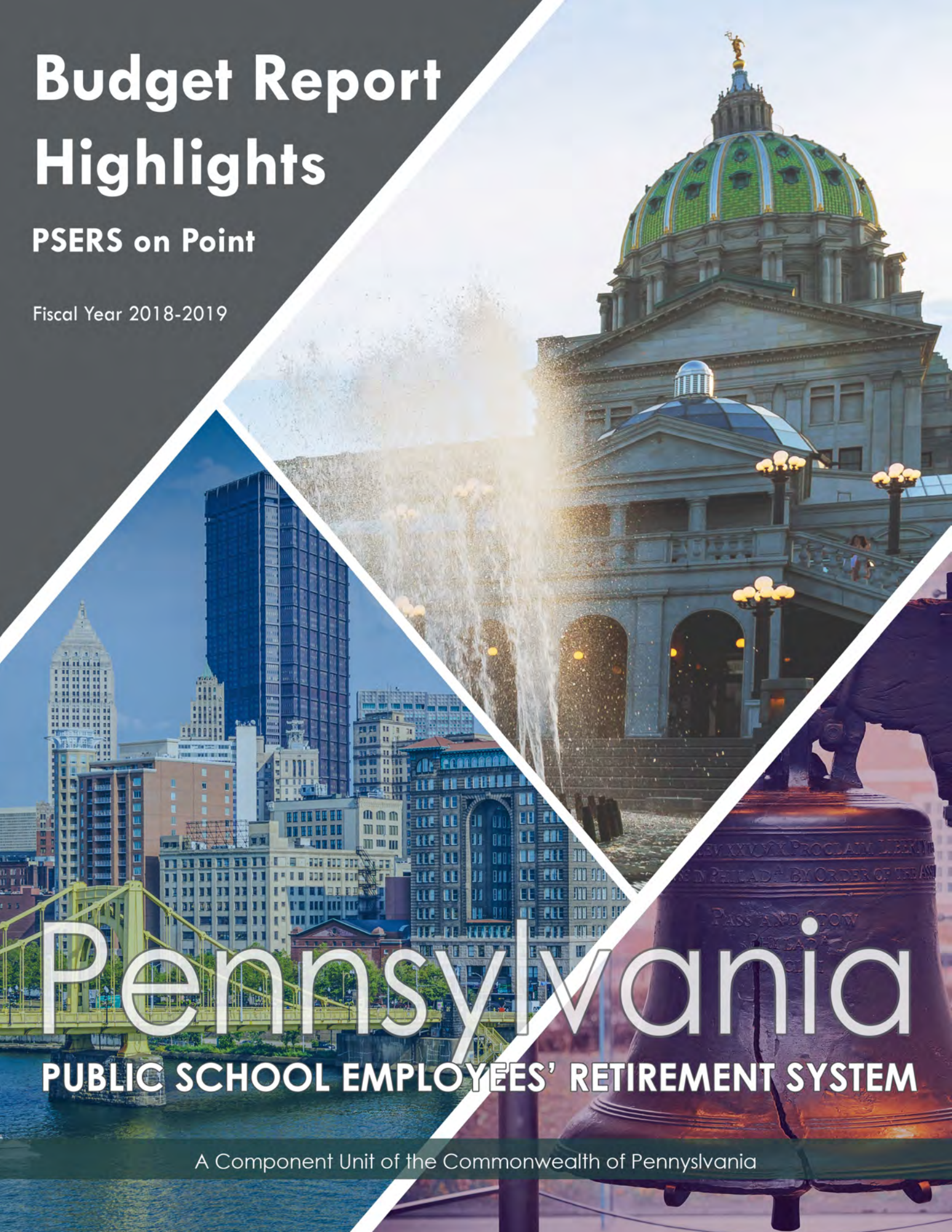


Budget Report Highlights

PSERS on Point

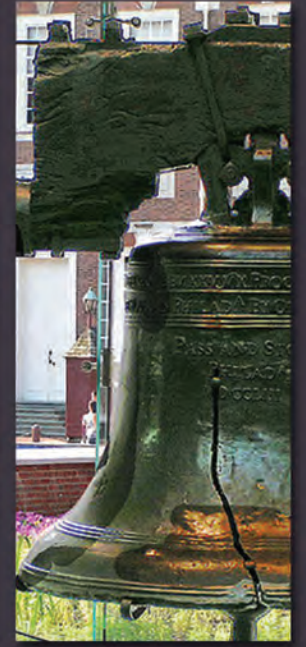
Fiscal Year 2018-2019



Pennsylvania

PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

A Component Unit of the Commonwealth of Pennsylvania



What's Inside

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Providing a Secure Retirement Since 1917

PSERS was established on July 18, 1917, to provide retirement benefits to public school employees of the Commonwealth of Pennsylvania. PSERS' total plan net assets as of December 31, 2017, were approximately \$56 billion.

Today, PSERS provides a secure retirement to over half a million current and retired public school employees.

The plan is funded through three sources:

- Employer contributions
- Member contributions
- Investment earnings

Big Changes Coming to PSERS in 2019

On June 12, 2017, Act 5 of 2017, was signed into law. Act 5 requires new members hired on or after July 1, 2019, to choose one of three new retirement plan options for their retirement benefit. Two of the new retirement plan options are hybrid plans consisting of both defined benefit and defined contribution components. The third option is a stand-alone defined contribution plan. Under Act 5 the current defined benefit plan will no longer be available to new members hired on or after July 1, 2019.



PSERS administers two postemployment healthcare programs. The Health Options Program is a group health insurance program funded solely by eligible participants. As of December 31, 2017, there were 113,000 participants. PSERS also provides up to \$100 per month in Premium Assistance to eligible retirees to help cover the cost of their health insurance. As of December 31, 2017, Premium Assistance is offered to 93,000 members.



PSERS Snapshot

PSERS is the 15th Largest State-Sponsored Defined Benefit Public Pension Plan with:

230,000
Retired
Members

256,000
Active
Members

25,000
Terminated
Vested Members

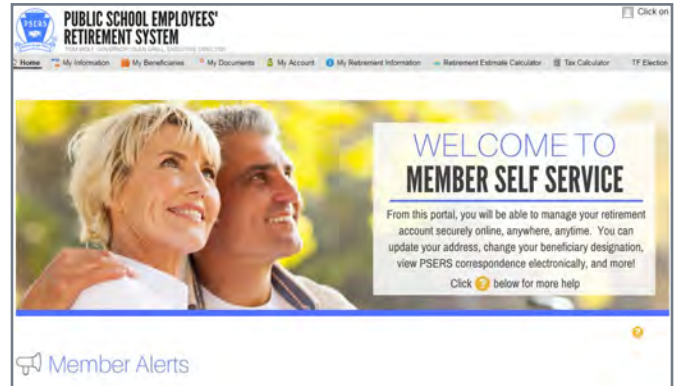
775
School
Employers

323
PSERS
Staff

Enhancing Processes to Increase Efficiency and Improve Customer Service

Ongoing Pension Administration System Upgrade -

Throughout 2017, PSERS continued to upgrade its pension administration system. This multi-year effort will culminate with implementation of the upgraded system in FY 2018. This upgraded system will provide opportunities for members and employers to conduct transactions for themselves that would have previously required staff intervention. These changes will not only increase customer service opportunities, but will also generate financial savings while potentially enabling PSERS to redeploy staff to other critical needs as workloads shift.



Customer Service Improvements -

PSERS increased its efforts to provide retirement benefits in an efficient manner through a one-step process. Approximately 93% of the retirement benefits processed in FY 2017 were paid in one-step versus 89% 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.



Regional Office Changes -

During FY 2017, the regional office in Pittsburgh relocated from its downtown location to an updated facility with better accessibility in northern Pittsburgh. Additionally, 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.

Calendar Year 2017 Customer Service Highlights



Answered
168,000
Member Calls



Responded to
15,000
Member Emails



Served
7,000
Members in
Counseling
Sessions



Issued
2.7 Million
Monthly Benefit
Payments to Members



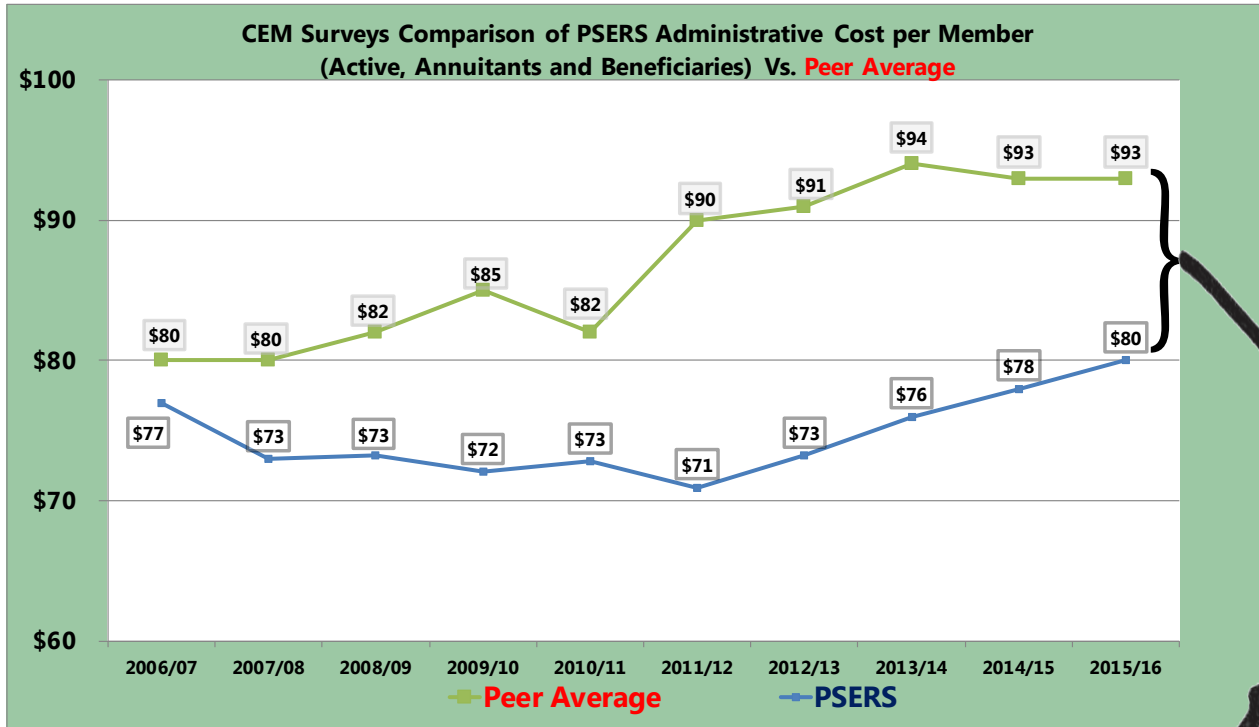
Processed
10,500
Retirement
Applications



Prepared & Issued
257,000
1099-R's

PSERS Administrative Costs are Significantly Below Peers; Saves \$6.3 Million Annually

PSERS remains prudent in its use of funds and managing its annual budget. PSERS participates in an independent, international benchmarking survey evaluating its costs and service performance in comparison to other similar public pension funds. PSERS has 29% fewer full-time equivalent staff per member than the peer group average. 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.



PSERS Saves \$6.3 Million Annually
 PSERS had a 14% lower pension administration cost per member than the average cost of its peer group.

PSERS FY 2018-2019 Budget Summary

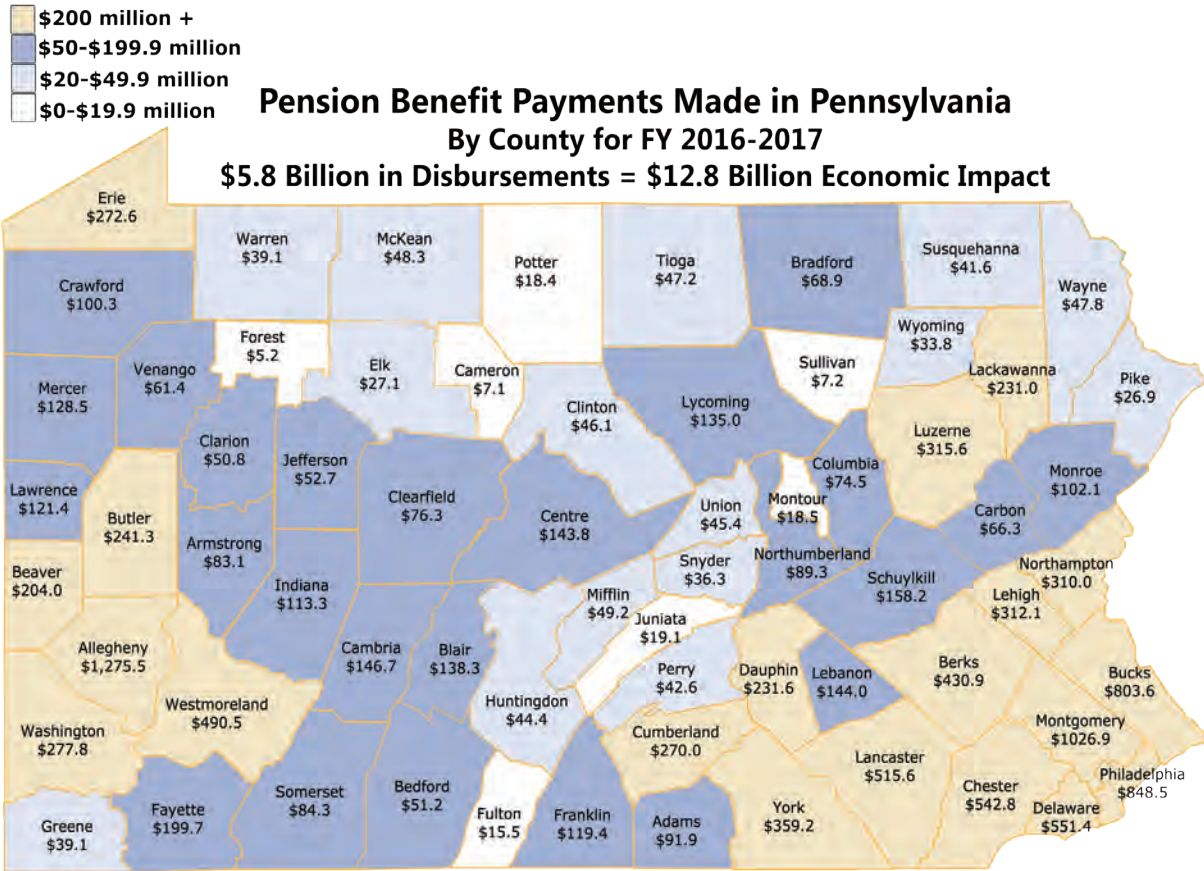
PSERS' administrative budget is not funded from the Commonwealth's General Fund, rather from the investment earnings of the Fund and member and employer contributions. PSERS' FY 2018-19 budget submission contains an Administrative budget request of \$51,637,000 and a Defined Contribution budget request of \$4,950,000. PSERS also manages non-appropriated funds that cover expenses for Directed Commissions, Health Insurance Account, Health Options Program, and Investment Related Expenses. PSERS' FY2018-19 budgets, including non-appropriated funds, total \$84,456,000.

Appropriation	PSERS' Budget Submission (000s)
Administrative	\$ 51,637
Defined Contribution	4,950
Directed Commissions	2,000
Health Insurance Account (HIA)	1,910
HIA Health Options Program	1,247
Investment-Related	22,712
Subtotal	\$ 84,456

Economic Impact to Pennsylvania: \$12.8 Billion

In FY 2016-17, PSERS pension disbursements to retirees totaled approximately \$6.5 billion. Of this amount, approximately 90%, or \$5.8 billion, went directly into Pennsylvania and local economies.

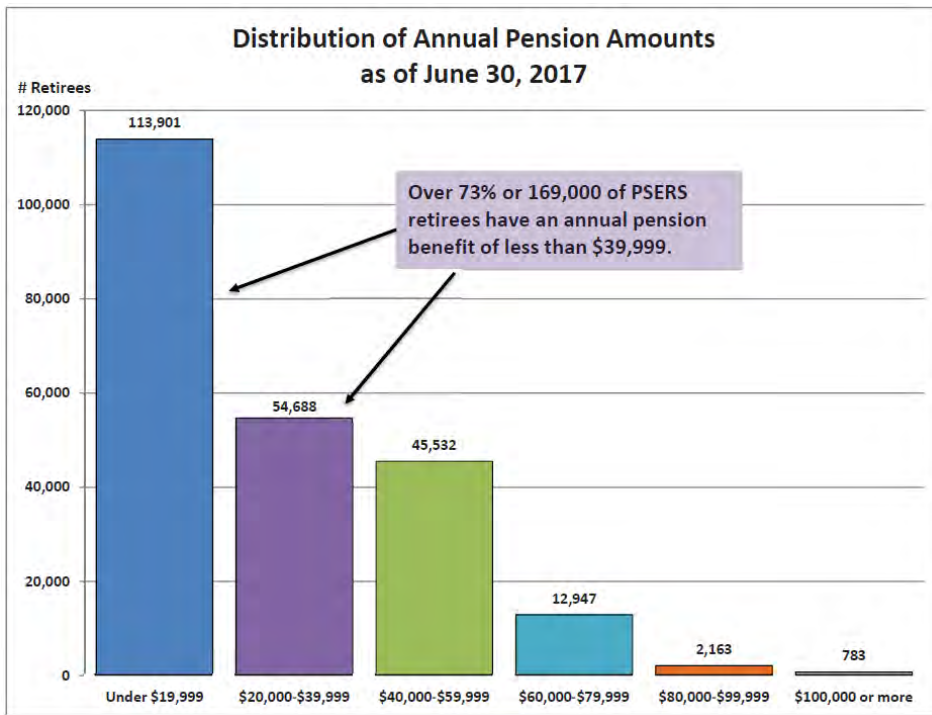
According to a study by the National Institute on Retirement Security (NIRS) this spending expands through the economy as the retiree's spending becomes another's income, multiplying the effect of the \$5.8 billion into an economic impact of \$12.8 billion throughout the Commonwealth. Estimates show that the impact of money from PSERS in Pennsylvania includes \$1.5 billion in federal, state and local tax revenues.



PSERS Members Help Fund Their Own Retirement Benefit

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. 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 private pension 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 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. In fact, over 73% of retirees have an annual benefit of less than \$39,999.



PSERS' member contribution rate is one of the highest among U.S. public pension plans that participate in Social Security.**

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.



* Based on a query of private plan IRS Form 5500 filings

** According to recent National Association of State Retirement Administrators (NASRA) data, PSERS member contribution rate is the 12th highest member contribution rate among 84 large U.S. public pension plans that participate in Social Security.

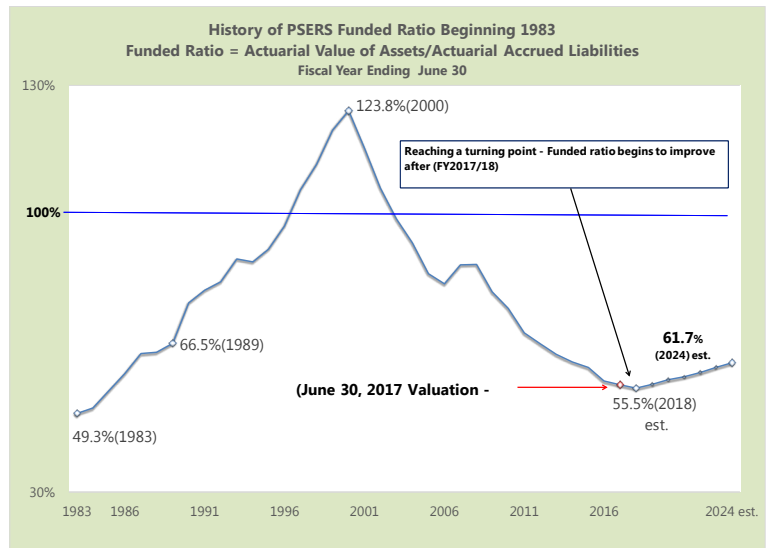
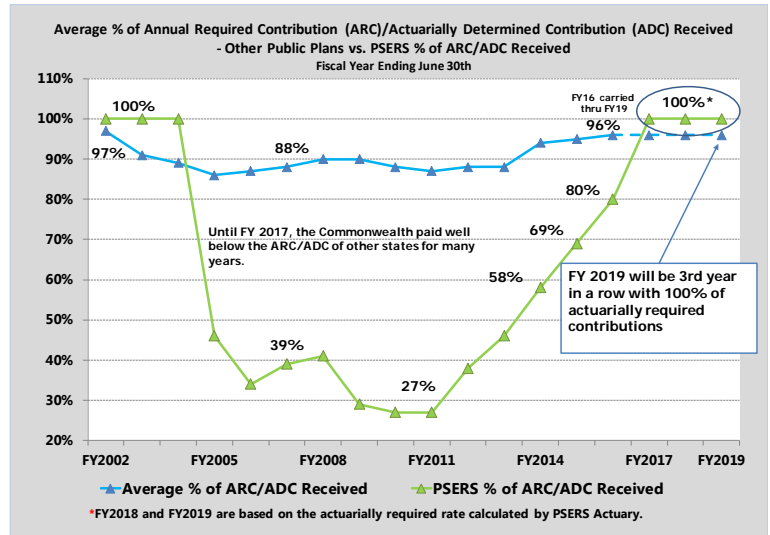
Reaching a Turning Point in 2018

An independent review of PSERS' assets and liabilities is performed annually. As part of this review, the progress toward funding PSERS' pension obligations is measured. This measurement is referred to as the funded ratio or funded status. The most recent review reports that PSERS is 56.3% funded with an unfunded liability of \$44.5 billion as of June 30, 2017.

The decreasing trend in PSERS funded status since 2000 is primarily the result of legislated underfunding by employers and the Commonwealth; unfunded benefit increases enacted in Act 9 of 2001, Act 38 of 2002, and Act 40 of 2003; funding collars in Act 120 of 2010 and the downturn in the investment markets after 9/11 and the Great Recession of 2008/2009.

PSERS funded ratio on an actuarial basis is reaching a turning point in 2018. After years of declining, the funded ratio is projected to improve as the impact of the Great Recession of 2008/2009 is fully recognized in the System's 10 year smoothing of investment gains and losses.

Additionally, the employer contribution rate certified for FY 2018-2019 marks the third consecutive year the employer rate provides 100 percent of the actuarially required rate necessary to begin to pay down the existing pension debt. In the past, various pieces of pension legislation suppressed the employer contributions paid to PSERS by the school employers and Commonwealth. FY 2017 marked the first time in fifteen years that the actuarially required rate was paid by school employers and the Commonwealth.



Paying Actuarially Required Rate is Vital to the System

While budgetary issues continue as the employer contribution rate remains high, paying the actuarially required rate is a vital step that will begin to address the already accumulated pension debt. Currently over 75 percent of the total pension contribution rate is for past service, a debt already earned that must be paid.

Funded Ratio on Market Value Basis Improves

All necessary sources of funding (full actuarial funding from employers, member contributions and investment income) are now in place and will eventually bring PSERS back to fully-funded status over time. Positive results have already occurred in some areas. On a market value basis, PSERS' unfunded liability declined in FY 2017 and continued to decline through December 31, 2017, as PSERS' total net position grew faster than its total pension liability. As a result, the funded ratio on a market value basis improved.

Act 5 of 2017: Changes Coming to PSERS

The implementation of Act 5 of 2017 requires a tremendous effort by all of PSERS staff. PSERS has begun to develop an implementation plan to meet the July 1, 2019 deadline. PSERS hired Charles W. Cammack Associates as the Pension Consultant to assist with the implementation of Act 5 and develop a 'best-in-class' caliber plan roll-out.

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.

Act 5 also 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 "shared gain" when the Fund outperforms its investment rate of return assumption.

Key provisions in Act 5 include:

- Established the Public Pension and Asset Investment Review Commission to study and report 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 eight hours per year.
- Added Secretary of Banking and Securities as Board member, ex officio, and reduced gubernatorial appointments from two to one.



New 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 current stand-alone defined benefit plan will no longer be available to new members.

Active Members

All members active on July 1, 2019, will have the option to switch from their current defined benefit plan to one of the three new retirement plan options if they so choose.



Retired Members

Act 5 does not affect already retired members or those whose retirement date was prior to June 12, 2017.



Payment for Past Service Debt is Nearly 75% of the Employer Contribution Rate (ECR)

The majority of the employer contribution rate in FY 2018-2019, approximately 75%, is for payment of the debt from past service (unfunded liability), and is not due to the payment of the current cost of benefits (employer normal cost) being earned by active members.



School employers are reimbursed by the Commonwealth for no less than 50% of the ECR.



School employers contribute full ECR amount to PSERS.



ECR Rate for FY 2018-19:
33.43%



Every ECR Dollar is Broken into Three Parts



74.8% of every dollar for **Past Services Payment** (Unfunded Liability)



22.7% of every dollar for **Current Services Payment**

2.5% of every dollar for **Healthcare Premium Assistance***



*per § 8509 in the Retirement Code

Increasing Fee Transparency and Internally-Managed Assets

Historically, PSERS is 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 as well, even if it is not specifically disclosed in the fund's standard reports. This information is then used to 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.

Additionally, PSERS has made using the ILPA (Institutional Limited Partners Association) reporting template a mandatory side letter term for all private manager contracts approved by the Board since May 2016.

PSERS aggressively negotiates fees and works to structure fee arrangements that align the interests of the investment manager with those of PSERS. PSERS recently embarked on an expanded effort to reduce base fees on a going forward basis in exchange for profit-sharing fees, thus creating greater incentives for exceptional performance.



Susan Oh, Senior Portfolio Manager, Risk Parity and Currency Hedging

FY 2016-17 fees are lower than FY 2012-13 fees despite the fact that PSERS now manages \$4 billion more in net assets.

PSERS Manages a Large Portion of its Assets In-House

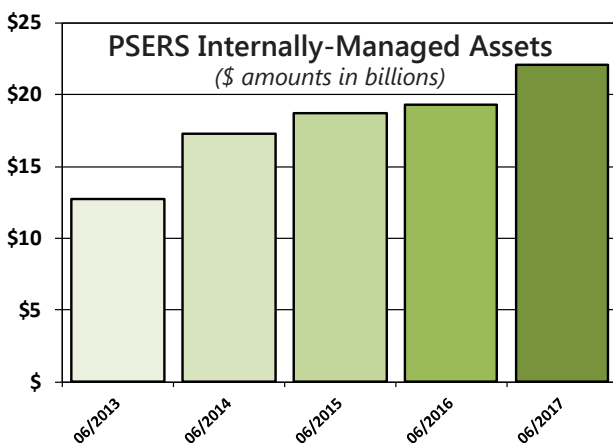


From left: Thomas A. Bauer, Deputy Chief Investment Officer, Traditional Investments; James H. Grossman Jr., PSERS Chief Investment Officer; Charles J. Spiller, Deputy Chief Investment Officer, Non-Traditional Investments

During FY 2017, PSERS increased the amount of asset exposure managed internally from \$19.3 billion, or 35% of PSERS' exposures, to \$22.1 billion, or 36% of the System's exposures. Asset classes such as U.S. equities and gold are entirely managed in-house by PSERS investment professionals. Other asset classes such as non U.S. equities, fixed income, private markets, commodities, real estate, risk parity and master limited partnerships are partly managed in-house by PSERS investment professionals.

PSERS uses both internal investment professionals and external investment managers to invest its assets. As of June 30, 2017, PSERS employed 37 internal investment professionals with a variety of professional credentials including: Chartered Financial Analysts, Certified Public Accountants, Masters of Business Administration, Chartered Alternative Investment Analyst, and a Professional Risk Manager.

By bringing more assets in-house, PSERS generates investment management fee savings. When assets are assigned to PSERS' investment professionals, the total costs (e.g., staff salary and benefits, computers and office supplies) are much lower than the largest "very low fee" index mutual fund companies, giving PSERS a significant advantage. Using conservative estimates, the management fees savings on managing \$22 billion in-house is approximately \$39 million per year.



Maintaining a Prudently Diversified Asset Allocation

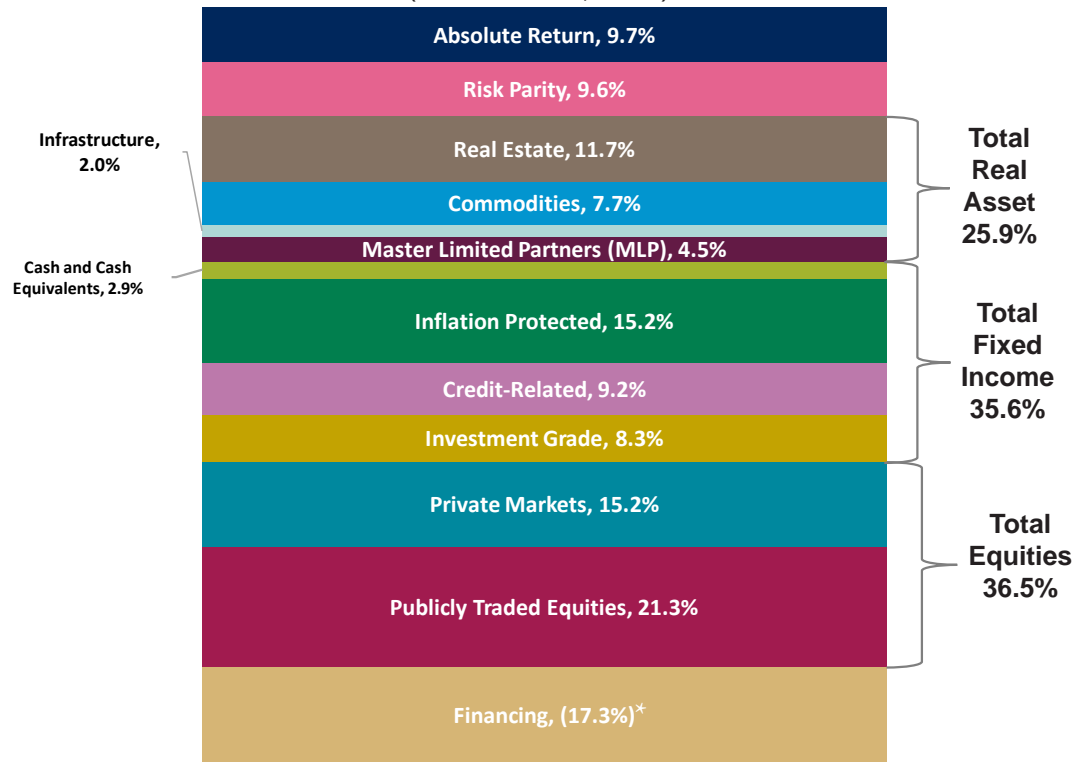
PSERS Board reviews and approves the long-term asset allocation annually taking the following factors into consideration:

- Investment Time Horizon
- Demographics
- Actuarial Assumptions
- Employers' Financial Strength
- Cash Flow
- Funded Status
- Board's Willingness to Take Risk

PSERS Board reviews and approves the long-term asset allocation annually. The Board consults with its actuary, investment consultants, and PSERS internal investment professionals to formulate the asset allocation plan. With interest rates on cash investments around 1%, PSERS needs to take prudent risk to achieve its long-term goal of a 7.25% return. The level of risk taken by PSERS is largely determined by the Board's strategic asset allocation plan.

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 during times of soaring equity markets, 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.

Asset Allocation (as of June 30, 2017)



PSERS' Asset Allocation is well-diversified into numerous asset classes.

**PSERS uses financing to achieve increased economic exposure to diversifying asset classes to manage overall portfolio risk while maintaining an allocation designed to achieve the long-term goals of the System.*

Long-Term Investment Performance Consistently Outperforms

PSERS is a long-term investor and manages the Fund with long-term objectives (i.e., 25 to 30 years) in mind. The System has built a diversified allocation that positions the Fund to earn its return assumption of 7.25% over the long-term although annual fluctuations will occur. PSERS believes the best way to achieve its long-term objectives is to maintain a very diversified portfolio which includes all asset classes available to it, such as equities, fixed income, real assets, risk parity and absolute return.

In the short-term, PSERS expects to go through periods of time when the Fund may not earn its return assumption. This past fiscal year the Fund beats its earnings assumption.

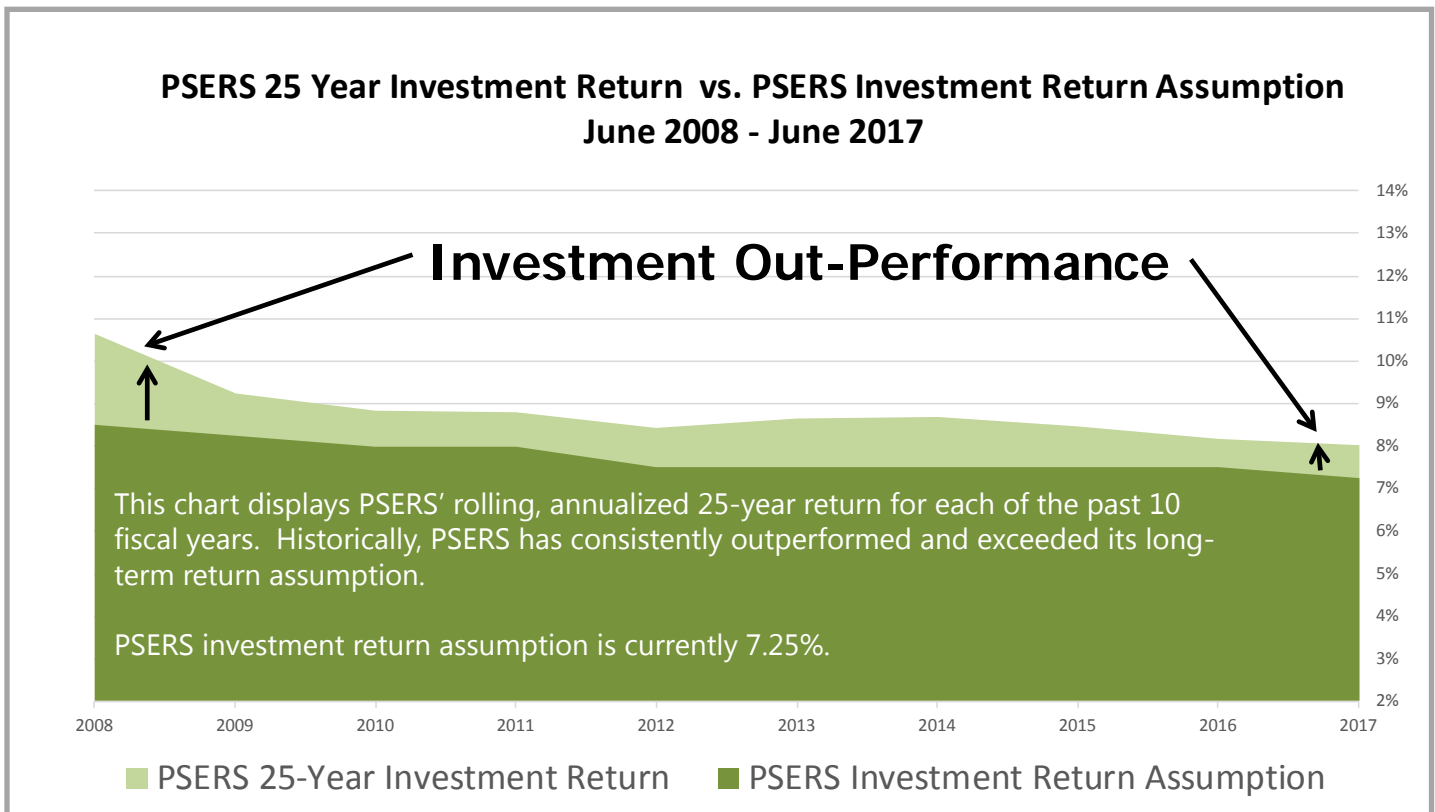
For the period ended June 30, 2017, PSERS posted returns of:

- One-year: 10.14%, added \$5.0 million in net investment income
- Five-year: 7.35%, added \$18.0 billion in net investment income
- 10-year: 3.80%, added \$16.5 billion in net investment income
- Since Great Recession: 9.28%, added \$34.5 billion in net investment income

For the one-year period ended December 31, 2017, PSERS earned a net of fee return of 12.3% and added \$6.2 billion in net investment income.

In any given year, PSERS expects some assets to perform well, such as public and private equities did this past fiscal year, and some to not do as well, such as commodities. Over the long run, however, the System expects each of its asset classes to generate a positive return commensurate with the risks taken.

Long-term returns continue to remain above PSERS' return assumption. PSERS posted a positive return of 8.03% for the 25-year period ended June 30, 2017. PSERS' focus remains on maintaining a well-diversified asset allocation that can withstand the volatility in the markets, provide enough liquidity to meet cash flow obligations (primarily monthly benefit payments), and meet PSERS' earnings assumption over the long-term which the Fund has consistently done.



Maintaining a High Level of Information Security and Financial Governance

Special Performance Audit Completed in 2017

During FY 2017, the Pennsylvania Department of the Auditor General completed a complex Special Performance Audit of PSERS. 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.

Financial Governance and Disclosure

PSERS is considered a component unit of the Commonwealth of Pennsylvania as defined by the Governmental Accounting Standards Board. An annual audit of the System by an independent certified public accounting firm is required by the Retirement Code. PSERS has received an unmodified opinion as evidenced in the Report of Independent Public Accountants in the Financial Section of the Comprehensive Annual Financial Report, which is available on PSERS' website psers.pa.gov. 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 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.



Information and Security Remains Top Priority



Steven Hocker, PSERS Chief Information Security Officer

Understanding the importance of keeping member data protected, PSERS appointed a Chief Information Security Officer (CISO) 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. 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 in 2018. 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.

Awards Received During the Past Fiscal Year



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

– This prestigious national award recognizes conformance with the highest standards for preparation of state and local government financial reports. PSERS has received this award for 34 consecutive years from FY 1983 to FY 2016.

GFOA Popular Annual Financial Reporting Award – This prestigious national award recognizes conformance with the highest standards for preparation of state and local government popular reports. This was PSERS' first Popular Annual Financial Report publication.

Public Pension Coordinating Council Public Pension Standards Award - The Public Pension Coordinating Council has awarded its Public Pension Standards Award to PSERS for 2016 in recognition of meeting professional standards for plan design and administration.

CIO Industry Innovation Award - 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.

January 2018 PSERS Board of Trustees

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Nathan G. Mains, Vice Chairman
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Honorable Stephen Bloom
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Secretary of Banking and Securities

Contact PSERS

This document and PSERS Budget Report are available on the “Publications” page on PSERS’ website at www.psers.pa.gov



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