Pennsylvania Public School Employees' Retirement System

Annual Comprehensive Financial Report

Fiscal Years Ended June 30, 2023 and 2022

A Component Unit of the Commonwealth of Pennsylvania

Pennsylvania
Public School Employees'
Retirement System

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for the
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Report prepared by the Public School Employees' Retirement System
Office of Financial Management Staff with support from many areas of PSERS

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Letter of Transmittal

COMMONWEALTH OF PENNSYLVANIA
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December 13, 2023

The Honorable Joshua D. Shapiro, 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 Shapiro, Legislators, Members, Employers' Board Members, and PSERS Board of Trustees:

We are pleased to present the 104th edition of the Annual Comprehensive Financial Report (ACFR) for the Pennsylvania Public School Employees' Retirement System (PSERS, System, or Fund) for the fiscal years ended June 30, 2023, (FY 2023) and 2022 (FY 2022). This report provides 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.

This year's theme highlights PSERS' dedication to and ongoing partnership with its members from the very first day of their career in public education and every day thereafter. When one becomes a PSERS member, they join one of the oldest and largest public pension funds in the United States. Our goal is to make navigating this relationship as seamless as possible for our members, which is why PSERS partners with school employers to provide planning assistance through their eventual retirement. When that milestone is reached, members can count on PSERS to be there, guiding members through the first steps of the journey and answering their questions about retirement options, post-employment programs and other services needed throughout retirement.

The System was established on July 18, 1917, to provide retirement benefits to public school employees of the Commonwealth of Pennsylvania (PA). Eligible members include all full-time public school employees, part-time hourly employees who render at least 500 hours of service in the school year, and part-time per diem employees who render at least 80 days of service in the school year in any of the reporting entities in Pennsylvania. As of June 30, 2023, the System had approximately 251,000 active members with an estimated annual active payroll of $15.3 billion.

The annuitant membership at June 30, 2023, was comprised of approximately 250,000 retirees and beneficiaries who receive approximately $552 million in monthly pension and healthcare premium assistance benefits. The average yearly benefit paid to annuitants is $26,197. (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.)

PSERS benefit payments provide a stable source of revenue for local economies throughout Pennsylvania. In FY 2023, PSERS distributed $6.7 billion or 90% of total pension benefits to annuitants who resided in Pennsylvania. These pension benefits are a significant driver that benefit the Commonwealth's economy. (See the Pension Benefits by County Map in the Introductory Section of this report.)

PSERS also administers the Premium Assistance Program providing a health insurance premium subsidy of up to $100 per month for qualifying retirees. On June 30, 2023, there were approximately 93,000 members participating in the Premium Assistance Program. Additionally, PSERS manages the Health Options Program (HOP), a dedicated health insurance program which is entirely funded through participating member premiums. HOP provides Medicare Supplemental, Medicare Advantage, Prescription Drug, Dental, and Vision plans to over 123,000 annuitants and their dependents.

The System is a governmental cost-sharing, multiple-employer defined benefit pension plan to which most members and reporting units contribute. PSERS also administers a defined contribution plan to which all new members and reporting units contribute. PSERS is administered by a staff of 382 and has 770 reporting units as of June 30, 2023. The System is headquartered in Harrisburg, Pennsylvania, and is supported by seven regional 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 15-member 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 the fiscal year 2023 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 ACFR. An unmodified opinion means that PSERS' financial statements fairly present, in all material respects, its financial condition. No significant findings were noted during the audit and, therefore, a management letter was not issued. This is the fourteenth consecutive year that a management letter was not issued by the independent auditors and is reflective of the hard work and dedication of PSERS' Board and staff to continue to improve the internal controls, operations, and efficiency of the System.

Economic Summary

PSERS constructs its asset allocation plan balancing the return, risk, and correlation with each asset class as well as the financial objectives of the Fund. A primary element of PSERS' investment philosophy is diversification among various asset classes as an effective method to realize its goals while addressing uncertainty across capital markets from shifting macroeconomic and geopolitical environments. Over the past year, several such shifts emerged, with three themes (rising interest rates, tighter credit markets, and geopolitical uncertainty) having particular significance.

- *Rising Interest Rates* – This fiscal year witnessed a significant shift higher of 350 basis points in the over-night interest rates from 1.50%-1.75% to 5.00%-5.25%. This represents a continuation of rate hikes from last fiscal year as the Federal Reserve seeks to address concerns over higher inflation rates resulting from the fiscal responses to COVID-19 and supply-chain challenges. While inflation concern has subsided somewhat from its highs (core inflation peaked at 6.6% in September 2022, compared to 4.8% as of June 30, 2023), it remains elevated in the face of strong labor markets and buoyant economic activity, making the future of monetary policy direction uncertain. However, the resulting higher rates on cash have implications across the entire PSERS portfolio, most notably on the return for holding cash, the cost for employing leverage, and risk-return value proposition for all other asset classes relative to cash.

- *Tighter Credit Markets* – Partially because of the higher interest rates described above, Silicon Valley Bank collapsed and was taken over in March 2023. This was followed by takeovers of Signature Bank that same weekend and then First Republic in May. The initial market turbulence and concerns about contagion of cash withdrawals in other regional banks was quickly quelled through decisive government action. However, these events highlighted and exacerbated a shift towards tighter credit markets, particularly for Commercial Real Estate (CRE), as regional banks demonstrated a reduced appetite for this long-term debt given the short-term, and potentially uncertain nature of deposits relied on to fund such debt. Lending for office and retail related inventory has been most acutely impacted as employers have proven reluctant to require employees to return to the office following the shift to online working that occurred in response to COVID-19. Fewer employees coming into the traditional office centers has also translated into less foot traffic for traditional retail located in these centers. The implications of tighter credit markets, together with higher interest rates, lower occupancies and less foot traffic presents risk to the equity holders, particularly where the degree of leverage underlying such properties is high and the related maturities are relatively near. However, this disruption among bank lenders, presents opportunity for lenders with longer term capital to be more discerning within sectors of real estate with better outlooks, such as multifamily and industrial use properties.

- *Geopolitical Uncertainty* - While Russia's invasion of Ukraine most directly impacted capital markets in the prior fiscal year, the resulting geopolitical uncertainty has influenced how investors frame investment choices across geographic regions. The long-standing theme of globalization based on the economics of comparative advantages, has more recently given way to more pragmatic discussions regarding supply chain resiliency or nearshoring/onshoring of activities that had previously been offshored. This further complicates the assessment of relative value across regional classifications, which were already clouded given differences in sector composition, financial reporting transparency, and basic investor rights across jurisdictions. Accordingly, some investors (including PSERS) have revisited and revised long standing strategic over/underweights to certain geographical regions (e.g., Public U.S. relative to Emerging Market equity allocations). We believe this trend will influence the flow of capital across regional classifications and likely impact relative market valuations over the next three to five years.

Status of Pension Funding Initiatives

The ongoing budgetary commitment of Governor Josh Shapiro and the Legislature authorizing state and school employers to pay the full amount of the actuarially determined contributions continues to help improve PSERS' funded status.

From FY 2017 to FY 2023, PSERS received full actuarial funding from school employers and the Commonwealth after 15 previous years of underfunding. 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 and return PSERS to fully funded status.

During FY 2023, investment market volatility proved to be challenging. PSERS achieved a fiscal year return of 3.54% which was below the Fund's long-term earnings assumption of 7.00%. Pension plans like PSERS are well-diversified and built to generate long-term returns, so one single year's result is not expected to have a significant impact on the System's funded status.

On an actuarial basis, the funded ratio was 61.6% at June 30, 2022, the most recent actuarial valuation. Subject to future investment returns and continued commitment to making employer contributions, the actuarial funded ratio is expected to climb to near 80% by 2032. The System's funded ratio on a market-value basis was 61.85% at June 30, 2023. The FY 2023 funded ratio decreased on a market-value basis due to lower investment returns in FY 2023. The longer-term trends remain positive. Since June 30, 2016, when full actuarial funding began, the System's market value unfunded ratio increased from 50.14% to 61.85% at June 30, 2023.

Major Initiatives

Organizational Changes and Developments in 2023

Organizational change and implementation of governance reforms continued during FY 2023.

FY 2023 included the hiring of a new Chief Investment Officer, a Chief Compliance Officer (CCO), and a Director of Governance and Strategic Initiatives, as well the development of a Strategic Plan for the Agency.

- PSERS Board hired **Ben Cotton** as PSERS Chief Investment Officer in January 2023 to oversee PSERS' multi-billion-dollar contributory defined benefit governmental pension fund. He provides investment counsel to the Board, and as a member of the senior leadership team, serves as the central point of responsibility and accountability for the investment program.
- **Elizabeth Goldstein** was hired as PSERS first Chief Compliance Officer in July 2023. The CCO coordinates compliance with respect to all activities of the System, including participating in the review of the existing investment compliance program and processes, and more broadly ensuring compliance with various laws, regulations, and policies, including ethics, and other related policies and/or procedures.
- **Eric Decker** joined PSERS as Director of Governance and Strategic Initiatives. In this role, he facilitates the Board's strategic planning process and implementation, oversees policy governance at both the Board and staff level, and manages the System's Enterprise Risk Management program.
- PSERS is actively engaged in the process of filling two positions within senior leadership: a Chief Financial Officer and a Director of Government Affairs and Stakeholder Engagement.

Strategic Plan

In late 2022, PSERS hired a consultant to assist PSERS with developing a strategic plan for the Agency. The Board formally adopted a strategic plan framework for our organization in August 2023. The strategic plan represents months of hard work by both members of the Board and staff to better define and plan the work the agency is committed to doing each and every day, now and into the future.

The Board identified six strategic priorities:

- Enhance member satisfaction throughout the customer experience.
- Enhance comprehensive and transparent financial reporting and forecasting.
- Develop the organizational culture and staff/leadership competencies to meet the demands of the future.
- Implement a robust enterprise risk management program.
- Enhance communications, collaboration, and the education of all critical stakeholders.
- Align all organizational units and functions with PSERS' strategic priorities.

These strategic priorities are supported by 25 initiatives, many of which are either already under way or will begin soon. These clearly articulated priorities and initiatives provide the focus we need to efficiently work together on the right things at the right time. PSERS strategic plan is available on PSERS website at www.psers.pa.gov.

Updated Mission, Vision and Values

To ensure that PSERS' strategic plan was created with a sense of purpose and built on a strong foundation, we revisited and ultimately revised PSERS' mission, vision, and values. This marked the first revision of PSERS' mission, vision and values statement since 2008. We strongly believe that by committing to this new mission, vision, and set of values, we will accomplish everything that we set out to achieve.

Member Communication and Services

Member Customer Service

PSERS continues to make improvements to its member service offerings, its pension administration system, and the associated online functionality.

The agency continues to utilize monthly targeted email messages to all members including aspects unique to DC plan participants. Multiple surveys have been completed to solicit feedback on a variety of topics including: the online portal, the DC Plan experiences, and overall engagement and satisfaction. The results of these surveys will assist in developing PSERS' short-term and long-term communication plans and the redesign of existing communication materials. Additional proactive efforts are being conducted through various means to promote the accuracy of beneficiary and address information, the availability of online counseling and education services, and the opportunity for new members to make a class election.

To continue enhancing the services available to our members, PSERS is conducting the large group educational presentations (Foundations for Your Future) virtually instead of only providing them on-site. As new services and online functionality have been added, the number of interactions with members has continued to grow through the years.

PSERS completed a study to determine what the staffing complement should be for the member focused customer service areas. There were also a series of operational efficiencies suggested that have been evaluated and are being implemented where feasible. Based on the results of this study the PSERS Board of Trustees has approved increasing staffing in this business area by up to 20 additional positions. PSERS will be easing into this increase in member focused customer service staff to ensure it is an efficient use of resources while also ensuring optimal customer service.

Member Self-Service

The PSERS Member Self-Service (MSS) Portal continues to be a tremendous success. Since being implemented in April 2018, more than 250,000 members have created an online account and conducted nearly 500,000 transactions for themselves. The most common actions taken are to create their own retirement estimates, update their beneficiaries, address, and generate their own income verification. MSS has facilitated nearly 91% of all MSS accounts to go paperless and receive information from PSERS electronically. This paperless opportunity has generated more than $2,000,000 in cumulative savings since inception in FY 2018.

New functionality was added to enable PSERS members to update their banking information online. The IRS' revisions to the W-4P for federal tax withholding were also incorporated. Likewise, our office is exploring the feasibility of creating an online calculator so that members can determine their own tax withholding amounts.

Work is underway to enable members to submit a refund application online, expediting the process and reducing the need for manual intervention, and then eventually to allow members to submit their retirement application online as well. PSERS is also in the process of moving to a cloud-based pension administration system which is anticipated to enhance system performance and provide the opportunity for improved services to our members and employers.

PSERS Health Options Program Update

The PSERS Health Options Program (HOP) continued to see steady growth in enrollment and had more than 123,000 PSERS retirees, spouses, and dependents enrolled as of June 30, 2023. Within the plan, there is a Dental Program offering and a Vision Program offering, each of which had over 34,600 enrollees as of June 30, 2023.

- In addition, the Centers for Medicare and Medicaid Serves (CMS) bestowed a 4.5 Star Rating on HOP's Prescription Drug Employer Group Waiver Plan for the second straight year. By comparison, the average CMS plan rating was 3.11 in CMS' annual review of 48 prescription drug plans. PSERS HOP program was one of only six plans evaluated to rate at 4.5 Stars or higher. CMS' Medicare Star rating program evaluates Medicare Advantage (MA) and Prescription Drug Programs (PDP) based on a number of metrics around quality and performance. Rating criteria is based on a 1-to-5 point system. The ratings help members select the best plans for themselves or their families.

Investment Office Developments

FY 2022 and FY 2023 was a time of continued development in the Investment Office. In addition to new leadership and the heightened focus on internal controls noted above, the investment staff continues its focus on implementing the Strategic Asset Allocation (SAA) targets approved by the PSERS Board, on August 11, 2023, effective from October 1, 2023. While continuing the prudent reductions to more expensive strategies approved for the previous targets, the new targets reduce leverage from 7.5% to zero, increase investment grade fixed income assets from 10%

to 14%, and make other adjustments within public equity and real assets that better reflect present economic environment described above.

As a result of the Board's direction to prudently reduce allocations to more expensive strategies, investment related expenses relative to net assets continues to decline. As the Fund's net assets rose 23 percent to $72.8 billion between FY2020 and FY2023, Investment Related Expenses declined 31 basis points (bps), from 87 bps to 56 bps, representing a go-forward annualized savings of $215 million assuming present plan asset values. Prospectively, investment related expenses as a percent of net assets should reduce further to approximately 39 bps once the investment staff brings allocations in line with the SAA targets.

Over the past several years, the investment staff has also focused on increasing internal management of assets where to do so resulted in lower investment related expenses overall, without compromising return expectations. As a result, internally managed assets increased from 46% of the Funds assets in 2022 to 50% as of June 30, 2023. Going forward, however, we expect that this trend will stabilize, and in some instances reverse, as the investment staff reaches the limits of prudently available saving through internal management. The Board's recent approval for the outsourcing of PSERS derivatives trading exemplifies this shift. The increased operational cost associated with evolving regulations over such activities combined with the availability of highly qualified, well-resourced, lower-cost external solutions, in this case results in improved efficiencies and a more robust control environment through outsourcing.

Financial Highlights

The fair value of the System's fiduciary net position increased by $1.6 billion during FY 2023 to $72.8 billion as of June 30, 2023. The System is the 16th largest state-sponsored public defined benefit pension fund in the nation and the 34th largest among public and corporate pension funds in the nation as reported in the latest Pension and Investment survey published February 13, 2023. (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 2023, PSERS provided approximately $8.2 billion in pension and healthcare benefits to its members.

Budgetary and Financial Governance

PSERS manages multiple budget appropriations which support its ongoing operations. Each October, the agency submits its budget requests to the Governor's Office of the Budget. PSERS' Administrative and Defined Contribution budgets require legislative approval. None of PSERS' budgets are funded from the Commonwealth's General Fund, but rather from the earnings of the Fund itself or participant charges. For FY 2023, the budgets for the System's two largest appropriations, the Administrative and the Investment Related Expenses, were $55.5 million and $36.2 million, respectively. Historically, the agency has underspent its approved budgets, keeping more funds available to invest for PSERS' members.

PSERS continues to be a leader among large U.S. public pension funds of similar size and complexity in its effective control of expenses while providing necessary services to its membership. During the last several years, the number of active and retired members electing to receive newsletters, statement of accounts, 1099-Rs, and other publications electronically has continued to grow, which saves the agency over $275,000 per year in postage, printing, and paper costs. During FY 2023, the agency lowered its consultant and legal fees, reduced real estate rental expenses, and decreased electricity costs, all of which preserve more of PSERS' assets for the benefit of the Fund and its members.

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, the agency had an 11% 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 $6.4 million annually in administrative expenses compared to its peers.

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, 2022) 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 61.6%. (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

Income from the investment portfolio represents the major source of revenue to the System, accounting for 53% of total revenues over the 25-year period from FY 1999 to FY 2023. The investment portfolio, which is one part of the System's net position, totaled $71.7 billion, at fair value, as of June 30, 2023. For FY 2023, the time-weighted net rate of return on the System's investments was 3.54%.

The Board has continued to fulfill its mission to maintain the 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 10-year period ended June 30, 2023, was 7.46% and exceeded the Fund's current long-term investment rate of return assumption (7.00%). Of utmost importance to the Board is the assurance that the required reserves are available for payment of retirement benefits.

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

- to generate returns to support the System's actuarial soundness so it may provide its members with benefits as required by law;
- to earn a long-term total return, net of fees, investment, and administrative expenses, that equals or exceeds the actuarial assumed rate approved by the Board;
- to earn a long-term total return, net of fees, and investment expenses, that equals or exceeds the Policy Index approved by the Board; and
- to prudently manage investment risks that are related to the achievement of investment goals.

(Additional information on the System's investments is contained in the Investment Section of this report.)

Defined Contribution Plan

The Defined Contribution (DC) Plan has continued to rapidly grow. As of June 30, 2023, there were approximately 64,000 participants with a total DC Plan balance nearing $202 million. The Retirement Code requires the DC Plan to provide no less than 10 investment options offered by three or more investment providers. Currently, the DC Plan lineup includes seven providers offering six asset classes and a portfolio of target funds, totaling 19 investment options among which participants can choose to diversify their portfolio. If participants do not select individual investment options for themselves, they automatically default into a T. Rowe Price target date investment based on their date of birth.

In building upon the communication efforts within the relatively new defined contribution program, PSERS continues to create multiple new education pieces on topics varying from general plan overviews, diversification, data security, maximizing savings and retirement readiness. PSERS also continues to solicit feedback and conduct specialized surveys to better understand participants' opinions regarding their financial wellness and investment preferences.

Federal and State Tax Status

The System's defined benefit and defined contribution plans are qualified trust funds under Section 401(a) of the Internal Revenue Code (IRC). As a result of the qualified status, the trust funds are entitled to an exemption, under Section 501(a) of the IRC, from federal income taxation on their investment earnings. Additionally, contributions made on behalf of the active members are tax deferred under Section 414(h) of the IRC. The trust funds and any benefits accruing to PSERS members 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 defined benefit plan and its underlying trust qualify under the provisions of Section 501(a) of the IRC and therefore are exempt from federal income taxes. A similar letter from the IRS dated April 3, 2019, was received for the defined contribution plan.

Internal Controls and Reporting

PSERS' management is responsible for internal controls which are 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.

In addition, PSERS undergoes a thorough and robust internal controls assessment annually. This year, the assessment is focused on eight areas of PSERS operations: Actuarial Reporting, Actuarial Valuation, Financial Reporting, Human Resources, Information Technology, Investments, DC Plan, and Governance. Each internal control assessment is based on five major components as described by the Committee on Sponsoring Organizations (COSO): Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring.

As required by the Commonwealth, PSERS will submit the assessment and monitoring plan to the Commonwealth's Office of Budget by December 2023. No significant deficiencies have been identified in past internal control assessments.

PSERS has started a multi-year plan to conduct a SOC 1/Type 2 Review and Audit, a rigorous review/audit of operations and controls. This initiative is on the agency's strategic plan and the audit is scheduled to finish in 2025.

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, SB & Company, LLC, and an annual valuation by Buck Global LLC attest to the financial and actuarial soundness of PSERS. The investment performance of the System was calculated by investment valuation firm, Aon Investments USA Inc. on a quarterly basis. The Board's general investment consultant was Verus Advisory, Inc. (Other consultants who provided services to the System are listed in the Financial Section and Investment Section of this report.)

Litigation and Contingencies

In 2021, the System received subpoenas from two federal agencies regarding the certification of the shared risk member contribution rate in December 2020, as well as the purchase and valuation of certain directly-owned properties. In August 2022, PSERS was informed by the U.S. Department of Justice that it had closed its investigation of PSERS. PSERS is cooperating fully with the remaining federal investigation which is ongoing. PSERS initiated a lawsuit in November of 2022 against Aon Investments USA, Inc. alleging, among other things, breach of contract for its services relating to PSERS' investment performance reporting.

The System is subject to various threatened and pending lawsuits. The System had a lawsuit filed by a board member regarding access to various documents and communications related to investments. It is the opinion of management that the ultimate liability arising from such threatened, pending litigation and investigations will not have a material effect on the financial position of the System.

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. 52, No. 26). This information can be found at: http://pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol52/52-26/967.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 Annual Comprehensive Financial Report for the fiscal year ended June 30, 2022. 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 annual comprehensive financial report whose contents conform to program standards. Such an annual comprehensive 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 40 consecutive years, from FY 1983 to FY 2022. 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 Annual Comprehensive 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 2023 certificate.

GFOA Popular Annual Financial Reporting Award

The 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, 2022, 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.

A Certificate of Achievement is valid for a period of one year. PSERS has received a Certificate of Achievement for seven consecutive years, from FY 2016 to FY 2022. Its attainment represents an important accomplishment by the System.

Public Pension Coordinating Council Public Pension Standards Award

The Public Pension Coordinating Council has awarded its Public Pension Standards Award for Funding and Administration to PSERS for 2022. This award is in recognition of meeting professional standards for plan design and administration as set forth in the Public Pension Standards. Achievement of the Funding portion of this award is in recognition of the commitment of the Governor and General Assembly to fund 100% of the actuarially determined contributions.

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 (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.

Acknowledgments

The preparation of this report reflects the combined efforts of PSERS' staff under the direction of the PSERS Board. Our sincere appreciation is extended to all who assisted in and contributed to the completion of this document. This report is intended to provide complete and reliable information in conformance with accepted standards and to document responsible stewardship of the System's assets.

We embrace our responsibilities of being prudent stewards and to proactively prepare for the future. We will continue to work closely with our Board, members, employers and stakeholders and are committed to a collaborative, positive approach to move the Agency forward for the benefit of our members.

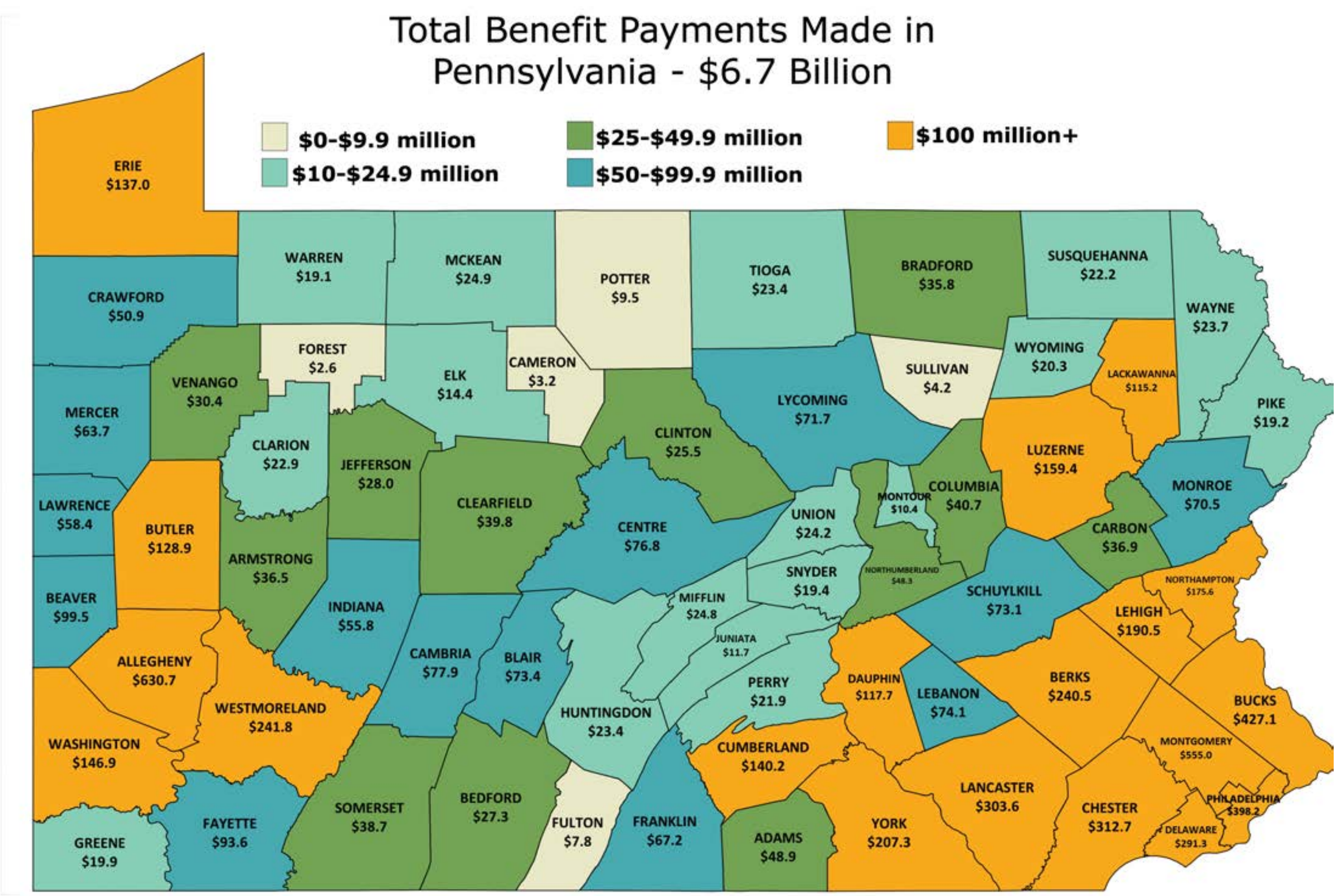
Respectfully submitted,

Terrill J. Sanchez Executive Director	Andrew D. Fiscus, CPA Acting Chief Financial Officer

Pension Benefits by County
Fiscal Year 2023
(Dollar Amounts in Millions)

PSERS provides a stable source of revenue for Pennsylvania's local economies. Each year, PSERS pays out billions in pension benefits to retired members who reside in Pennsylvania. In fiscal year 2023, PSERS pension benefits to retirees totaled approximately $7.46 billion. Of this amount, nearly 90%, or $6.7 billion, went directly into state and local economies. These pension benefits are a significant driver that benefit the Commonwealth's economy.

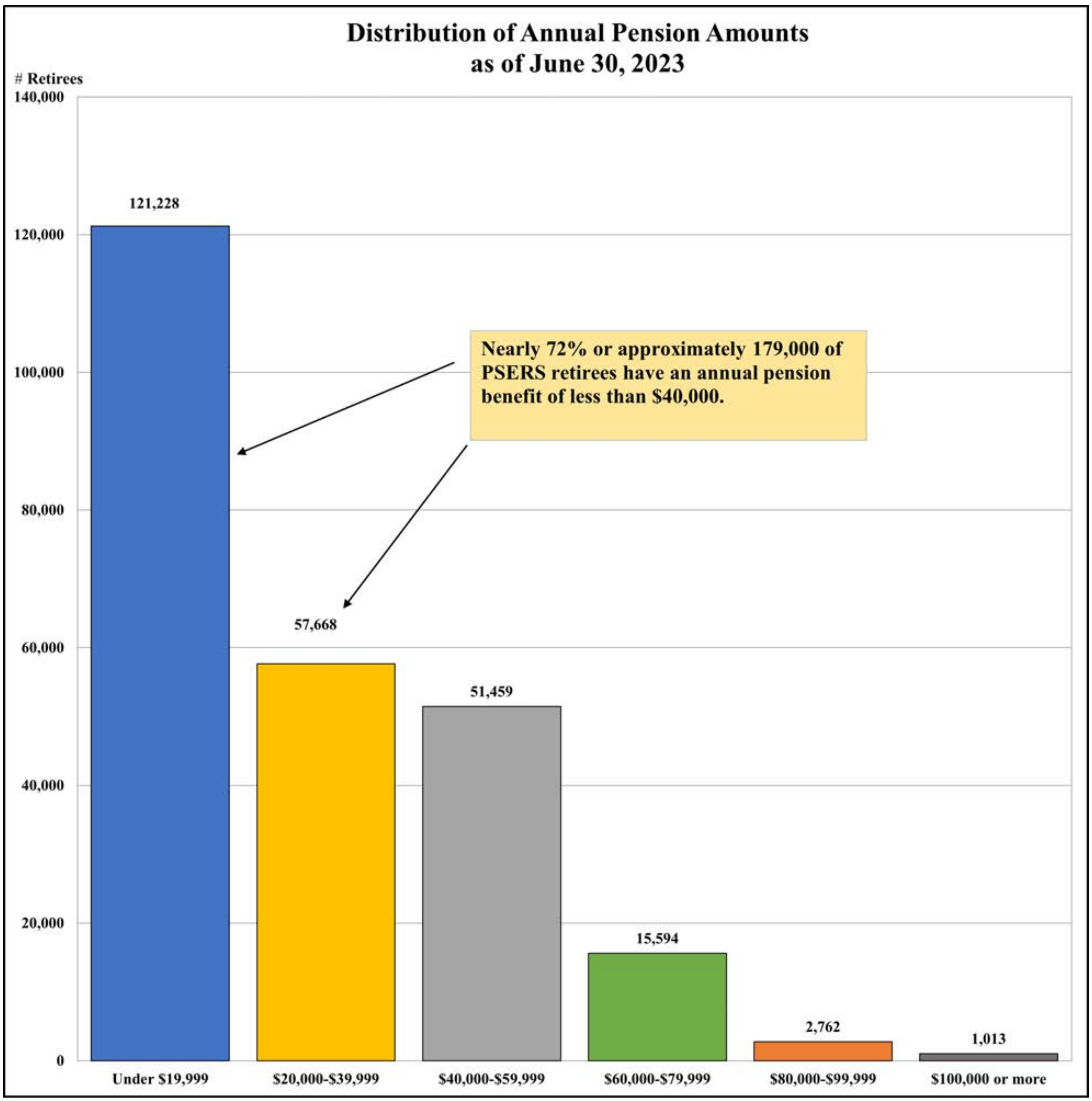
Top 10 Counties Based on Pension Benefits (Dollars in Millions)	
Allegheny	$630.7
Montgomery	$555.0
Bucks	$427.1
Philadelphia	$398.2
Chester	$312.7
Lancaster	$303.6
Delaware	$291.8
Westmoreland	$241.8
Berks	$240.5
York	$207.3



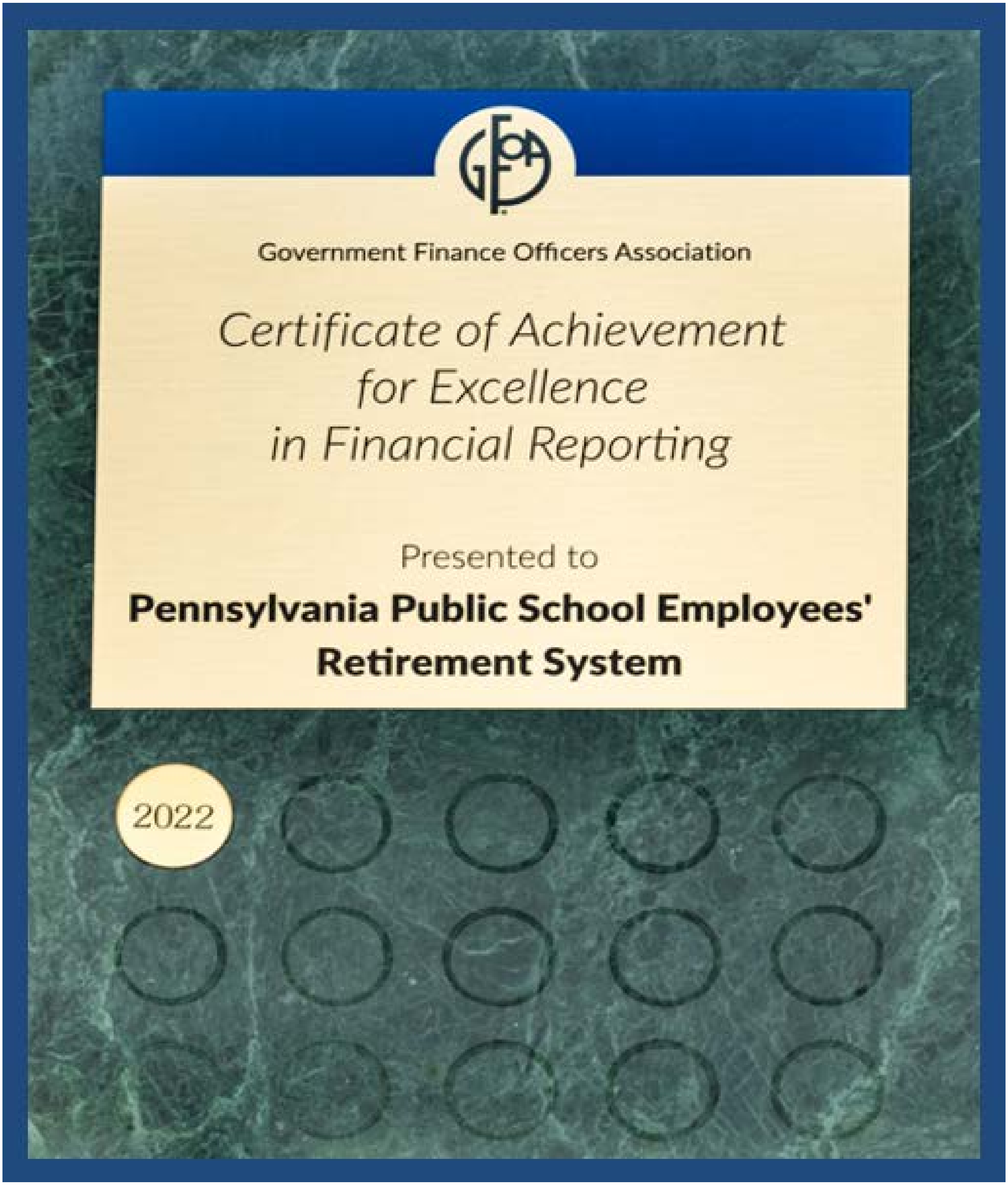
Pension Benefit Amounts
Fiscal Year 2023
(Dollar Amounts in Millions)

The average PSERS retiree receives a modest pension of $26,197 on an annual basis, a benefit earned through a lengthy career averaging 23 years in public education. During their career, members make mandatory contributions, most of which are between 7.50% and 10.80% of their pay, depending on their class of membership to help fund their own retirement benefit. In accordance with Act 120 and Act 5 of 2017, new members hired as of July 1, 2011 and July 1, 2019, respectively, 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. At June 30, 2023, there were 1,013 retired members receiving an annual benefit over $100,000 out of approximately 250,000 PSERS retirees. These six-figure pension retirees spent an average of 38 years working in their public education careers and contributing to their benefit.



Based on a query of private plan IRS Form 5500 filing


GFOA
Government Finance Officers Association
Certificate of Achievement
for Excellence
in Financial Reporting
Presented to
Pennsylvania Public School Employees'
Retirement System
2022

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2022

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)

Alan H. Winkle
Program Administrator

Our Mission:
To be a partner with our members to fulfill the promise of a secure retirement.

Our Vision:

To be a trusted partner in delivering exceptional retirement services and benefits.

Our Values:

Public accountability and transparency
We are committed to holding ourselves to the highest standards of ethics and accountability and believe that openness and honesty are fundamental to PSERS' success.

Staff growth and development
We are committed to cultivating a human-centered organizational culture and developing team-member competencies to meet the needs of today and tomorrow.

Exceptional levels of service
We are committed to continuous improvement and exploring innovative ways to increase productivity and enhance the customer experience.

Respect for our members, stakeholders, and staff
We are committed to creating an organizational culture that fosters diversity, equity, and inclusion where everyone receives fair treatment and civility.

Stewardship of resources and investments
We are committed to prudently investing the assets and effectively managing the resources entrusted to our care.

adopted August 11, 2023

PSERS Board of Trustees
as of June 30, 2023

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

Secretary Dr. Khalid N. Mumin

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

Secretary Wendy S. Spicher

Treasurer of the Commonwealth of Pennsylvania (ex officio)

Honorable Stacy Garrity

Chief Executive Officer 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

Mr. Richard Vague

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

Mr. Jason M. Davis (term expires 12/31/25)
Mr. Brian A. Reiser (term expires 12/31/24)
Mr. Christopher Santa Maria (term expires 12/31/23)

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

Ms. Ann Monaghan (term expires 12/31/24)

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

Ms. Susan C. Lemmo (term expires 12/31/25)

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

Mr. Eric DiTullio (term expires 12/31/23)

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 Matthew D. Bradford
Honorable Torren Ecker

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

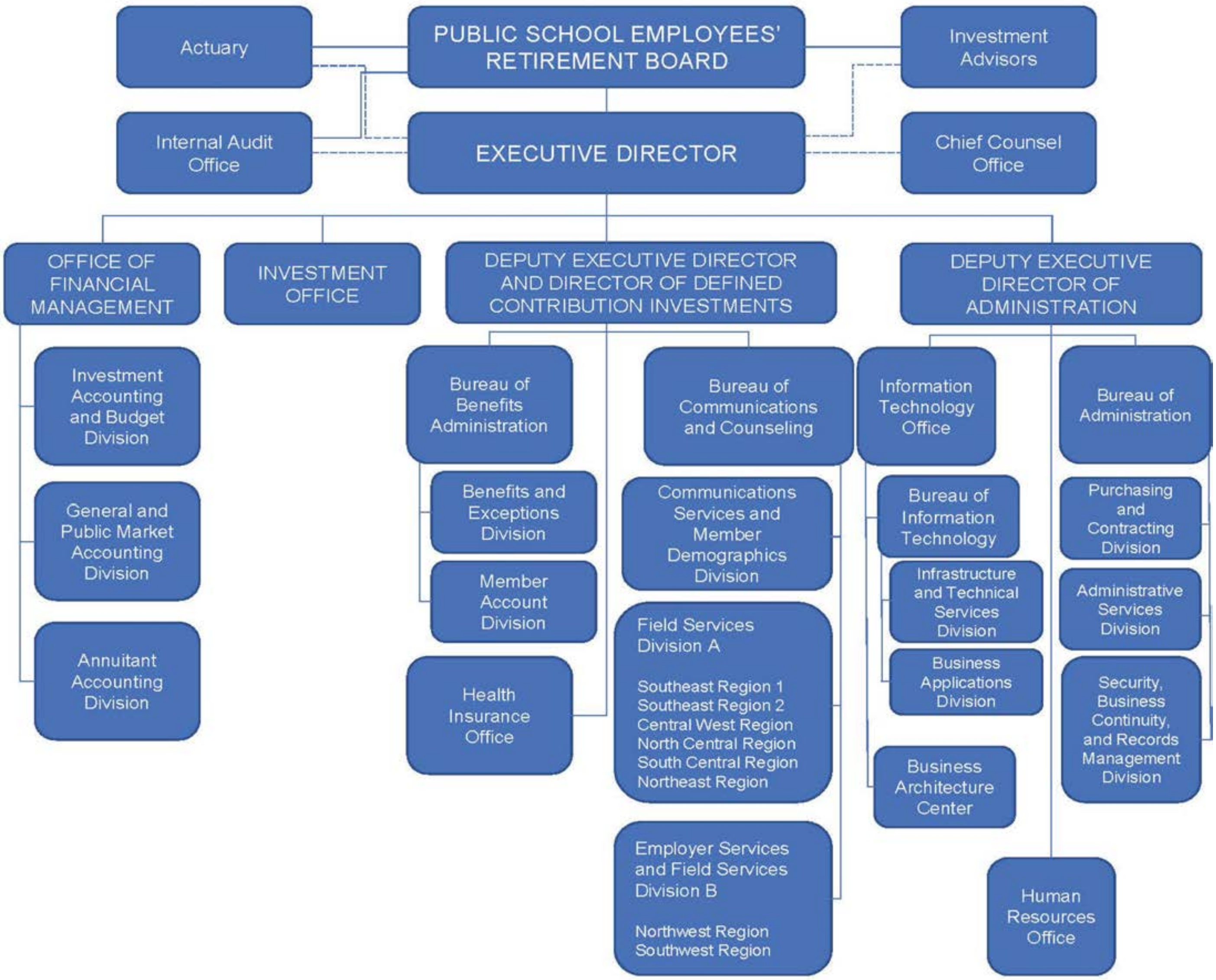
Honorable Katie J. Muth
Honorable Greg Rothman

*The legislative members consisting of two House and two Senate members, shall serve on the board for the duration of their legislative terms and shall continue to serve until 30 days after the convening of the next regular session of the General Assembly after the expiration of their respective legislative terms or until a successor is appointed for the new term, whichever occurs first.

2023 Board Committees

Audit, Compliance & Risk Treasurer Garrity, Chair Representative Ecker, Vice Chair Mr. Davis Mr. Mains Secretary Spicher	**Benefits & Appeals** Ms. Monaghan, Chair Mr. DiTullio, Vice Chair Ms. Lemmo Senator Muth Mr. Reiser	**Board Governance & Administration** Representative Bradford, Chair Secretary Spicher, Vice Chair Mr. Mains Mr. Reiser Mr. Vague
Defined Contribution Representative Ecker, Chair Senator Rothman, Vice Chair Mr. Mains Senator Muth Secretary Spicher	**Finance & Actuarial** Mr. DiTullio, Chair Senator Rothman, Vice Chair Secretary Mumin Mr. Reiser Mr. Vague	**Health Care** Ms. Lemmo, Chair Mr. Davis - Vice Chair Representative Bradford Ms. Monaghan Secretary Mumin
	Investment Mr. Davis, Chair Treasurer Garrity, Vice Chair Committee is comprised of all Board Members	

Organizational Chart of the Public School Employees' Retirement System



For Schedules of Fees and Commissions please refer to the Financial section page 94 and Investment section page 109.

As of June 30, 2023

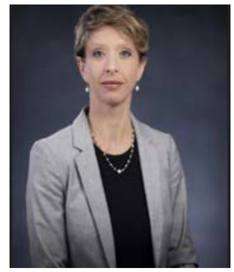
As of June 30, 2023

Administrative Staff

Terrill J. Sanchez
Executive Director

Benjamin L. Cotton
Chief Investment Officer

Beverly Hudson
Deputy Executive Director of Administration



Jennifer A. Mills
Deputy Executive Director and Director of Defined Contribution Investments

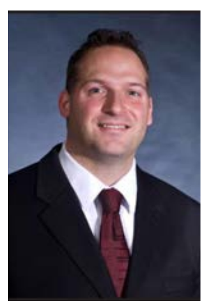
Joseph J. Indelicato, Jr.
Chief Counsel

Brian S. Carl
Chief Financial Officer

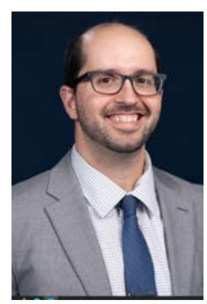
Steven C. Goldstein
Chief Technology Officer

Patricia Dence
Director of Administration

Mei Gentry
Chief Audit Officer



Eugene W. Robison
Director of Communications and Counseling



Eric Decker,
Director of Governance & Strategic Initiatives

Caitlin Witmer
Director of Human Resources

Todd Fulton
Director of Benefits Administration

Peter Camacci
Director of Health Insurance

Evelyn M. Williams
Communications Director/Board Information Officer

PSERS REGIONAL OFFICES

Northwest
Franklin Penn Wood Center
464 Allegheny Boulevard, Suite C
Franklin, PA 16323-6210
Local: 1.814.437.9845
FAX: 1.814.437.5826
Toll-Free: 1.888.773.7748
Kevin Moczan, Administrator

Northcentral
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FAX: 1.570.893.4414
Toll-Free: 1.888.773.7748
Jeremy Wible, Administrator

Northeast
417 Lackawanna Avenue, Suite 201
Scranton, PA 18503-2013
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FAX: 1.570.614.0278
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Pittsburgh, PA 15205-1159
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FAX: 1.412.920.2015
Toll-Free: 1.888.773.7748
Jason Kosior, Administrator

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219 West High Street
Ebensburg, PA 15931-1540
Local: 1.814.419.1180
FAX: 1.814.419.1189
Toll-Free: 1.888.773.7748
Dr. Brian Farester, Administrator

Southcentral
5 North 5th Street
Harrisburg, PA 17101-1905
Local: 1.717.720.6335
FAX: 1.717.783.9606
Toll-Free: 1.888.773.7748
John Tucker, Administrator

Southeast
605 Louis Drive, Suite 500
Warminster, PA 18974-2830
Local: 1.215.443.3495
FAX: 1.215.443.3487
Toll-Free: 1.888.773.7748
Joshua Catalfu, Administrator
Linda Visco, Administrator

As of June 30, 2023

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

SB & COMPANY, LLC
KNOWLEDGE • QUALITY • CLIENT SERVICE

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

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

Report on the Audit of the Financial Statements

Opinions

We have audited the accompanying statement of fiduciary net position of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS), a component unit of the Commonwealth of Pennsylvania, as of June 30, 2023, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of PSERS, as of June 30, 2023, and the respective change in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of PSERS and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Other Matter

The financial statements of PSERS as of and for the year ended June 30, 2022 were audited by another auditor who expressed an unmodified opinion on those statements on October 4, 2022.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

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

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

Auditor's Responsibilities for the Audit of the Financial Statements

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

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal controls relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of PSERS' internal controls. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about PSERS' ability to continue as a going concern for a reasonable period of time.

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

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, 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 (premium assistance) liability, schedule of employer net OPEB (premium assistance) liability, schedule of employer OPEB (premium assistance) contributions, and schedule of investment returns – pension and OPEB, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

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

Supplementary Information

Our audit was 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, and schedule of payments to non-investment consultants are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The accompanying supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. 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 accompanying supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and statistical sections, but does not include the basic financial statements and our auditor's report thereon. Our opinions on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon. In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

SB & Company, LLC

Owings Mills, Maryland
September 29, 2023

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, 2023 (FY 2023) 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 a Defined Contribution (DC) plan and 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, the DC 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, 2023 and 2022. 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, 2022 to June 30, 2023 and from July 1, 2021 to June 30, 2022. 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 (Premium Assistance) Liability; Employer Net OPEB (Premium Assistance) Liability; Employer OPEB (Premium Assistance) Contributions; and Investment Returns - Pension and OPEB. The other remaining supplementary information 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. This supplementary information is considered useful in understanding and evaluating the financial activities of PSERS.

Financial Highlights

- PSERS' total net position increased $1.6 billion from $71.2 billion at June 30, 2022 to $72.8 billion at June 30, 2023. The increase at June 30, 2023 was due mostly to the combination of additions for net investment income plus member and employer contributions exceeding deductions for benefit and administrative expenses. During the fiscal year, net investment income reflected shifts in the market environment primarily related to rising interest rates, tighter credit markets, and geopolitical uncertainty. PSERS' total net position decreased $1.3 billion from $72.5 billion at June 30, 2021 to $71.2 billion at June 30, 2022. The decrease at June 30, 2022 was due mostly to deductions for benefit, administrative expenses and net investment loss exceeding member and employer contributions.
- PSERS' Plan fiduciary net position as a percentage of the total pension liability (market value funded ratio) increased from 61.34% at June 30, 2022 to 61.85% at June 30, 2023 due to PSERS receiving the full actuarially determined contributions and positive investment returns.
- Total employer contributions increased from $5.1 billion in FY 2022 to $5.4 billion in FY 2023. This increase was primarily attributable to employer payroll growth and a small increase in the total employer contribution rate from 34.94% in FY 2022 to 35.26% in FY 2023.
- PSERS' employers fully funded the actuarially determined contributions from FY 2016 to FY 2023. These contributions continue to make a positive difference in PSERS' longer term funding trends as PSERS Net Pension Liability has declined by approximately 10% from $49.6 billion at June 30, 2016 to $44.5 billion at June 30, 2023.
- PSERS' total benefit expense increased from $7.8 billion in FY 2022 to $8.2 billion in FY 2023. The average monthly pension benefit and the number of members receiving benefits increased in FY 2023.

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 preserved the benefits of existing members and included a series of actuarial and funding changes to PSERS and benefit reductions for individuals who became new members of PSERS on or after July 1, 2011 to June 30, 2019.

The Act created two new membership classes, T-E and T-F. T-E and T-F members are "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 using rate collars. Instead of a large rate spike in one year, under Act 120, the employer contribution rate increased steadily each year from the 5.64% in effect when Act 120 became law to the 35.26% rate in FY 2023. Prior to Act 120, PSERS' Annual Required Contribution (ARC) percentage of contributions received under Governmental Accounting Standards Board (GASB) standards was 27%. On July 1, 2016, PSERS began receiving 100% of actuarially determined contributions based on sound actuarial practices and principles for the first time in 15 years. This marked a significant milestone in PSERS' contribution history and established a path to full funding. PSERS continued to receive the actuarially determined contributions from FY 2016 to FY 2023, and the large annual employer contribution rate increases that occurred from FY 2012 to FY 2018 are now complete. Employer contribution rate increases in the future are expected to be in line with or less than inflation.

Analysis of Fiduciary Net Position

(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2023	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Assets:					
Receivables	**$ 2,543,417**	$ 70,937	$ 2,472,480	$ (73,438)	$ 2,545,918
Investments	**71,733,876**	829,140	70,904,736	(1,256,048)	72,160,784
Securities lending collateral pool	**6,147,770**	(3,680,820)	9,828,590	1,966,303	7,862,287
Capital assets	**35,880**	20,994	14,886	(2,135)	17,021
Miscellaneous	**44,883**	13,324	31,559	(5,156)	36,715
Total Assets	**80,505,826**	(2,746,425)	83,252,251	629,526	82,622,725
Liabilities:					
Payables and other liabilities	**1,516,115**	(755,068)	2,271,183	43,564	2,227,619
Obligations under securities lending	**6,147,770**	(3,680,820)	9,828,590	1,966,303	7,862,287
Total Liabilities	**7,663,885**	(4,435,888)	12,099,773	2,009,867	10,089,906
Net Position	**$72,841,941**	$ 1,689,463	$71,152,478	$ (1,380,341)	$72,532,819
Summary of Changes in Fiduciary Net Position					
Additions:					
Contributions	**$ 6,628,323**	$ 320,883	$ 6,307,440	$ 316,803	$ 5,990,637
Participant premiums and CMS	**478,861**	(1,982)	480,843	10,086	470,757
Net investment income (loss)	**2,830,392**	3,112,793	(282,401)	(15,046,813)	14,764,412
Total Additions	**9,937,576**	3,431,694	6,505,882	(14,719,924)	21,225,806
Deductions:					
Benefit expenses	**8,151,007**	356,512	7,794,495	163,119	7,631,376
Administrative expenses	**97,106**	5,378	91,728	331	91,397
Total Deductions	**8,248,113**	361,890	7,886,223	163,450	7,722,773
Changes in Net Position	**1,689,463**	3,069,804	(1,380,341)	(14,883,374)	13,503,033
Balance, Beginning of Year	**71,152,478**	(1,380,341)	72,532,819	13,503,033	59,029,786
Balance, End of Year	**$72,841,941**	$ 1,689,463	$71,152,478	$ (1,380,341)	$72,532,819

Management's Discussion and Analysis (continued)

Act 5 of 2017 (Act 5) introduced a hybrid benefit with two membership classes and a separate defined contribution plan for individuals who become new members on or after July 1, 2019. Act 5 maintained the Act 120 employer contribution payment schedule and expanded shared risk.

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 40-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 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.

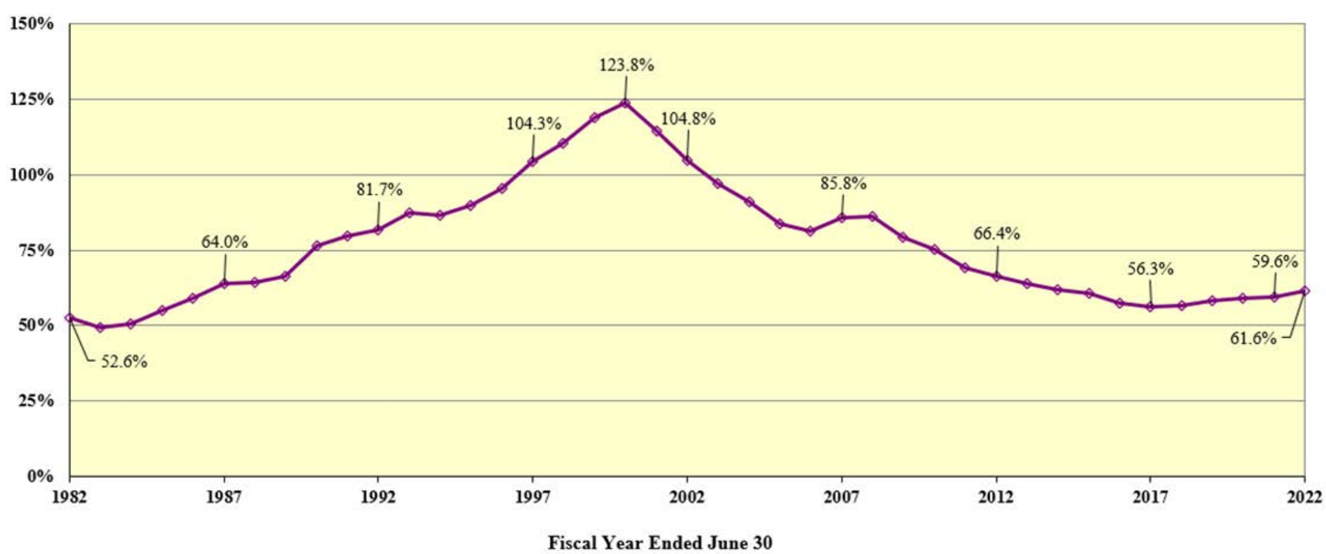
PSERS' funded ratio increased from 59.6% at June 30, 2021 to 61.6% as of June 30, 2022, the most recent actuarial valuation, due to full actuarially determined employer contributions, favorable demographic experience, and positive investment returns. The actuarial funded ratio improved to 61.6% as of June 30, 2022 after reaching a significant turning point at June 30, 2017 when it fell to a low of 56.3%. After years of decline since the 123.8% peak at June 30, 2000, the funded ratio is now improving and is projected to continue to rise in the future.

FY 2023 operational results will be reflected in the actuarial valuation for the year ended June 30, 2023. Due to the normal lag time for completion of the actuarial valuation, the resulting funded status will be available at the end of the 2023 calendar year and will be reported in the financial statements for the fiscal year ending June 30, 2024 (FY 24). Based on positive investment performance for the ten-year period ended June 30, 2023 and due to receiving the full actuarially determined contributions, the funded ratio at June 30, 2023 is expected to improve.

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 61.34% at June 30, 2022 to 61.85% at June 30, 2023 due to PSERS receiving the full actuarially determined contributions and positive investment returns. Unlike the actuarial funded ratio, which recognizes the investment performance over 10 years, the market value funded ratio is expected to fluctuate more year-to-year due to the immediate recognition of the fund's fiscal year investment performance. Over the past seven years, the longer term trend of the market value funded ratio increased from 50.14% at June 30, 2016 to 61.85% at June 30, 2023 due primarily to PSERS receiving the full actuarially determined contributions for all seven years and strong positive investment returns. Based on the current actuarial assumptions, PSERS remains on a path to full funding.

PSERS' State Accumulation Account improved from $(10.5) billion at June 30, 2022 to $(9.2) billion at June 30, 2023 due to employer contributions at the actuarially determined level

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



*2022 is the most recent actuarial valuation available and investment performance that exceeded benefit payments and administrative expenses. Investment earnings and actuarially determined employer contributions will continue to reduce the deficit in this account in the future (See Note 3).

Investments

Portfolio Performance Summary:

PSERS' total investments of $71.7 billion represents an increase of $0.8 billion over the previous fiscal year end amount. Total plan investment performance for FY 2023 was 3.54%. During the fiscal year, performance reflected shifts in the market environment primarily related to rising interest rates, tighter credit markets and geopolitical uncertainty.

Key Market Themes:

PSERS constructs its asset allocation plan balancing the return, risk, and correlation with each asset class as well as the financial objectives of the Fund. A primary element of PSERS' investment philosophy is diversification among various asset classes as an effective method to realize its goals while addressing uncertainty across capital markets from shifting macroeconomic and geopolitical environments. Over the past year, several such shifts emerged, with three themes (rising interest rates, tighter credit markets, and geopolitical uncertainty) having particular significance.

- *Rising Interest Rates* – This fiscal year witnessed a significant shift higher of 350 basis points in the over-night interest rates from 1.50%-1.75% to 5.00%-5.25%. This represents a continuation of rate hikes from last fiscal year as the Federal Reserve seeks to address concerns over higher inflation rates resulting from the fiscal responses to COVID-19 and supply-chain challenges. While inflation concern has subsided somewhat from its highs (core inflation peaked at 6.6% in September 2022, compared to 4.8% as of June 30, 2023), it remains elevated in the face of strong labor markets and buoyant economic activity, making the future of monetary policy direction uncertain. However, the resulting higher rates on cash have implications across the entire PSERS portfolio, most notably on the return for holding cash, the cost for employing leverage, and risk-return value proposition for all other asset classes relative to cash.

- *Tighter Credit Markets* – Partially because of the higher interest rates described above, Silicon Valley Bank collapsed and was taken over in March 2023. This was followed by takeovers of Signature Bank that same weekend and then First Republic in May. The initial market turbulence and concerns about contagion of cash withdrawals in other regional banks was quickly quelled through decisive government action. However, these events highlighted and exacerbated a shift towards tighter credit markets, particularly for Commercial Real Estate (CRE), as regional banks demonstrated a reduced appetite for this long-term debt given the short-term, and potentially uncertain nature of deposits relied on to fund such debt. Lending for office and retail related inventory has been most acutely impacted as employers have proven reluctant to require employees to return to the office following the shift to online working that occurred in response to COVID-19. Fewer employees coming into the traditional office centers has also translated into less foot traffic for traditional retail located in these centers. The implications of tighter credit markets, together with higher interest rates, lower occupancies and less foot traffic presents risk to the equity holders, particularly where the degree of leverage underlying such properties is high and the related maturities are relatively near. However, this disruption among bank lenders, presents opportunity for lenders with longer term capital to be more discerning within sectors of real estate with better outlooks, such as multifamily and industrial use properties.

- *Geopolitical Uncertainty* - While Russia's invasion of Ukraine most directly impacted capital markets in the prior fiscal year, the resulting geopolitical uncertainty has influenced how investors frame investment choices across geographic regions. The long-standing theme of globalization based on the economics of comparative advantages, has more recently given way to more pragmatic discussions regarding supply chain resiliency or nearshoring/onshoring of activities that had previously been offshored. This further complicates the assessment of relative value across regional classifications, which were already clouded given differences in sector composition, financial reporting transparency, and basic investor rights across jurisdictions. Accordingly, some investors (including PSERS) have revisited and revised long standing strategic over/underweights to certain geographical regions (e.g., Public U.S. relative to Emerging Market equity allocations). We believe this trend will influence the flow of capital across regional classifications and likely impact relative market valuations over the next three to five years.

Market Performance Summary:

Markets experienced two distinct phases over FY 2023. Concern over declining growth accompanied by high inflation marked the first half through December 2022. For example, while the Nasdaq-100 index ended the half down approximately 4.9%, that performance included a drawdown of over (21.8%) from the fiscal year August high as investors questioned the outlook for growth-oriented companies in the face of rising inflation, high interest rates, and concern that the tightening monetary policy would result in a relatively steep recession. Long U.S. Treasury securities also ended the half down (10.2%). The second half through June 2023, experienced a sharp recovery on both fronts, with the Nasdaq-100 returning almost 39% through the half (ending the full fiscal year up 31.9%) as the outlook for growth improved. Long U.S. Treasury securities also improved 3.7% over the half (ending the full fiscal year down (6.8%)) as inflation expectations moderated and consensus began to build that the Federal Reserve may pull off a relatively softer landing. Real Assets provided little diversification over the period, with the exception of exposure to gold, which held steady returning 0.8% over the first half and then ended the full period up 6.2%. The table below summarizes the relative public market benchmark performance for the fiscal year grouped by three of PSERS' major asset classes.

Indices	FY 22-23
Public Equity	
S&P 500	19.6%
S&P 400	17.6%
S&P 600	9.8%
Nasdaq-100 Index	31.9%
MSCI ACWI x-US IMI Net	12.7%
MSCI Emerging Market IMI	3.2%
Public Fixed Income	
Bloomberg US Aggregate	(0.9%)
Bloomberg US Long Treasury	(6.8%)
PSERS Blended Emerging Markets Bond	7.4%
Bloomberg US Corporate High Yield	9.1%
Bloomberg US TIPS	(1.3%)
Bloomberg World Ex-US ILB Hedged	(6.2%)
Public Real Assets	
FTSE Developed Core 50/50	(1.3%)
Bloomberg Commodity Total Return	(9.6%)
Bloomberg Gold Total Return	6.2%
FTSE EPRA/NAREIT Developed	(4.6%)

- **Public Equities** – confidence in the United States growth is reflected in the 19.6% and 31.9% gains in the return of the S&P 500 and Nasdaq-100 indices over the fiscal year ending June 30, 2023. Much of the relative outperformance for U.S. equities generally (and the Nasdaq more specifically) was experienced during the second half of the fiscal year. Global equities, as measured by MSCI ACWI x-US index, also advanced 12.7%, however, lacked the magnitude of returns experienced domestically.

- **Fixed Income** – the move in short term rates described above drove the entire yield curve higher over the fiscal year. The United States 10-year yield increased 82 basis points over the fiscal year to close at 3.82% yield. While forward looking yields for fixed income assets have improved significantly over the period, the fiscal year-to-year return for the Long Treasury index was (6.8%), underperforming broader markets due primarily to the duration impact associated with rising rates. Credit spreads narrowed fiscal year-to-year as concerns over inflation and a potential recession reduced over this period. Tighter spreads, along with shorter overall duration among credit assets, more generally offset the declines recorded for Long Treasury resulting in returns of (0.9%) and 9.1% for the Bloomberg Aggregate and US Corporate High Yield indices, respectively.

- **Real Assets** – the real assets category includes commodities, REITs, and infrastructure where the underlying value is derived from the price/revenue adjusting nature of the underlying assets, providing longer term resiliency to the impact of rising inflation. However, REITs and infrastructure still exhibit shorter term sensitivity to changes in interest rates. Over the past year, the Bloomberg Commodity Total Return Index, FTSE EPRA/NAREIT Developed Index, and FTSE Developed Core 50/50 Index ,all registered negative returns of (9.6%), (4.6%), and (1.3%), respectively, while the Bloomberg Gold Total Return Index experienced a positive return of 6.2%.

Investment Return Reporting vs. Financial Statement Reporting

The FY 2022 time-weighted investment rate of return was a positive 2.23% in contrast to the FY 2022 net investment (loss) of $(282.4) million. This difference was due to the Pension industry's use of quarter lag reporting for a certain set classes for investment return reporting. For financial statement reporting purposes, nearly all Real estate and Alternative investments were valued based on June 30, 2022 valuations. For investment return reporting, the Real estate and Alternative investments were based on quarter lag valuations as of March 31, 2022. As a result, the financial statements included a net valuation decrease of $(317) million at June 30, 2022 that was not be recognized in the investment returns for FY 2022. In FY 2021, the financial statements included a June 30, 2021 Real estate and Alternative investment valuation increase of $1.9 billion which was not recognized in the investment returns until FY 2022. The combined impact of the FY 2021 and FY 2022 quarter lag valuation adjustments was $2.2 billion. As a result, the FY 2022 investment returns were higher than the net investment loss recognized in the financial statements. This combined impact is the reason why the financial statements have a Net Investment Loss of $(282.4) million and FY 2022 investment returns were a positive 2.23%. These circumstances did not exist in FY 2023 as both net investment income and investment performance were positive.

Table 1 - Investment Balances by Asset Class

(Dollar Amount in Thousands)

Asset Class	2023	%	2022	%	2021	%
Short-term	**$ 6,659,290**	**9.3**	$ 9,420,478	13.3	$ 9,479,700	13.1
Fixed income	**15,658,641**	**21.8**	13,752,793	19.4	13,253,332	18.4
Equity	**21,506,295**	**30.0**	17,136,393	24.2	18,437,873	25.6
Collective trust funds	**2,308,844**	**3.2**	5,571,997	7.9	7,377,281	10.2
Real estate	**7,437,732**	**10.4**	7,122,100	10.0	5,986,463	8.3
Alternative investments	**18,163,074**	**25.3**	17,900,975	25.2	17,626,135	24.4
Total	**$ 71,733,876**	**100.0**	$ 70,904,736	100.0	$ 72,160,784	100.0

The asset distribution of PSERS' investment portfolio at June 30, 2023, including defined contribution and postemployment healthcare assets, is presented in Figure 2 and Table 1. For comparison purposes, the prior two fiscal years are also presented in Table 1.

FY 2023

- ***Short-term investments*** (cash and cash equivalents) decreased by $2.7 billion from $9.4 billion at June 30, 2022 to $6.7 billion June 30, 2023 mainly due to a reallocation of exposure to other asset classes.
- ***Fixed income investments*** increased by $1.9 billion from $13.8 billion at June 30, 2022 to $15.7 billion at June 30, 2023 mainly due to a reallocation of exposure from other asset classes which was offset by negative investment performance.
- ***Equity investments*** increased by $4.4 billion from $17.1 billion at June 30, 2022 to $21.5 billion at June 30, 2023 mainly due to a reallocation of exposure from other asset classes and investment performance.
- ***Collective trust funds*** decreased by $3.3 billion from $5.6 billion at June 30, 2022 to $2.3 billion at June 30, 2023 due to the unwinding of the absolute return program.
- ***Real estate investments*** increased by $0.3 billion from $7.1 billion at June 30, 2022 to $7.4 billion at June 30, 2023 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions.
- ***Alternative investments*** increased by $0.3 billion from $17.9 billion at June 30, 2022 to $18.2 billion at June 30, 2023 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions.

FY 2022

- ***Short-term investments*** (cash and cash equivalents) slightly decreased by $0.1 billion from $9.5 billion at June 30, 2021 to $9.4 billion June 30, 2022.
- ***Fixed income investments*** increased by $0.5 billion from $13.3 billion at June 30, 2021 to $13.8 billion at June 30, 2022 mainly due to a reallocation of exposure from other asset classes which was offset by negative investment performance.
- ***Equity investments*** decreased by $1.3 billion from $18.4 billion at June 30, 2021 to $17.1 billion at June 30, 2022 mainly due to negative investment performance which was offset by reallocation of exposure from other asset classes.
- ***Collective trust funds*** decreased by $1.8 billion from $7.4 billion at June 30, 2021 to $5.6 billion at June 30, 2022 due to the unwinding of the absolute return program.
- ***Real estate investments*** increased by $1.1 billion from $6.0 billion at June 30, 2021 to $7.1 billion at June 30, 2022 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions. After the conclusion of the audit, the Board accepted the appraisals for certain directly-owned properties. The difference between the valuations in the appraisals and the valuations included in the financial statements was determined to be immaterial, so no adjustments were made to the financial statements.
- ***Alternative investments*** increased by $0.3 billion from $17.6 billion at June 30, 2021 to $17.9 billion at June 30, 2022 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions.

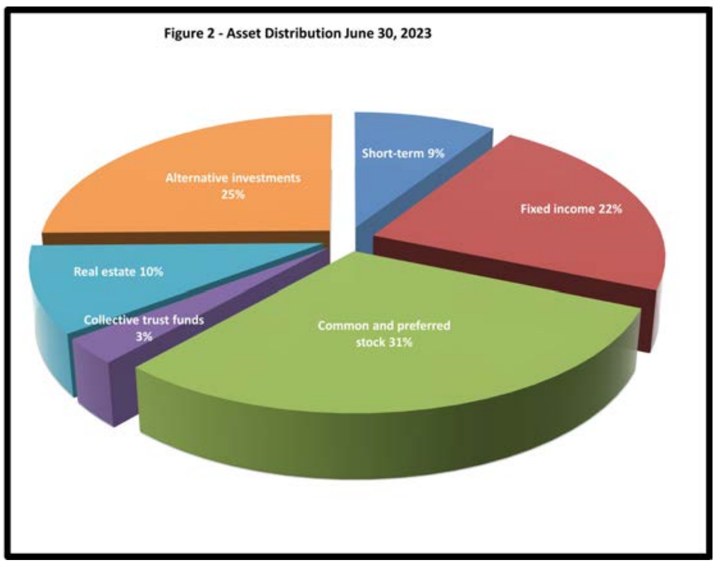
Management's Discussion and Analysis (continued)

Securities Lending

The System's net income from securities lending activities decreased by $2.6 million from $25.7 million in FY 2022 to $23.1 million in FY 2023. The spread earned on net income from securities lending decreased from FY 2022 to FY 2023 as the amounts rebated to the borrowers outpaced gross earnings on the borrower's collateral. Gross lending income and expenses both increased significantly as the economy in general moved to a higher interest rate environment.

Contributions

Employer contributions increased from $5.1 billion in FY 2022 to $5.4 billion in FY 2023. This increase was primarily attributable to employer payroll growth and a small increase in the total employer contribution rate from 34.94% in FY 2022 to 35.26% in FY 2023. Employer contributions increased from $4.9 billion in FY 2021 to $5.1 billion in FY 2022. This increase was primarily attributable to employer payroll growth and a small increase in the total employer contribution rate from 34.51% in FY 2021 to 34.94% in FY 2022.



Total member contributions increased from $1.17 billion in FY 2022 to $1.23 billion in FY 2023 mainly due to an increase in member contributions from active member payroll. Total member contributions increased from $1.10 billion in FY 2021 to $1.17 billion in FY 2022 mainly due to an increase in member contributions from active member payroll and an additional $22 million increase due to the member shared risk contribution rate increases.

Member contribution receivables increased from $382.6 million at June 30, 2022 to $407.0 million at June 30, 2023 as a result of active member payroll that was partially offset by a decrease in the average member contribution rate from 7.56% in FY 2022 to 7.52% in FY 2023. Member contribution receivables increased from $368.8 million at June 30, 2021 to $382.6 million at June 30, 2022 as a result of an increase in member purchase of service contributions and active member payroll that was partially offset by a decrease in the average member contribution rate from 7.61% in FY 2021 to 7.56% in FY 2022. The employer contribution receivables remained consistent at $1.4 billion at June 30, 2022 and June 30, 2023. See Figure 4 for a history of PSERS contribution rates.

Commonwealth Share of Employer Contributions

The Commonwealth reimburses all school entity employers (school districts, intermediate units and vocational technical schools) a portion of all employer contributions paid to the System. The Commonwealth reimburses at least 50% of school entities' contributions. The Commonwealth reimbursement rate, however, could be larger based on the school entities'Market Value/Personal Income Aid Ratio,

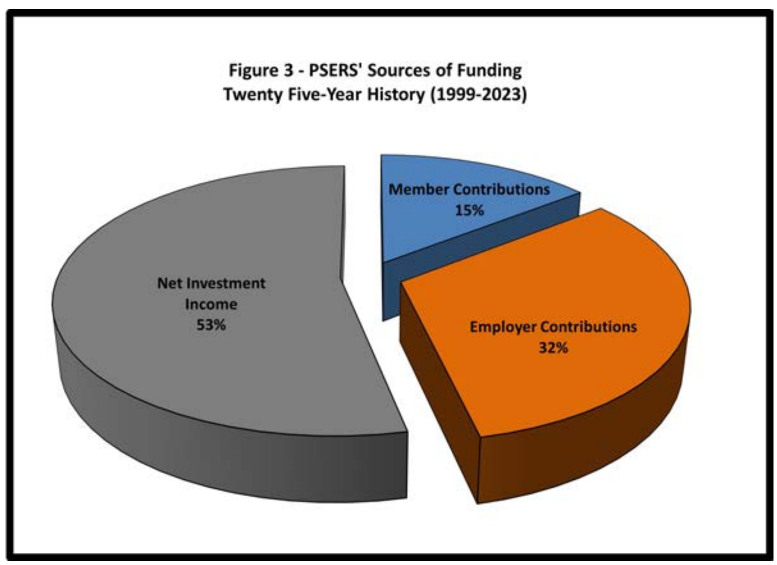
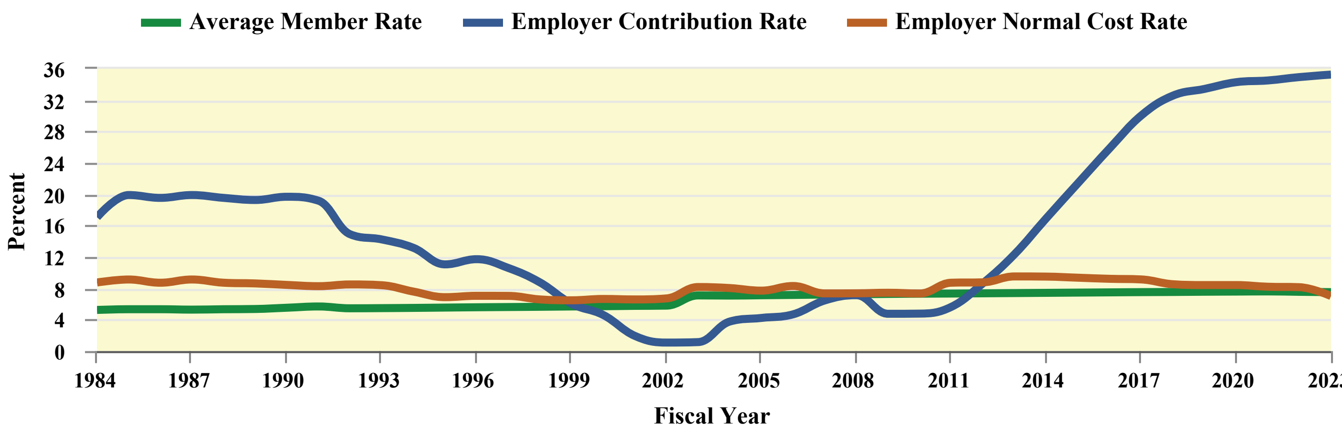


Figure 4-History of PSERS' Contribution Rates as a Percent of Payroll*
Fiscal Year Ending June 30



* Includes Premium Assistance & DC

which is a Commonwealth of Pennsylvania Department of Education calculation of local tax rates and socioeconomic factors. This reimbursement that school entities receive from the Commonwealth is referred to as the Commonwealth Share of employer contributions. The Commonwealth Share of contributions is paid to the school entities approximately 75 days after the end of each quarter. School entities have five days after receiving the Commonwealth Share to pay the total employer contributions to PSERS. Total employer contributions are comprised of the Commonwealth Share and remaining contributions which are referred to as the school and non-school entity share.

For non-school entity employers (state colleges/universities, community colleges, and state agencies) the Commonwealth remits directly to the System 50% of total employer contributions due, and the non-school entity employer remits 50% of the total employer contributions due directly to the System.

The Commonwealth Share of total employer contributions for FY 2023 was $3.0 billion and for FY 2022 was $2.8 billion. The school and non-school entity share of total employer contributions for FY 2023 was $2.4 billion and for FY 2022 was $2.3 billion. For FY 2023 total employer contributions were $5.4 billion and for FY 2022 were $5.1 billion.

Investment Income

Net investment income of $2.8 billion in FY 2023 increased from a net investment loss of $(282.4) million in FY 2022 reflecting shifts in the market environment primarily related to rising interest rates, tighter credit markets, and geopolitical uncertainty. As depicted in Figure 3, investment earnings provided 53% of PSERS' funding over the past 25 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 2023 was for the payment of pension and healthcare benefits approximating $8.2 billion. The breakdown consisted of $7.6 billion for Pension, $6.0 million for Defined Contribution, $113 million for Premium Assistance, and $451 million for HOP benefits. Figure 5 illustrates the significant portion of expenses attributable to benefit payments.

Total PSERS' benefit expense increased from $7.8 billion in FY 2022 to $8.2 billion in FY 2023. The increase is attributable to an ongoing increase to the average monthly benefit. Pension benefits payable increased from $542.0 million at June 30, 2022 to $656.4 million at June 30, 2023. This increase was mainly attributable to an increase in pension payments payable from a higher number of retirements in the 4th quarter of FY 2023. Total PSERS' benefit expense increased from $7.6 billion in FY 2021 to $7.8 billion in FY 2022. The increase is attributable to an ongoing increase to the average monthly benefit. Pension benefits payable decreased from $576.3 million at June 30, 2021 to $542.0 million at June 30, 2022. The decrease was mainly attributable to a decrease in pension payments payable from a lower number of retirements in the 4th quarter of FY 2022.

Investment expenses decreased by $119.8 million from $525.4 million in FY 2022 to $405.6 million in FY 2023 mainly due to a decrease in management fees in collective trust funds of $99 million. The decrease in collective trust

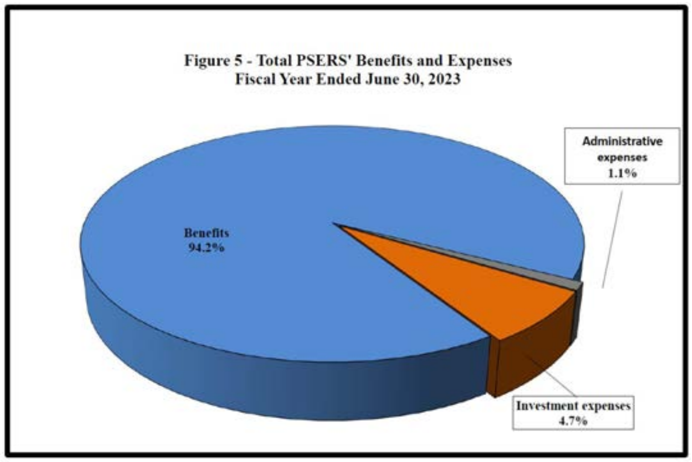
Management's Discussion and Analysis (continued)

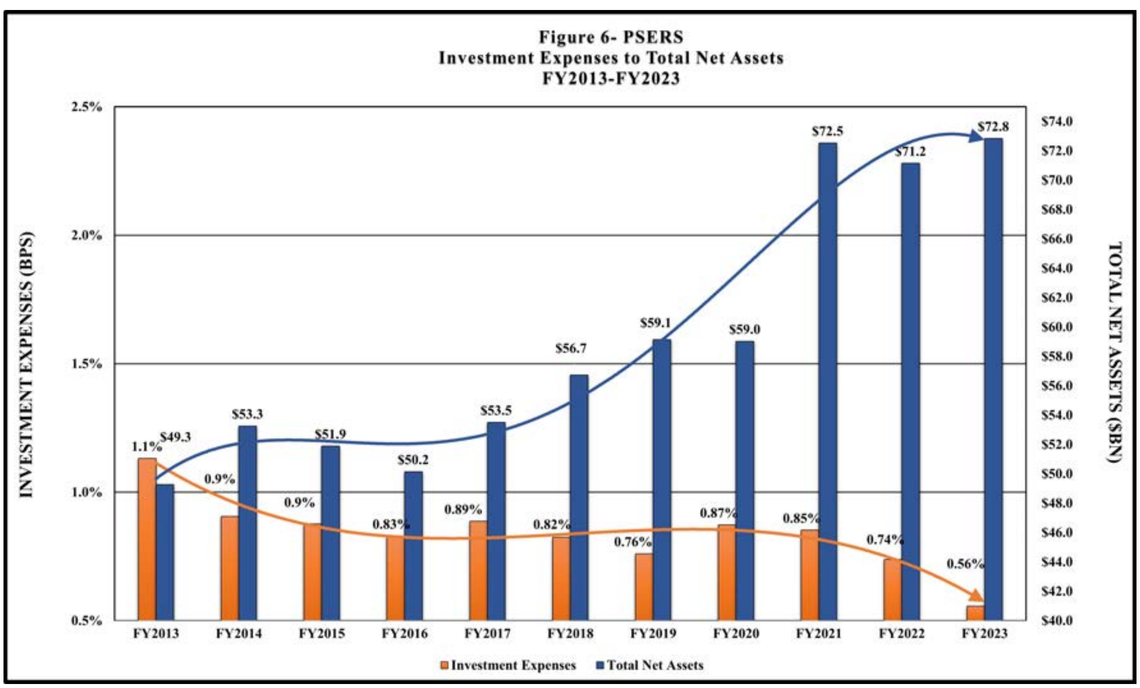
fund fees is mainly attributable to lower performance fees earned in FY 2023 and the reduction of the absolute return program. As a percentage of total benefits and expenses, investment expense decreased from 6.2% in FY 2022 to 4.7% in FY 2023.

As a percentage of total benefits and expenses, investment expense has decreased from a high of 8.2% in FY 2013 to 4.7% in FY 2023. During this same period net assets increased $24.1 billion from $48.7 billion at June 30, 2012 to $72.8 billion at June 30, 2023 as depicted in Figure 6. Correspondingly, investment expenses as a percentage of net assets have also decreased from a high of 1.1% in FY2013 to 0.56% in FY 2023.

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, requests management fee information from each of its limited partnerships and collective trust fund investments, even if it is not specifically disclosed in the fund's standard reports or identified in capital call requests. Such management fee information includes both base and performance fees obtained from either the fund's administrator statement, capital account statement or financial statements. This information is then utilized to report all relevant management fees in the System's financial statements. While the national debate over what constitutes a "fee" continues, PSERS will endeavor to remain transparent and report fees in accordance with current GASB standards and prevailing public pension industry practices to keep PSERS' financial statements both meaningful and comparative to its peers. In addition, PSERS reports all other investment expenses, including staff compensation and overhead, consultant, legal, and bank expenses incurred.

Administrative expenses increased by $5.4 million from $91.7 million during FY 2022 to $97.1 million during FY 2023. This increase was mainly attributable to an increase in GASB 68 pension expense, an increase to the OPEB expense, and an increase to Depreciation expense due to GASB 96 implementation. This was partially offset by decreases in Consultant and legal fees, and Equipment and software rental. As depicted in Figure 5, administrative expenses represent 1.1% of total benefits and expenses.





Defined Contribution Plan (DC)

PSERS administers a defined contribution plan. The following paragraphs and summary financial data provide supplementary information to the financial statements that contain the financial position and activities for the defined contribution plan.

Financial Highlights

Total net position increased by $102.9 million from June 30, 2022, to June 30, 2023. This increase is primarily due to participant and employer contributions and investments (additions) exceeding the benefits and administrative expenses (deductions).

Contributions

Total member (participant) contributions increased from $32.9 million to $50.7 million, while total employer contributions increased from $25.4 million to $39.3 million for years ended June 30, 2022, and 2023, respectively. Contributions increased due to an increase in participants from 46,500 on June 30, 2022, to 63,700 on June 30, 2023, resulting in an increase in employee and employer contributions. Additionally, employee contributions increased due to an 83.9% increase in participants with voluntary post tax contributions and 21.4% increase in participants with rollover contributions.

Investment Income (Loss)

Total net investment income (loss) increased from ($15.8) million to $21.5 million for the years ended June 30, 2022 and 2023, respectively. The increase is due to market conditions driven by low unemployment, steady wage growth, consumer confidence, and an artificial-intelligence-fueled tailwind.

Benefits and Expenses

Overall deductions increased from $5.8 million to $8.6 million for the years ended June 30, 2022, and 2023, respectively. Total distributions increased by $2.5 million mostly due to a 48.6% increase in the number of participants receiving distributions. Overall DC administrative expenses increased due to an increase in the total number of participants in the plan offset by a decrease in PSERS personnel cost and OPEB expense.

Defined Contribution Plan

Summary of Fiduciary Net Position (Dollar Amounts in Thousands)

Assets:	**FY 2023**	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Receivables	**$ 934**	$ 333	$ 601	$ (68)	$ 669
Investments	**202,766**	103,128	99,638	36,993	62,645
Total Assets	**203,700**	103,461	100,239	36,925	63,314
Liabilities:					
Payables and other liabilities	**1,819**	551	1,268	230	1,038
Total Liabilities	**1,819**	551	1,268	230	1,038
Net Position	**$ 201,881**	$ 102,910	$ 98,971	$ 36,695	$ 62,276

Summary of Changes in Fiduciary Net Position (Dollar Amounts in Thousands)

Additions:	**FY 2023**	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Contributions	**$ 90,004**	$ 31,705	$ 58,299	$ 24,071	$ 34,228
Net investment income (loss)	**21,534**	37,347	(15,813)	(25,127)	9,314
Total Additions	**111,538**	69,052	42,486	(1,056)	43,542
Deductions:					
Distributions	**6,170**	2,540	3,630	2,590	1,040
Administrative expenses	**2,458**	297	2,161	574	1,587
Total Deductions	**8,628**	2,837	5,791	3,164	2,627
Changes in Net Position	**$ 102,910**	$ 66,215	$ 36,695	$ (4,220)	$ 40,915
Balance, Beginning of Year	**98,971**	36,695	62,276	40,915	21,361
Balance, End of Year	**$ 201,881**	$ 102,910	$ 98,971	$ 36,695	$ 62,276

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 that contain the financial position and activities for the two postemployment healthcare programs.

Health Insurance Premium Assistance Program (Premium Assistance)

Financial Highlights

- Total net position increased by $5.2 million in FY 2023 mainly due to net investment income and employer contributions exceeding benefit and administrative expenses. The total net position continues to be sufficient to fund one full year of benefits. The employer contribution rate decreased by 6.25% from 0.80% in FY 2022 to 0.75% in FY 2023. The change from June 30, 2021 to June 30, 2022 of a $3.0 million increase was due to net investment income and employer contributions exceeding benefit expense deductions and administrative expenses.
- Net investments increased to $108.4 million at June 30, 2023 from $101.9 million at June 30, 2022.

Contributions

Employer contributions decreased from $117.2 million in FY 2022 to $114.7 million in FY 2023 due to a lower contribution rate (0.80% to 0.75%) partially offset by growth in employer payroll.

Investment Income

Total investment income for Premium Assistance increased substantially to $4.5 million for FY 2023 vs. $0.3 million for FY 2022. This is due to increased short-term interest rates.

Benefits and Expenses

Premium Assistance total deductions decreased slightly from $114.5 million in FY 2022 to $114.0 million in FY 2023. Administrative costs were higher by $259 thousand due to increases in personnel costs and pension expense while premium assistance benefit payments decreased slightly from $113.7 for FY 2022 to $112.9 million in FY 2023.

Health Options Program (HOP)

Financial Highlights

- Total net position decreased by $2.8 million in FY 2023 due to total deductions slightly outpacing total additions.
- Total receivables decreased from $64.4 million at June 30, 2022 to $47.4 million at June 30, 2023. This is due to a reduction in CMS reinsurance receivables and an increase in timely CMS receipts resulting in a reduced year-end receivable.
- Total net position increased from June 30, 2021 to June 30, 2022 by $19.1 million due to increases in participant premiums and CMS receipts which exceeded benefits and administrative expenses.
- Investments increased from $394.6 million at June 30, 2022 to $420.9 million at June 30, 2023 as CMS receipts were more timely, producing more funds for investment and lowering receivables.
- Total liabilities increased from $69.3 million at June 30, 2022 to $81.4 million at June 30, 2023. The increase is due to higher prescription drug and medical claims payable and $6.2 million for receipts in CMS Premium Advances received June 30, 2023 for July 2023.

Participant and CMS Premiums

Total Participant and CMS premiums for HOP decreased slightly from $480.8 million for FY 2022 to $478.9 million for FY 2023 due to a decrease in CMS revenue from prior year adjustments. These were partially offset by an increase in member premiums of $3.8 million.

Investment Income

Net investment income grew substantially from $0.3 million for FY 2022 to $9.1 million in FY 2023 due to increased short-term interest rates.

Benefits and Expenses

HOP total deductions increased by 6.2% from $462.1 million in FY 2022 to $490.7 million in FY 2023. This is due to increases in medical claim costs, net prescription costs and administrative costs.

Management's Discussion and Analysis (continued)

Premium Assistance

Summary of Fiduciary Net Position

(Dollar Amounts in Thousands)

Assets:	FY 2023	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Receivables	**$ 32,951**	$ (1,222)	$ 34,173	$ (988)	$ 35,161
Investments	**108,367**	6,460	101,907	(4,274)	106,181
Miscellaneous	**—**	—	—	(400)	400
Total Assets	**141,318**	5,238	136,080	(5,662)	141,742
Liabilities:					
Payables and other liabilities	**602**	(2)	604	(8,623)	9,227
Total Liabilities	**602**	(2)	604	(8,623)	9,227
Net Position	**$ 140,716**	$ 5,240	$ 135,476	$ 2,961	$ 132,515

Summary of Changes in Fiduciary Net Position

(Dollar Amounts in Thousands)

Additions:	FY 2023	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Contributions	**$ 114,721**	$ (2,457)	$ 117,178	$ 659	$ 116,519
Net investment income	**4,474**	4,158	316	56	260
Total Additions	**119,195**	1,701	117,494	715	116,779
Deductions:					
Benefit expenses	**112,870**	(837)	113,707	169	113,538
Administrative expenses	**1,085**	259	826	(317)	1,143
Total Deductions	**113,955**	(578)	114,533	(148)	114,681
Changes in Net Position	**$ 5,240**	$ 2,279	$ 2,961	$ 863	$ 2,098
Balance, Beginning of Year	**$ 135,476**	2,961	132,515	2,098	130,417
Balance, End of Year	**$ 140,716**	$ 5,240	$ 135,476	$ 2,961	$ 132,515

Health Options Program

Summary of Fiduciary Net Position

(Dollar Amounts in Thousands)

Assets:	FY 2023	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Receivables	**$ 47,385**	$ (16,990)	$ 64,375	$ (11,743)	$ 76,118
Investments	**420,880**	26,262	394,618	28,893	365,725
Miscellaneous	**170**	34	136	40	96
Total Assets	**468,435**	9,306	459,129	17,190	441,939
Liabilities:					
Payables and other liabilities	**81,421**	12,081	69,340	(2,802)	71,263
Total Liabilities	**81,421**	12,081	69,340	(2,802)	71,263
Net Position	**$ 387,014**	$ (2,775)	$ 389,789	$ 19,113	$ 370,676

Summary of Changes in Fiduciary Net Position

(Dollar Amounts in Thousands)

Additions:	FY 2023	Increase (Decrease)	FY 2022	Increase (Decrease)	FY 2021
Participant and CMS premiums	**$ 478,861**	$ (1,982)	$ 480,843	$ 10,086	$ 470,757
Net investment income	**9,088**	8,742	346	132	214
Total Additions	**487,949**	6,760	481,189	10,218	470,971
Deductions:					
Benefit expenses	**450,984**	28,198	422,786	40,320	382,466
Administrative expenses	**39,740**	450	39,290	239	39,051
Total Deductions	**490,724**	28,648	462,076	40,559	421,517
Changes in Net Position	**$ (2,775)**	$ (21,888)	$ 19,113	$ (30,341)	$ 49,454
Balance, Beginning of Year	**$ 389,789**	19,113	370,676	49,454	321,222
Balance, End of Year	**$ 387,014**	$ (2,775)	$ 389,789	$ 19,113	$ 370,676

Statements of Fiduciary Net Position
June 30, 2023 and 2022
(Dollar Amounts in Thousands)

	2023				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 404,819	$ 509	$ 1,541	$ 133	$ 407,002
Employers	1,418,716	399	30,880	—	1,449,995
Investment income	335,907	26	530	1,178	337,641
Investment proceeds	301,559	—	—	—	301,559
CMS Part D and prescriptions	—	—	—	46,074	46,074
Interfund receivable	1,146	—	—	—	1,146
Total Receivables	2,462,147	934	32,951	47,385	2,543,417
Investments, at fair value:					
Short-term	6,118,812	11,231	108,367	420,880	6,659,290
Fixed income	15,658,641	—	—	—	15,658,641
Equity	21,506,295	—	—	—	21,506,295
Collective trust funds	2,117,309	191,535	—	—	2,308,844
Real estate	7,437,732	—	—	—	7,437,732
Alternative investments	18,163,074	—	—	—	18,163,074
Total Investments	71,001,863	202,766	108,367	420,880	71,733,876
Securities lending collateral pool	6,147,770	—	—	—	6,147,770
Capital assets (net of accumulated depreciation $45,847)	35,880	—	—	—	35,880
Miscellaneous	44,713	—	—	170	44,883
Total Assets	79,692,373	203,700	141,318	468,435	80,505,826
Liabilities:					
Accounts payable and accrued expenses	96,521	203	205	1,829	98,758
Benefits payable	656,401	—	78	38,456	694,935
HOP participant premium advances	—	—	—	40,884	40,884
Investment purchases and other payables	490,388	1,041	—	—	491,429
Obligations under securities lending	6,147,770	—	—	—	6,147,770
Interfund payable	—	575	319	252	1,146
Other liabilities	188,963	—	—	—	188,963
Total Liabilities	7,580,043	1,819	602	81,421	7,663,885
Net position restricted for pension, DC and postemployment healthcare benefits	$ 72,112,330	$ 201,881	$ 140,716	$ 387,014	$ 72,841,941

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

Statements of Fiduciary Net Position
June 30, 2023 and 2022
(Dollar Amounts in Thousands)

	2022				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 380,534	$ 340	$ 1,628	$ 123	$ 382,625
Employers	1,382,281	256	32,476	—	1,415,013
Investment income	200,975	5	69	110	201,159
Investment proceeds	408,568	—	—	—	408,568
CMS Part D and prescriptions	—	—	—	64,142	64,142
Interfund receivable	973	—	—	—	973
Total Receivables	2,373,331	601	34,173	64,375	2,472,480
Investments, at fair value:					
Short-term	8,915,210	8,743	101,907	394,618	9,420,478
Fixed income	13,752,793	—	—	—	13,752,793
Equity	17,136,393	—	—	—	17,136,393
Collective trust funds	5,481,102	90,895	—	—	5,571,997
Real estate	7,122,100	—	—	—	7,122,100
Alternative investments	17,900,975	—	—	—	17,900,975
Total Investments	70,308,573	99,638	101,907	394,618	70,904,736
Securities lending collateral pool	9,828,590	—	—	—	9,828,590
Capital assets (net of accumulated depreciation $42,983)	14,886	—	—	—	14,886
Miscellaneous	31,423	—	—	136	31,559
Total Assets	82,556,803	100,239	136,080	459,129	83,252,251
Liabilities:					
Accounts payable and accrued expenses	147,812	99	213	1,247	149,371
Benefits payable	541,983	—	60	33,902	575,945
HOP participant premium advances	—	—	—	34,157	34,157
Investment purchases and other payables	1,357,940	561	—	—	1,358,501
Obligations under securities lending	9,828,590	—	—	—	9,828,590
Interfund payable	—	608	331	34	973
Other liabilities	152,236	—	—	—	152,236
Total Liabilities	12,028,561	1,268	604	69,340	12,099,773
Net position restricted for pension, DC and postemployment healthcare benefits	$ 70,528,242	$ 98,971	$ 135,476	$ 389,789	$ 71,152,478

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

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2023 and 2022
(Dollar Amounts in Thousands)

	2023				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	$ 1,174,580	$ 50,676	$ —	$ —	$ 1,225,256
Employers	5,249,018	39,328	114,721	—	5,403,067
Total contributions	6,423,598	90,004	114,721	—	6,628,323
HOP Participant premiums	—	—	—	413,136	413,136
Centers for Medicare & Medicaid Services premiums	—	—	—	65,725	65,725
Investment income:					
From investing activities:					
Net appreciation in fair value of investments	1,315,367	21,437	—	—	1,336,804
Short-term	262,890	214	4,513	9,122	276,739
Fixed income	663,883	—	—	—	663,883
Equity	445,086	—	—	—	445,086
Collective trust funds	823	158	—	—	981
Real estate	188,922	—	—	—	188,922
Alternative investments	300,455	—	—	—	300,455
Total investment activity income	3,177,426	21,809	4,513	9,122	3,212,870
Investment expenses	(405,217)	(275)	(39)	(34)	(405,565)
Net income from investing activities	2,772,209	21,534	4,474	9,088	2,807,305
From securities lending activities:					
Securities lending income	402,300	—	—	—	402,300
Securities lending expense	(379,213)	—	—	—	(379,213)
Net income from securities lending activities	23,087	—	—	—	23,087
Total net investment income	2,795,296	21,534	4,474	9,088	2,830,392
Total Additions	9,218,894	111,538	119,195	487,949	9,937,576
Deductions:					
Benefits	7,537,873	—	112,870	450,984	8,101,727
Refunds of contributions	43,110	—	—	—	43,110
Distributions	—	6,170	—	—	6,170
Administrative expenses	53,823	2,458	1,085	39,740	97,106
Total Deductions	7,634,806	8,628	113,955	490,724	8,248,113
Net increase (decrease)	1,584,088	102,910	5,240	(2,775)	1,689,463
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	70,528,242	98,971	135,476	389,789	71,152,478
Balance, end of year	$ 72,112,330	$ 201,881	$ 140,716	$ 387,014	$ 72,841,941

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

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2023 and 2022
(Dollar Amounts in Thousands)

	2022				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	$ 1,134,051	$ 32,875	$ —	$ —	$ 1,166,926
Employers	4,997,912	25,424	117,178	—	5,140,514
Total contributions	6,131,963	58,299	117,178	—	6,307,440
HOP Participant premiums	—	—	—	409,361	409,361
Centers for Medicare & Medicaid Services premiums	—	—	—	71,482	71,482
Investment income:					
From investing activities:					
Net appreciation (depreciation) in fair value of investments	(1,765,123)	(15,682)	(345)	—	(1,781,150)
Short-term	22,295	19	694	377	23,385
Fixed income	556,068	—	—	—	556,068
Equity	416,326	—	—	—	416,326
Collective trust funds	472	5	—	—	477
Real estate	455,027	—	—	—	455,027
Alternative investments	547,142	—	—	—	547,142
Total investment activity income	232,207	(15,658)	349	377	217,275
Investment expenses	(525,171)	(155)	(33)	(31)	(525,390)
Net income (loss) from investing activities	(292,964)	(15,813)	316	346	(308,115)
From securities lending activities:					
Securities lending income	54,711	—	—	—	54,711
Securities lending expense	(28,997)	—	—	—	(28,997)
Net income from securities lending activities	25,714	—	—	—	25,714
Total net investment income (loss)	(267,250)	(15,813)	316	346	(282,401)
Total Additions	5,864,713	42,486	117,494	481,189	6,505,882
Deductions:					
Benefits	7,217,812	—	113,707	422,786	7,754,305
Refunds of contributions	36,560	—	—	—	36,560
Distributions	—	3,630	—	—	3,630
Administrative expenses	49,451	2,161	826	39,290	91,728
Total Deductions	7,303,823	5,791	114,533	462,076	7,886,223
Net increase (decrease)	(1,439,110)	36,695	2,961	19,113	(1,380,341)
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	71,967,352	62,276	132,515	370,677	72,532,820
Balance, end of year	$ 70,528,242	$ 98,971	$ 135,476	$ 389,789	$ 71,152,478

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

Notes to Financial Statements
Years Ended June 30, 2023 and 2022

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, 2023, there were 764 participating employers, generally school districts. Membership at June 30, 2023, the most recent year for which actual amounts are available, 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.

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. The IFO's actuarial note must be published prior to a second vote on pension-related legislation in the House or Senate.

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 Annual Comprehensive Financial Report of the Commonwealth of Pennsylvania.

Table 2 - Membership as of June 30, 2023

Active members:	
Vested	143,021
Nonvested	107,799
Total active members	**250,820**
Inactive members:	
Retirees and beneficiaries currently receiving benefits	249,724
Inactive members and vestees entitled to but not receiving benefits	26,776
Total retirees and other members	**276,500**
Total number of members	**527,320**

(B) Pension Plan

i. Pension Benefits

(a) Traditional Defined Benefit (DB) Plan

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 became new members on or after July 1, 2011 through June 30, 2019. 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 $265,000 for 2023 and $245,000 for 2022.

(b) Hybrid DB/DC Benefit

Act 5 of 2017 (Act 5) introduced a hybrid benefit with two membership classes and a separate defined contribution plan for individuals who become new members on or after July 1, 2019. Act 5 created two new hybrid membership classes, Membership Class T-G (Class T-G) and Membership Class T-H (Class T-H) and the separate defined contribution membership class, Membership Class DC (Class DC). To qualify for normal retirement, Class T-G and Class T-H members must work until age 67 with a minimum of 3 years of credited service. Class T-G may also qualify for normal retirement by attaining a total combination of age and service that is equal to or greater than 97 with a minimum of 35 years of credited service.

The normal retirement age, vesting period and final average salary for virtually all members are presented below:

Membership Class	Normal Retirement Age	Pension multiplier	Vesting	Final Average Salary
T-C	Age 62, or Age 60 with 30 years of service, or 35 years of service regardless of age.	2.00%	5 Years	For any 3 years of service
T-D		2.50%	5 Years	For any 3 years of service
T-E	Age 65 with a minimum of three years of service credit, or Any combination of age and service that totals 92 with at least 35 years of credited service.	2.00%	10 Years	For any 3 years of service
T-F		2.50%	10 Years	For any 3 years of service
T-G	Age 67 with a minimum of three years of service credit, or Any combination of age and service that totals 97 with at least 35 years of credited service.	1.25%	10 Years	For any 5 years of service
T-H	Age 67 with a minimum of three years of credited service.	1.00%	10 Years	For any 5 years of service

(c) Benefits Attributable to both the Traditional DB & Hybrid DB/DC

As summarized in the table above, benefits are generally between 1% to 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. A members' right to a defined benefit is vested in 5 to 10 years depending on membership class as summarized in the table above.

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, Class T-F, Class T-G and Class T-H members must purchase Non-Qualifying Part Time service and most other types of non-school or non-state service credit at full actuarial cost. Depending on membership class, members have 1 year or 3 years after enrollment in the system to purchase service for Non-Qualifying Part Time service.

In addition to regular retirement benefits, the System also provides for disability retirement benefits and death benefits. Members are eligible for disability retirement benefits after completion of five years of credited service.

Such benefits are generally between 33.33% to 40% of the member's final average salary, depending upon membership class. 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 or who has at least five years of credited service for Class T-C and Class T-D members; age 65 with at least three years of credited service for Class T-E and Class T-F members; age 67 with at least three years of credited services for Class T-G and Class T-H members or 10 years of credited service for Class T-E, Class T-F, Class T-G, and Class T-H 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 have that service combined with service in 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 elect to combine such service with 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 may elect to receive a return of their accumulated contributions and interest from the Members' Savings Account upon their retirement which results in a reduced monthly annuity.

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, Act 120 and Act 5) and are dependent upon membership class. The IRC annual compensation for a defined benefit plan was limited to a salary of $330,000 for 2023 and $305,000 for 2022.

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 became Class T-E members. New members, however, had 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 made the member ineligible for Class T-F forever. For Act 5 members, all new members automatically become Class T-G members. New members, however, have a one-time opportunity to elect Class T-H or Class DC within 90 days of receiving written notification from PSERS. Failure to elect Class T-H or Class DC at time of original eligibility will make the member ineligible for Class T-H or Class DC forever.

Act 120 introduced shared risk for Class T-E and Class T-F members. Act 5 enhanced shared risk for T-E and T-F members and added T-G and T-H members. Under shared risk eligible 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 ranges specified in the Shared Risk Summary table but can fluctuate by the shared risk increment every three years depending on the investment performance of PSERS.

The investment performance calculations utilized for the member risk share assessment are performed by the System's General Investment Consultant and, consistent with current investment policy, use quarter lagged values for private market investments. For example, for the nine-year measurement period ended June 30, 2020, the investment performance was determined using June 30th valuations for the System's publicly traded investments and March 31st valuations, (on a quarter lag basis), for its private market investments. In the Statements of Fiduciary Net Position as of June 30, 2020, however, the System's investments are presented at June 30th valuations in accordance with the investment fair value policy as described in Note 4(B).

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

Member Contribution Rates

Membership Class	Continuous Employment Since	Defined Benefit (DB) Contribution Rate	DC Contribution Rate	Total Contribution Rate
T-C	Prior to July 22, 1983	5.25%	N/A	5.25%
T-C	On or after July 22, 1983	6.25%	N/A	6.25%
T-D	Prior to July 22, 1983	6.50%	N/A	6.50%
T-D	On or after July 22, 1983	7.50%	N/A	7.50%
T-E	On or after July 1, 2011	7.50% base rate	N/A	Prior to 7/1/21: 7.50% After 7/1/21: 8.00%
T-F	On or after July 1, 2011	10.30% base rate	N/A	Prior to 7/1/21: 10.30% After 7/1/21: 10.80%
T-G	On or after July 1, 2019	5.50% base rate	2.75%	Prior to 7/1/21: 8.25% After 7/1/21: 9.00%
T-H	On or after July 1, 2019	4.50% base rate	3.00%	Prior to 7/1/21: 7.50% After 7/1/21: 8.25%
DC	On or after July 1, 2019	N/A	7.50%	7.50%

Shared Risk Summary

Membership Class	Defined Benefit (DB) Base Rate	Shared Risk Increment	Minimum	Maximum
T-E	7.50%	+/-0.50%	5.50%	9.50%
T-F	10.30%	+/-0.50%	8.30%	12.30%
T-G	5.50%	+/-0.75%	2.50%	8.50%
T-H	4.50%	+/-0.75%	1.50%	7.50%

The most recent member risk share measurement for the nine-year period ended June 30, 2020 determined that PSERS investment performance did not meet the shared risk target return threshold. As a result, membership Class T-E, Class T-F, Class T-G and Class T-H member defined benefit contribution rates increased starting on July 1, 2021. The Member Contribution Rates table shows the risk share impact to each class's contribution rate. The next member risk share measurement is for the ten-year period ending June 30, 2023 and may affect membership Classes T-E, T-F, T-G and T-H member contributions starting on July 1, 2024.

The total contribution rate for the employers and the Commonwealth was 35.26% and 34.94% (34.31% and 33.99% for pension component) of qualified compensation for the years ended June 30, 2023 and 2022, respectively.

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 on the Commonwealth of Pennsylvania Department of Education's Market Value/Personal Income Aid Ratio and other factors. 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.

The Commonwealth Share of total employer contributions for FY 2023 was $3.0 billion and for FY 2022 was $2.8 billion. The school and non-school entity share of total employer contributions for FY 2023 was $2.4 billion and for FY 2022 was $2.3 billion. For FY 2023 total employer contributions were $5.4 billion and for FY 2022 were $5.1 billion.

(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 have an out-of-pocket premium expense from an approved plan. Plans approved for Premium Assistance are health insurance plans maintained by a Commonwealth School Employer or the PSERS sponsored Health Options Program. As of June 30, 2023 there were no assumed future benefit increases to participating eligible annuitants in the Premium Assistance program. Membership at June 30, 2023, 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 0.75% for the year ended June 30, 2023 and 0.80% for the year ended June 30, 2022. Members do not contribute to Premium Assistance.

Table 3 - Premium Assistance Membership at June 30, 2023

Retirees and beneficiaries currently receiving benefits	93,199
Inactive members and vestees entitled to but not receiving benefits	629
Total retirees and other inactive members	**93,828**
Total active members	250,820
Total number of members	**344,648**

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. The PSERS pension fund assets are not available to fund or satisfy obligations of the HOP.

The 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 between 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 supplements and pre-65 high deductible plan are self-funded and claims are adjudicated by a third-party administrator. The Medicare Rx Options and the prescription drug benefit of the pre-65 high deductible plan are also self-funded and claims are adjudicated by a pharmacy benefits manager. The Medicare Advantage and managed care plans are provided by private insurance companies or managed care organizations and benefits are fully insured. HOP also offers a fitness program and a dental and vision option through fully insured carriers.

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). The PDP covers approximately 97,000 participants. CMS provides partial funding of the PDP in the form of monthly per capita payments and reinsurance. 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, 2023 and 2022 PSERS recorded $23,092,600 and 20,312,400, respectively, in IBNR. The IBNR is included in benefits payable.

(D) Defined Contribution Plan

On June 12, 2017, Commonwealth of Pennsylvania Act 5 of 2017 was signed into law. This legislation establishes a new hybrid defined benefit/defined contribution (DC) retirement benefit applicable to all school employees who become new members of PSERS on July 1, 2019 and thereafter. The three new plan design options under Act 5 include two hybrid benefits consisting of defined benefit and defined contribution components and a stand-alone defined contribution plan. A stand-alone defined benefit plan is no longer available to new members. The financial statements for FY 2023 and FY 2022 reflect the defined contribution plan activities for the third and fourth years of operations. All new members starting on July 1, 2019 and thereafter participate in the DC plan.

Defined Contribution Plan Membership at June 30, 2023	
Active members	59,861
Inactive members entitled to but not receiving distributions	3,804
Total number of members	**63,665**

PSERS DC Plan, is a defined contribution 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).

i. DC Benefits

Under PSERS DC Plan, the retirement benefit is based on the amount of contributions in the account and any investment performance less expenses. DC participants are always 100% vested in their own mandatory before-tax, after-tax, and rollover contributions in the DC plan. DC participants who have at least three eligibility points become vested and eligible for employer DC contributions made on their behalf. Participants with fewer than three eligibility points are not eligible to receive the employer contributions. DC account balances can grow based on investment earnings, however DC account balances are not guaranteed against loss in declining investment markets.

Death benefits are payable upon death of an active DC participant. DC participants who have at least three eligibility points in the DC plan receive participant and employer contributions with any investment gains, while participants with less than three eligibility points in the DC plan receive participants contributions and any investment gains. There is no disability benefit with PSERS DC Plan. Each eligibility point is earned the first day a contribution is made to the plan on behalf of a DC participant in a school year (July 1 – June 30). Only one eligibility point may be credited in a school year.

Class DC participants with 24.5 or more eligibility points who have terminated school service, who are Medicare eligible, and who received all or a part of their distributions; and Class DC participants with 15 or more eligibility points who terminate school service on or after attaining age 67, and receive all or a part of their distributions are entitled to receive premium assistance benefits.

ii. DC Contributions

Members hired after July 1, 2019 have a portion of each member and employer contribution to the system set aside for the DC plan. Member and employer rates are set by statute. A member may elect to make additional voluntary post-tax member contributions.

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. Unsettled investment purchases are included in investment purchases and other payables.

(C) Capital Assets

PSERS maintains three categories of capital assets: tangible capital assets, intangible capital assets and intangible right-to-use assets.

Tangible capital assets consist primarily of data processing equipment and software. Internally developed computer software is recognized as intangible capital assets. Capital assets are depreciated using the straight-line method over an estimated useful life of five years.

Intangible Right to Use Assets

Costs		**(Dollar Amount in thousands)**
Balances as of June 30, 2022	$	34,564
Balances as of June 30, 2023	$	34,564
Accumulated Depreciation and Amortization		
Balances as of June 30, 2022		
Depreciation and Amortization Expense	$	(11,253)
Balances June 30, 2023		(11,253)
Net Right to Use Assets June 30, 2023	**$**	**23,311**

Intangible capital 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 up to 10 years for assets purchased after June 30, 2012.

Intangible right-to-use leases are recorded at net present value of lease payments. Intangible right-to-use lease assets and related liabilities are recorded at the commencement date of the related contract. Lease liabilities, included in Other Liabilities on the Statement of Fiduciary Net Position, are measured at the present value of expected payments over the contract term. Lease assets are amortized over the shorter of the term of the contract or the useful life of the underlying assets. Interest expense is recognized over the contract term.

Intangible right-to-use Subscription-Based Information Technology Arrangements (SBITA) are recorded under GASB Statement No. 96, Subscription-Based Information Technology Arrangements. Intangible right-to-use SBITA assets and related liabilities are recorded at the commencement date of the related contract. SBITA liabilities, included in Other Liabilities on the Statement of Fiduciary Net Position, are measured at the present value of expected payments over the contract term. SBITA assets are amortized over the shorter of the term of the contract or the useful life of the underlying assets. Interest expense is recognized over the contract term.

(D) Benefits Payable

Benefits payable represents 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, federal taxes withheld but not yet due to the IRS, 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. Deferred inflows of resources are reported in Other liabilities. Deferred outflows of resources are reported in Miscellaneous assets. Pension expense is reported in administrative expenses and is detailed on the Schedule of Administrative and Investment Expenses Supplementary Schedule.

(F) Postemployment Healthcare Plan for Employees of the System

For purposes of measuring the net OPEB liability, deferred outflows of resources, deferred inflows of resources and OPEB expense, information about the fiduciary net position of the Commonwealth of Pennsylvania Retired Employees Health Program (REHP) and additions to/deductions from REHP fiduciary net position have been determined on the same basis as they are reported by the REHP. Please refer to Note 9 for additional information regarding the REHP. PSERS' net OPEB liability for its employees to the REHP is reported in Other liabilities. Deferred inflows of resources are reported in Other liabilities. Deferred outflows of resources are reported in Miscellaneous assets. OPEB expense is reported in administrative expenses and is detailed on the Schedule of Administrative and Investment Expenses Supplementary Schedule.

(G) 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, 2023 and 2022, $6,810,000 and $6,420,000, 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.

(H) Participant Premium Advances

Premium advances at June 30, 2023 and 2022 are for HOP premiums related to health care coverage to be provided in July of 2023 and 2022, respectively.

(I) Federal Income Taxes

PSERS is exempt from federal income taxes under section 501 (a) of the Internal Revenue Code.

(J) 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. In addition, the DC plan has its own fiduciary insurance through a third-party.

The Health Options Program maintains a reserve equal to approximately 11 to 12 months of self-funded benefits and expenses. Reserves are recommended for all self-insured group health plans to cover the potential for unexpected claim volatility (high amount claim events) and unanticipated economic changes (excessive inflation). Further, The Health Options Program, as a Medicare Supplement Plan has limited exposure to high cost claims which reduces the potential for excess risk. Medicare is the primary payer for most medical claims in the HOP Medical and Value Medical plans, and the Medicare Prescription Drug Program is protected by Medicare Part D Catastrophic coverage. Benefits for members who are not eligible for Medicare are limited to $300,000 per year in medical benefits, and $1,000,000 over a member's lifetime. Medical and Prescription drug benefits provided by Managed Care Organizations are fully insured by those providers. For these reasons, the Health Options Program is sufficiently reserved and reinsurance (stop loss coverage) is not needed or recommended at this time.

(K) Reclassifications

Certain 2022 amounts have been reclassified in conformity with the 2023 presentation. These reclassifications had no effect on net position restricted for pension benefits or the change in fiduciary net position.

(L) 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 member receivables at June 30, 2023 and 2022:

	(Dollar Amounts in Thousands)	
	2023	2022
Pension:		
Member Contributions	**$ 88,253**	$ 78,895
Purchase of Service	**305,797**	294,228
Other	**10,769**	7,411
Total Pension	**$ 404,819**	$ 380,534
Defined Contribution Plan	**$ 509**	$ 340
Postemployment Healthcare:		
Premium Assistance	**$ 1,541**	$ 1,628
Health Options Program	**133**	123

(M) Interfund Transactions and Balances

Interfund transfers of assets take place on a regular recurring basis between Pension, Premium Assistance, HOP and Defined Contribution. 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.

(N) Adoption of New Accounting Standards

PSERS reviews the requirements of all new GASB pronouncements and assesses the potential impact to the System. Two new GASB standards were implemented in the fiscal year ended June 30, 2023: GASB Statement No. 87, Leases, and GASB Statement No. 96, Subscription-Based Information Technology Arrangements.

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.

Table 4 - Account Balance

	(Dollar Amounts in Thousands)	
	2023	**2022**
Pension:		
State Accumulation Account	**$ (9,242,681)**	$ (10,504,636)
Members' Savings Account	**19,188,548**	18,802,945
Annuity Reserve Account	**62,166,463**	62,229,933
	$ 72,112,330	$ 70,528,242
Defined Contribution Plan	**$ 201,881**	$ 98,971
Postemployment Healthcare:		
Health Insurance Account	**$ 140,716**	$ 135,476
Health Insurance Program Account	**$ 387,014**	$ 389,789

(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 7.00% valuation assumption rate determined by the actuary. All administrative expenses necessary for the operation of the System, except for Premium Assistance, HOP, and Defined Contribution Plan 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) School Employees' Defined Contribution Trust (Defined Contribution Plan)

The School Employees' Defined Contribution Trust accumulates DC participants and employer contributions, investment earnings and DC plan expenses of the School Employees' Defined Contribution Plan. The trust is comprised of individual investment accounts, all assets in those accounts and any assets held that are not allocated to the individual investment accounts. The assets of the plan are held in trust for the exclusive benefit of the participants and their beneficiaries and may be used for payment of fees, costs and expenses related to the administration and investment of the plan and the trust.

(E) 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 Program.

(F) 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, 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:** Level 2 inputs are prices that are observable either directly or indirectly. Level 2 inputs may include quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable such as interest rates, yield curves, implied volatilities, credit spreads or market-corroborated inputs.
- **Level 3 inputs:** Reporting entities may use unobservable inputs to measure fair value if relevant observable inputs are not available, 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 published 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 equities 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 Collective Trust Fund investments (CTF), PSERS' management in consultation with investment advisors has determined the fair value based upon the reported share value of the respective fund. The reported share value of the fund is based upon each respective fund's administrator statement.

Private equity, equity real estate, private credit, private infrastructure, and absolute return are generally organized as limited partnerships. The fair value of investments that are organized as limited partnerships, and has no readily available daily fair value, has been determined by using the net asset value per share (or its equivalent) of PSERS' ownership interest in partners' capital. These net asset values are based on the individual investor's June 30, 2023 capital account balance reported at fair value by the general partner of the respective limited partnership, or the most recently available reporting period, adjusted for subsequent contributions, distributions, management fees, changes in values of foreign currency, and published market prices for certain securities.

The limited partnerships' annual financial statements, which include estimates of fair values, are audited by independent certified public accounting firms. It is possible that these estimates could change in the near-term, or upon the sale of the assets, resulting in valuations that could differ from the June 30, 2023, reported net asset value.

Directly-owned real estate investments are valued based upon the June 30th financial statements completed by the asset manager. The directly-owned real estate investments are appraised annually by an independent third-party appraiser as of calendar year-end unless subject to a waiver as approved by the Deputy CIO or CIO. Properties not appraised are internally valued by the asset manager at fair market value. Certain properties acquired with no appraisal are held at cost. Directly-owned real estate investments are reported net of related debt borrowed against the market value of the property. The $136,235,000 of mortgage financings that were netted against the related property valuations and classified as Level 1 in FY 2022 were paid in full during FY 2023.

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

ii. Investments at Net Asset Value (NAV)

(a) Collective trust fund investments consist primarily of domestic and international institutional funds. The fair value of CTF is based on the reported share value of the respective fund by the fund administrator. CTF are managed by 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.

(b) Equity real estate generally consists of real estate limited partnerships. These investments are across multiple asset types such as industrial, multi-family, office, retail, hotels, agriculture (permanent crops), and other real estate related assets.

The equity real estate investments utilize core, value-added, and opportunistic strategies. Core real estate strategies are expected to deliver a significant percentage of their return from income and should demonstrate lower volatility than opportunistic and value-added strategies due to lower leverage, higher levels of occupancy, and asset location in primary markets. Value-added real estate strategies typically have near-term leasing, repositioning, and /or renovation risk. Value-added strategies are expected to have modest initial operating revenues with potential for substantial income growth and will likely encounter greater volatility than core strategies, but lower volatility than opportunistic strategies. Opportunistic real estate strategies typically have significant development, lease-up, financial restructuring, and/or liquidity risk with little or no initial operating income. Opportunistic real estate strategies typically utilize higher levels of leverage, are expected to achieve most of its return from future capital gains, and are likely to encounter greater volatility than core and value-added strategies. The fair value of the equity real estate investments has 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 equity real estate investments will be liquidated over the next seven to 12 years.

(c) Private equity includes limited partnerships that invest in private companies and utilize buyout, growth equity, and venture capital strategies. Buyout funds acquire shares of a private company in an attempt to gain a controlling interest. Venture capital funds invest in young, relatively small, rapidly growing companies, typically in either the health care or information technology sectors. Growth equity funds are in between venture capital and buyouts in that they tend to have positive revenue growth and earnings at times, but don't have the leverage that is typical in a buyout investment. The fair values 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 private equity 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 10 years in a typical private equity fund.

(d) Private credit includes limited partnerships and open-ended funds that invest in all types of credit which is not traditional investment grade government or corporate debt. Private credit strategies include direct lending, mezzanine lending, distressed and special situations, specialty finance, structured credit, real estate credit, and real assets credit. Direct lending is focused on providing senior secured loans to middle-market businesses. Mezzanine is primarily focused on providing subordinated debt capital to private businesses. Distressed and special situations is focused on issuing loans to companies undergoing financial or operational challenges or purchasing publicly listed, stressed securities. Specialty finance is a set of niche lending strategies that provide financing to consumers, small businesses, and other borrowers. Structured credit is a set of strategies that target investments in securitized debt obligations, such as collateralized loan obligations and collateralized debt obligations. Real estate credit is focused on commercial real estate collateral or residential mortgage origination. Real assets credit is focused on providing debt capital to companies operating within the real asset space with loans typically secured by real assets. 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 3 to 5 years.

(e) Private infrastructure investments generally consist of limited partnership vehicles which invest in private companies and assets that provide essential services to the economy, including regulated assets, contracted energy assets, and transportation assets with high barriers to entry and stable and predictable long-term cash flows. Regulated assets generally include electricity transmission and distribution facilities, gas distribution systems, pipelines, water distribution, and wastewater collection and processing facilities. Contracted energy assets generally include renewable and conventional generation, pipelines, and storage. Transportation assets generally include toll roads, bridges and tunnels, airports, seaports, parking facilities, and rail lines. The fair value of the private infrastructure investments has 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 infrastructure investment 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 infrastructure investments will be liquidated over the next 7 to 12 years.

(f) Absolute return includes investments that are private investment funds that seek to produce absolute returns generally using event-driven, tactical trading, and relative value strategies. Event-driven funds seek to gain an advantage from pricing inefficiencies that may occur before or after a corporate action or related event, such as a merger, spinoff, earnings call, bankruptcy, or restructuring. Tactical trading funds invest their holdings in indexes, commodities, interest rate instruments, and currencies as a result of relative value or directional forecasts from a systematic or discretionary approach. Relative value strategies use a range of fixed income arbitrage, insurance linked, long-short credit, and/or quantitative strategies that seek to take advantage of price differentials. The fair values of the investments in this type have been determined using the NAV per share of the investments. With the most recently approved strategic asset allocation, the absolute return portfolio is in liquidation. While many of the investments can be redeemed within 12 months of June 30, 2023, there are investments that include restrictions that do not allow for redemption during the next 12 months and could take as long as seven years to be fully liquidated.

(g) DC Collective trust fund investments (DC-CTF) consist primarily of domestic and international institutional funds. The fair value of DC-CTF is based on the reported share value of the respective fund. DC-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.

(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 deposit and investment policies of the Treasury Department are governed by Sections 301, 301.1, and 505 of the Pennsylvania Fiscal Code (Act of 1929, P.L. 343), and Section 321.1 of the Pennsylvania Administrative Code (Act of 1929, P.L. 177, No. 175).

The System, through its third-party administrator, maintains certain bank deposits for the operation of its voluntary HOP. These deposits are not required to be collateralized by statute or policy. These deposits totaled $324,187,000 and $300,204,000 at June 30, 2023 and 2022, respectively, and are under the custody of M&T Bank which has an A- rating by Standard and Poor's (S&P) and an A1 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 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.

At June 30, 2023, the System had the following recurring fair value measurements in the Pension Plan.

Pension Investments

Investments and Derivative Instruments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 4,834,819**	$ 2,986,284	$ 1,848,535	$ —
Other domestic short-term	**1,259,656**	1,150,294	109,362	—
International short-term	**24,337**	9,946	14,391	—
	6,118,812	4,146,524	1,972,288	—
Fixed:				
Domestic asset-backed and mortgage-backed securities	**579,899**	—	579,899	—
U.S. government and agency obligations	**10,993,228**	10,987,314	5,914	—
Domestic corporate and taxable municipal bonds	**1,494,012**	538,188	955,824	—
International fixed income	**289,365**	—	289,365	—
	13,356,504	11,525,502	1,831,002	—
Equity:				
Domestic equity	**11,753,219**	11,753,219	—	—
International equity	**7,604,593**	7,604,593	—	—
	19,357,812	19,357,812	—	—
Directly-owned real estate	**1,496,700**	—	—	1,496,700
Total investments by fair value level	**40,329,828**	$ 35,029,838	$ 3,803,290	$ 1,496,700
Investments measured at the net asset value (NAV)				
Collective trust funds - Fixed Income	**2,302,137**			
Collective trust funds - Equity	**2,148,483**			
Collective trust funds - Other	**2,117,309**			
Equity real estate	**4,258,716**			
Private Infrastructure	**1,682,316**			
Alternative investments:				
Private equity	**12,789,319**			
Private credit	**5,175,199**			
Absolute return	**198,556**			
	18,163,074			
Total investments measured at the NAV	**30,672,035**			
Total investments measured at fair value	**$ 71,001,863**			
Investment derivative instruments				
Futures	**$ 43,857**	$ 43,857	$ —	$ —
Total return type swaps	**(85,897)**	(85,897)	—	—
Foreign exchange contracts	**33,865**	33,865	—	—
Options	**2,291**	2,291	—	—
Total investment derivative instruments	**$ (5,884)**	$ (5,884)	$ —	$ —

At June 30, 2022, the System had the following recurring fair value measurements in the Pension Plan.

Pension Investments

Investments and Derivative Instruments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2022	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 8,145,521	$ 6,876,768	$ 1,268,753	$ —
Other domestic short-term	755,232	751,519	3,713	—
International short-term	14,457	11,770	2,687	—
	8,915,210	7,640,057	1,275,153	—
Fixed income:				
Domestic asset-backed and mortgage-backed securities	603,577	—	603,577	—
U.S. government and agency obligations	10,513,307	10,505,354	7,953	—
Domestic corporate and taxable municipal bonds	766,260	—	766,260	—
International fixed income	255,118	21,253	233,865	—
	12,138,262	10,526,607	1,611,655	—
Equity:				
Domestic equity	8,217,398	8,217,398	—	—
International equity	7,256,999	7,256,996	—	3
	15,474,397	15,474,394	—	3
Directly-owned real estate	1,721,215	(136,235)	—	1,857,450
Total investments by fair value level	38,249,084	$ 33,504,823	$ 2,886,808	$ 1,857,453
Investments measured at the net asset value (NAV)				
Collective trust funds - Fixed Income	1,614,531			
Collective trust funds - Equity	1,661,996			
Collective trust funds - Other	5,481,102			
Equity real estate	4,281,128			
Private Infrastructure	1,119,757			
Alternative investments:				
Private equity	12,459,390			
Private credit	5,257,782			
Absolute return	183,803			
	17,900,975			
Total investments measured at the NAV	32,059,489			
Total investments measured at fair value	$ 70,308,573			
Investment derivative instruments				
Futures	$ 64,144	$ 64,144	$ —	$ —
Total return type swaps	(859,392)	(859,392)	—	—
Foreign exchange contracts	10,685	10,685	—	—
Options	3,213	3,213	—	—
Total investment derivative instruments	$ (781,350)	$ (781,350)	$ —	$ —

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2023 and 2022 are presented in the following tables.

Pension Investments

Fair Value of Investments

Investments measured at the NAV
(Dollar Amounts in Thousands)

	2023			
	Fair Value	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds - Fixed Income (a)	**$ 2,302,137**	$ —	see note (a)	see note (a)
Collective trust funds - Equity (a)	**2,148,483**	—	see note (a)	see note (a)
Collective trust funds - Other (a)	**2,117,309**	—	see note (a)	see note (a)
Equity real estate (b)	**4,258,716**	2,508,928	see note (b)	see note (b)
Private Infrastructure (e)	**1,682,316**	1,276,473	see note (e)	see note (e)
Alternative investments:				
Private equity (c)	**12,789,319**	3,777,403	see note (c)	see note (c)
Private credit (d)	**5,175,199**	3,083,132	see note (d)	see note (d)
Absolute return (f)	**198,556**	207,733	see note (f)	see note (f)
	18,163,074			
Total investments measured at the NAV	**$ 30,672,035**			

Pension Investments

Fair Value of Investments

Investments measured at the NAV
(Dollar Amounts in Thousands)

	2022			
	Fair Value	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds - Fixed Income (a)	$ 1,661,996	$ —	see note (a)	see note (a)
Collective trust funds - Equity (a)	1,614,531	—	see note (a)	see note (a)
Collective trust funds - Other (a)	5,481,102	—	see note (a)	see note (a)
Equity real estate (b)	4,281,128	2,268,595	see note (b)	see note (b)
Private Infrastructure (e)	1,119,757	1,323,421	see note (e)	see note (e)
Alternative investments:				
Private equity (c)	12,459,390	4,440,134	see note (c)	see note (c)
Private credit (d)	5,257,782	3,271,248	see note (d)	see note (d)
Absolute return (f)	183,803	325,740	see note (f)	see note (f)
	17,900,975			
Total investments measured at the NAV	$ 32,059,489			

At June 30, 2023, the System had the following recurring fair value measurements in the Premium Assistance Program.

Premium Assistance Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 108,367**	$ 66,934	$ 41,433	$ —
Total investments measured at fair value	**$ 108,367**	$ 66,934	$ 41,433	$ —

At June 30, 2022, the System had the following recurring fair value measurements in the Premium Assistance Program.

Premium Assistance Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2022	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 101,799	$ 85,943	$ 15,856	$ —
Other domestic short-term	108	—	108	—
Total investments measured at fair value	$ 101,907	$ 85,943	$ 15,964	$ —

At June 30, 2023, the System had the following recurring fair value measurements in the Health Options Program.

Health Options Program Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 96,693**	$ 59,724	$ 36,969	$ —
Other domestic short-term	**324,187**	324,187	—	—
Total investments measured at fair value	**$ 420,880**	$ 383,911	$ 36,969	$ —

At June 30, 2022, the System had the following recurring fair value measurements in the Health Options Program.

Health Options Program Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2022	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 94,414	$ 79,708	$ 14,706	$ —
Other domestic short-term	300,204	300,204	—	—
Total investments measured at fair value	$ 394,618	$ 379,912	$ 14,706	$ —

At June 30, 2023, the System had the following recurring fair value measurements in the DC Plan.

Defined Contribution Plan Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 4,843**	**$ 2,991**	**$ 1,852**	**$ —**
Other domestic short-term	**6,388**	**6,388**	**—**	**—**
Total investments by fair value level	**11,231**	**9,379**	**1,852**	$ —
Investments measured at the net asset value (NAV)				
Collective trust funds	**191,535**			
Total investments measured at the NAV	**191,535**			
Total investments measured at fair value	**$ 202,766**			

At June 30, 2022, the System had the following recurring fair value measurements in the DC Plan.

Defined Contribution Plan Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2022	Level 1	Level 2	Level 3
Investments by fair value level				
PSERS Short-Term Investment Fund	$ 5,301	$ 4,475	$ 826	$ —
Other domestic short-term	3,442	3,442	—	—
Total investments by fair value level	8,743	$ 7,917	$ 826	$ —
Investments measured at the net asset value (NAV)				
Collective trust funds	90,895			
Total investments measured at the NAV	90,895			
Total investments measured at fair value	$ 99,638			

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2023 is presented in the following table.

Defined Contribution Plan Investments

Fair Value of Investments

Defined Contribution Plan investments measured at the NAV
(Dollar Amounts in Thousands)

	2023			
	Fair Value	**Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds (g)	**$ 191,535**	$ —	see note (g)	see note (g)
Total investments measured at the NAV	**$ 191,535**			

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2022 is presented in the following table.

Defined Contribution Plan Investments

Fair Value of Investments

Defined Contribution Plan investments measured at the NAV
(Dollar Amounts in Thousands)

	2022			
	Fair Value	**Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds (g)	$ 90,895	$ —	see note (g)	see note (g)
Total investments measured at the NAV	$ 90,895			

The following table discloses aggregate market value for the System's Short-term and Fixed Income assets 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, 2023 and 2022.

	(Dollar Amounts in Thousands)	
	2023	2022
Quality Rating	**Fair Value**	Fair Value
AAA	**$ 541,764**	$ 4,113,419
AA	**3,204,630**	2,712,774
A	**791,723**	875,885
BBB	**312,250**	802,534
BB and Below	**881,233**	365,691
NR*	**5,427,923**	3,629,077
Total Exposed to Credit Risk	**11,159,523**	12,499,380
U.S. Government Guaranteed**	**11,158,408**	10,673,891
Total Fixed Income and Short-Term Investments	**$ 22,317,931**	$ 23,173,271

*Not Rated securities include $828,136 and $1,614,531 in collective trust funds and $1,171,432 and $724,869 in PSERS Short-Term Investment Fund assets at June 30, 2023 and 2022 respectively.

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

***nationally recognized statistical rating organizations (NRSRO)

At June 30, 2023 and 2022, the System's fixed income portfolio had the following option-adjusted durations by fixed income sector:

	(Dollar Amounts in Thousands)			
	2023		2022	
Investment Type	**Option-Adjusted Duration**	**Fair Value**	Option-Adjusted Duration	Fair Value
Domestic asset-backed and mortgage-backed securities	**0.2**	**$ 579,899**	1.0	$ 3,898,511
U.S. government and agency obligations	**11.1**	**10,993,228**	11.5	7,218,373
Domestic corporate and taxable municipal bonds	**0.5**	**1,494,012**	3.0	766,260
International fixed income	**1.9**	**289,365**	2.0	255,118
Collective trust funds*	**10.1**	**2,302,137**	4.1	1,614,531
PSERS Short-Term Investment Fund	**0.1**	**5,044,722**	0.1	8,347,035
Other Short-Term Assets	**0.1**	**1,614,568**	0.1	1,073,443
Total	**6.6****	**$ 22,317,931**	**4.2****	$ 23,173,271

* Represents funds holding fixed income assets.

** 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, 2023 and 2022. The total portfolio option adjusted duration is calculated by weighting each investment type by fair value.

(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. As of June 30, 2023 and 2022, 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 33.0% of the investment portfolio. The fixed income target allocation consists of:

- An allocation of 10.0% of the portfolio has been made to the investment grade segment of the fixed income asset class benchmarked to the Bloomberg U.S. Aggregate Bond TR Index (2.0%) and the Bloomberg U.S. Long Treasury TR Index (8.0%). Within this segment, the U.S. long treasury allocation (8.0%) is composed of primarily long duration U.S. Treasury securities issued by the U.S. government. The U.S. core fixed allocation (2.0%) is composed of primarily investment grade, relatively liquid, public domestic and government-related bonds with an overall weighted-average NRSRO credit rating of A or better.
- An allocation of 6.0% of the portfolio has been made to the private fixed income segment of the fixed income asset class benchmarked to the Morningstar LSTA U.S. Leveraged Loan TR Index plus 200 basis points. The private fixed income allocation is composed of primarily investments in limited partnerships focusing on direct lending, mezzanine, distressed and special situations, specialty finance and structured credit strategies.
- An allocation of 11.0% of the portfolio has been made to the inflation protected securities segment of the fixed income asset class benchmarked to the Bloomberg U.S. Government Inflation-Linked Bond All Maturities TR Index (10.0%) and the Bloomberg World Government ex U.S. Inflation-Linked Bond All Maturities TR Index (Hedged to USD) (1.0%). Within this segment, the U.S. inflation protected allocation (10.0%) is composed of primarily government issued Treasury Inflation Protected Securities (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. The Non-U.S. inflation protected allocation (1.0%) is composed primarily of non-U.S. government related securities tied to inflationary measures.
- An allocation of 6.0% of the portfolio has been made to the credit-related segment of the fixed income asset class with 4.0% benchmarked to the Bloomberg U.S. Corporate High Yield Bond Index and 2.0% benchmarked to the JP Morgan EMD Aggregate Total Return Index.

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, 2023 and 2022.

	(Dollar Amounts in Thousands)	
	2023	2022
Quality Rating	**Fair Value**	Fair Value
A	**$ (85,897)**	$ (859,392)
Total Swaps - Total Return	**$ (85,897)**	$ (859,392)

PSERS applies leverage opportunistically in implementing its asset allocation policy, providing an additional mechanism to increase expected volatility in order to target higher expected return when warranted. Total Leverage is allocated at (10.5%); Leverage is netted against the System's Cash allocation of 3.0% for a Net Leverage Allocation of (7.5%).

- An allocation of 3.0% of the portfolio has been made to cash benchmarked to the ICE BofAML 0-3 Month U.S. Treasury Bill Index composed of primarily investment grade, relatively liquid 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. In addition, the System partially hedges non-U.S. developed market currency exposure not hedged by the investment managers back to U.S. dollars.

(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.

The System minimizes its credit risk exposure by requiring borrowers to provide collateralization in excess of 100% of the fair value of the securities loaned. 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, 2023 and 2022 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 as of June 30, 2023 and 2022.

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 the earnings from the cash collateral provided by the borrower less a fee paid to the third-party agent minus a negotiated rebate of a portion of the earnings on the cash collateral. The weighted-average maturity of the investments in the pool was one day at June 30, 2023 and 2022. During the fiscal years ended June 30, 2023 and 2022 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.

As of June 30, 2023, the fair value of loaned securities was $6,021,858,000. The fair value of the associated collateral was $6,147,770,000, all of which was cash. As of June 30, 2022, the fair value of loaned securities was $9,665,650,000. The fair value of the associated collateral was $9,828,590,000, all of which was cash.

Non-U.S. currency exposures at June 30, 2023 and 2022:

2023**

(Dollar Amounts in Thousands)

Currency	**Equity**	**Fixed Income**	**Alternative Investments & Real Estate**	**Short-Term***	**Currency Hedge**	**Total Fair Value**
Japanese yen	**$ 1,110,755**	**$ 5,389**	**$ 69,674**	**$ 1,880**	**$ (816,392)**	**$ 371,306**
British pound sterling	**821,241**	**—**	**411,382**	**(2,331)**	**(868,736)**	**361,556**
Euro	**1,721,140**	**43,767**	**1,342,955**	**15,791**	**(2,873,229)**	**250,424**
Taiwan new dollar	**203,295**	**—**	**—**	**557**	**(254)**	**203,598**
Indian rupee	**189,367**	**—**	**—**	**483**	**—**	**189,850**
Canadian dollar	**848,246**	**—**	**—**	**6,088**	**(700,736)**	**153,598**
Swiss franc	**397,407**	**—**	**—**	**5,690**	**(293,153)**	**109,944**
Danish krone	**155,910**	**—**	**—**	**2,421**	**(62,991)**	**95,340**
Hong Kong dollar	**262,260**	**—**	**—**	**1,445**	**(177,068)**	**86,637**
Other non-U.S. currencies	**1,270,939**	**106,455**	**—**	**19,930**	**(974,046)**	**423,278**
Total	**$ 6,980,560**	**$ 155,611**	**$ 1,824,011**	**$ 51,954**	**$ (6,766,605)**	**$ 2,245,531**

2022**

(Dollar Amounts in Thousands)

Currency	**Equity**	**Fixed Income**	**Alternative Investments & Real Estate**	**Short-Term***	**Currency Hedge**	**Total Fair Value**
British pound sterling	$ 770,689	$ —	$ 445,900	$ 647	$ (864,720)	$ 352,516
Japanese yen	906,040	6,721	48,436	4,539	(762,005)	203,731
Taiwan new dollar	182,810	—	—	44	—	182,854
Indian rupee	152,569	—	—	167	—	152,736
South Korean won	74,696	—	—	762	—	75,458
Danish krone	125,349	—	—	1,724	(52,060)	75,013
Hong Kong dollar	300,984	—	—	72	(226,963)	74,093
Swiss Franc	340,126	—	—	4,821	(274,238)	70,709
Euro	1,386,868	12,800	1,317,232	15,378	(2,817,021)	(84,743)
Other non-U.S. currencies	1,766,449	91,824	—	8,154	(1,695,102)	171,325
Total	**$ 6,006,580**	**$ 111,345**	**$ 1,811,568**	**$ 36,308**	**$ (6,692,109)**	**$ 1,273,692**

* Includes investment receivables and payables

**PSERS increased currency hedge ratios during FY 2022. To determine the level of currency risk, the currency hedge program uses a country of risk method. This table is prepared using currency risk based on investments held in a foreign currency.

The following table summarizes the System's foreign exchange contracts by currency at June 30, 2023 and 2022:

2023
(Dollar Amounts in Thousands)

Currency	**Buys**	**Unrealized Gain/(Loss)**	**Sells**	**Unrealized Gain/(Loss)**
Euro	**$ 6,678**	**$ —**	**$ 2,879,907**	**$ 4,531**
Japanese yen	**7,669**	**—**	**824,061**	**15,979**
Swiss franc	**662**	**—**	**296,058**	**(557)**
Australian dollar	**802**	**(1)**	**606,391**	**9,651**
Swedish krona	**1,159**	**(2)**	**93,133**	**365**
Canadian dollar	**684**	**1**	**698,213**	**28**
Singapore dollar	**—**	**—**	**75,325**	**558**
Hong Kong dollar	**—**	**—**	**177,068**	**192**
British pound sterling	**—**	**—**	**872,569**	**1,426**
New Zealand dollar	**—**	**—**	**160,594**	**920**
Other non-U.S. currencies	**6,722**	**21**	**104,418**	**753**
Total	**$ 24,376**	**$ 19**	**$ 6,787,737**	**$ 33,846**

2022
(Dollar Amounts in Thousands)

Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	$ 14,520	$ 1	$ 2,831,541	$ 13,554
Japanese yen	599	2	762,604	(1,682)
Swiss franc	805	—	275,043	(2,860)
Australian dollar	1,769	—	595,482	1,532
Swedish krona	1,637	—	103,818	1,010
Canadian dollar	5,128	(2)	745,074	(4,737)
Singapore dollar	—	—	77,518	124
Hong Kong dollar	—	—	226,963	(30)
British pound sterling	—	—	865,528	2,767
New Zealand dollar	—	—	137,152	808
Other non-U.S. currencies	2,995	(9)	98,839	207
Total	$ 27,453	$ (8)	$ 6,719,562	$ 10,693

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 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, 2023 and 2022 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, equities, and futures options. In FY2023 and FY2022, the System purchased over-the-counter put options on the S&P 500 Index. The fair value of these option contracts of $2,291,000 and $3,213,000 at June 30, 2023 and 2022, respectively, is included in the Statements of Fiduciary Net Position.

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 $6,812,113,000 of foreign currency contracts outstanding at June 30, 2023 consist of "buy" contracts, which represent the U.S. dollar equivalents of commitments to purchase foreign currencies of $24,376,000 and "sell" contracts, which represent U.S. dollar equivalents of commitments to sell foreign currencies of $6,787,737,000. The $6,747,015,000 of foreign currency contracts outstanding at June 30, 2022 consist of "buy" contracts of $27,453,000 and "sell" contracts of $6,719,562,000. The unrealized gain on contracts of $33,865,000 and $10,685,000 at June 30, 2023 and 2022, 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, 2023 and 2022, 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 payable on the total return type swap contracts of $(85,897,000) and $(859,392,000) at June 30, 2023 and 2022, 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 31, 2023 to June 28, 2024.

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, 2023 and 2022.

	(Dollar Amounts in Thousands) 2023	2022
Futures contracts - long:		
Treasury futures	**$ 234,651**	$ 250,321
U.S. equity futures	**258,299**	200,465
Non-U.S. equity futures	**—**	185,605
Commodity futures	**443,132**	502,872
Futures contracts - short:		
Treasury futures	**—**	5,402
Foreign exchange forward and spot contracts, gross	**6,812,113**	6,747,015
Options - puts purchased	**4,325,000**	918,350
Swaps - total return type	**9,873,910**	12,187,253

The fair values of derivative instruments outstanding at June 30, 2023 and 2022 are classified by type and by the changes in fair value of the derivative instrument in the table below.

(Dollar Amounts in Thousands)

	Change in Fair Value Gain/(Loss) FY 2023		**Fair Value at June 30, 2023**	
Investment Derivative Type	**Classification**	**Amount**	**Classification**	**Amount**
Futures	Investment income	**$ 43,857**	Receivable/(Payable)	**$ 43,857**
Total return type swaps	Investment income	**(85,897)**	Receivable/(Payable)	**(85,897)**
Foreign exchange contracts	Investment income	**33,865**	Receivable/(Payable)	**33,865**
Options	Investment income	**(4,939)**	Investment	**2,291**
Total		**$ (13,114)**		**$ (5,884)**

	Change in Fair Value Gain/(Loss) FY 2022		Fair Value at June 30, 2022	
Investment Derivative Type	Classification	Amount	Classification	Amount
Futures	Investment income	$ 64,144	Receivable/(Payable)	$ 64,144
Total return type swaps	Investment income	(859,392)	Receivable/(Payable)	(859,392)
Foreign exchange contracts	Investment income	10,685	Receivable/(Payable)	10,685
Options	Investment income	(1,890)	Investment	3,213
Total		$ (786,453)		$ (781,350)

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, 2023 and 2022 is $128,344,000 and $116,279,000, respectively.

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 hedge funds, the System also indirectly holds various derivative financial instruments. The hedge 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, 2023 were as follows:

(Dollar amounts in thousands)

Total pension liability	$ 116,598,710
Less: Plan fiduciary net position	72,112,330
Employer net pension liability	$ 44,486,380
Plan fiduciary net position as a percentage of the total pension liability	61.85%

Actuarial Assumptions

The total pension liability at June 30, 2023 was determined by rolling forward the System's total pension liability at June 30, 2022 to June 30, 2023 using the following actuarial assumptions, which are applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 7.00%, includes inflation at 2.50%.
- Salary growth - Effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.
- Payroll growth assumption 3.25%.
- Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.
- PSERS Board-approved new actuarial assumptions effective for the June 30, 2021 actuarial valuation. The new assumptions were used to calculate the net pension liability at June 30, 2023 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 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, 2023, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 3.54%. 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, 2023.

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. 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 the projected future benefit payments of current plan members to determine the total pension liability. 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.

Table 6 - Pension Asset Allocation

Pension -Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global public equity	30.0 %	5.2 %
Private equity	12.0 %	7.9 %
Fixed income	33.0 %	3.2 %
Commodities	7.5 %	2.7 %
Infrastructure/MLPs	10.0 %	5.4 %
Real estate	11.0 %	5.7 %
Absolute Return	4.0 %	4.1 %
Cash	3.0 %	1.2 %
Leverage	(10.5)%	1.2 %
	100.0 %	

Sensitivity of the Net Pension Liability

Table 7 presents the net pension liability, calculated using the discount rate of 7.00%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower 6.00% or 1-percentage point higher 8.00% than the current rate:

Table 7 - Sensitivity of the Net Pension Liability

(Dollar amounts in thousands)

	1% Decrease	Current Discount Rate	1% Increase
	6.00%	7.00%	8.00%
Net pension liability	$57,666,613	$44,486,380	$33,366,207

For additional information on the total pension liability, net pension liability, plan fiduciary net position as a percentage of the total pension liability, actuarial assumptions, and money weighted returns please refer to the multiple year Required Supplementary Information Schedule 1, Schedule 2, Schedule 3, Schedule 7 and Notes to Required Supplementary Information.

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

The components of the net OPEB liability of the participating employers at June 30, 2023 were as follows:

(Dollar amounts in thousands)

Total OPEB liability	$1,949,942
Less: Plan fiduciary net position	140,716
Employer net OPEB liability	$1,809,226
Plan fiduciary net position as a percentage of the total OPEB liability	7.22%

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.

Change in Actuarial Assumptions

The following change in assumption was used in the measurement of the Total OPEB Liability beginning June 30, 2023. The Investment Rate of Return was adjusted from 4.09% to 4.13% which represents the S&P 20-Year Municipal Bond Rate.

Actuarial Assumptions

The total OPEB liability at June 30, 2023 was determined by rolling forward the System's total OPEB liability at June 30, 2022 to June 30, 2023 using the following actuarial assumptions, which are applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 4.13% - S&P 20-Year Municipal Bond Rate.
- Salary growth - Effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.
- Payroll growth assumption 3.25%.
- 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 modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.
- PSERS Board-approved new actuarial assumptions effective for the June 30, 2021 actuarial valuation. The new assumptions were used to calculate the net pension liability at June 30, 2023 and are reflected above.

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, 2023.

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.

For the year ended June 30, 2023, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was 4.36%. 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 4.13%. The Health Insurance Premium Assistance Program is funded by employer contributions. Under the 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 4.13%, which represents the S&P 20-year Municipal Bond Rate at June 30, 2023 was applied to all projected benefit payments to measure the total OPEB liability.

Table 8 - OPEB Asset Allocation

OPEB - Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Cash	100.0%	1.2%
	100.0%	

Sensitivity of the Net OPEB Liability

Table 9 presents the net OPEB liability, calculated using the discount rate of 4.13%, as well as what the net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower 3.13% or 1-percentage point higher 5.13% than the current rate:

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

	1% Decrease	Current Discount Rate	1% Increase
	3.13%	4.13%	5.13%
Net OPEB liability	$ 2,045,542	$ 1,809,226	$ 1,611,414

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, 2023, there were 92,677 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, 2023, there were 522 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, which discloses the effect of a 1% increase or decrease in the rate.

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

	1% Decrease	Current Discount Rate	1% Increase
Net OPEB liability	$ 1,809,056	$ 1,809,226	$ 1,809,363

For additional information on the total OPEB liability, net OPEB liability, plan fiduciary net position as a percentage of the total OPEB liability, actuarial assumptions, and money weighted returns please refer to the multiple year Required Supplementary Information Schedule 4, Schedule 5, Schedule 6, Schedule 7 and Notes to Required Supplementary Information.

8. Pension Plan for Employees of the System

(A) SERS' Plan Description

As an employer, 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 1.0%, 1.25%, 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, 2022 and 2021 the blended employer contribution rates were 27.64% and 26.94%, respectively. Contributions to SERS from PSERS were $9.8 million for the year ended June 30, 2023.

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

At June 30, 2023, PSERS reported a liability of $97.3 million and $61.1 million at June 30, 2022, 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, 2022 and 2021, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation at December 31, 2022 and 2021. PSERS' proportion of the net pension liability was calculated utilizing a projected-contribution method. At December 31, 2022, PSERS' proportion was 0.42564084 percent and 0.41907639 percent at December 31, 2021.

PSERS recognized total pension expense of $15.0 million in FY 2023 is included in the Statement of Changes in Fiduciary Net Position. Of the $15.0 million of pension expense, $8.5 million was reflected in Pension administrative expenses, $0.6 million in Postemployment Healthcare, $0.1 million in Defined Contribution and $5.8 million was reflected in Investment Expenses. Deferred inflows of resources of $944,000 and $18.8 million at June 30, 2023, and June 30, 2022, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position. Deferred outflows of resources of $30.8 million and $17.7 million at June 30, 2023, and June 30, 2022, respectively, are reported in Miscellaneous assets. Of the $30.8 million of deferred outflows of resources at June 30, 2023, PSERS recorded $5.4 million for contributions subsequent to the measurement date which will be recognized as a reduction of the net pension liability in the year ending June 30, 2024. Other amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in pension expense as follows:

Years Ending June 30:	(Dollar amounts in thousands)
2024	$ 8,695
2025	4,873
2026	6,738
2027	5,529
Thereafter	7,948

(E) SERS' Pension Plan Fiduciary Net Position

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

9. Postemployment Healthcare Plan for Employees of the System

(A) REHP Plan Description

As an employer, the System participates in the Commonwealth's REHP (Retired Employees Health Program). 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.

(B) OPEB Benefits Provided to Employees of the System

The Commonwealth sponsors the REHP for eligible retirees and their dependents to receive subsidized health coverage for the retiree's lifetime. The REHP is provided as part of collective bargaining agreements with most Commonwealth labor unions. All policy decisions, types and levels of benefits for the REHP fall under the purview of the Commonwealth's Executive Board and the Secretary of Administration.

(C) Contributions to the REHP

Employer costs for retiree healthcare benefits are charged as a component of payroll expenditures, on a 'pay as you go' basis. All employing agencies contributed $120 per biweekly pay period for each current REHP eligible active employee during fiscal year ended June 30, 2023 to the REHP Trust. PSERS' contributions to the REHP for FY 2023 were $1.1 million. 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.

(D) Proportionate Share of OPEB Liabilities, OPEB Expense and Deferred Inflows of Resources and Deferred Outflows of Resources

At June 30, 2023, PSERS reported a liability of $44.7 million and $43.9 million at June 30, 2022 for its proportionate share of net OPEB liability for the REHP plan in Other Liabilities on the Statement of Fiduciary Net Position. The current liability portion of the net OPEB liability is $1.1 million. The net OPEB liability was measured at June 30, 2022, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation at June 30, 2022. Since the REHP has insufficient assets to meet next year's projected benefit payments, the discount rate used to measure the total OPEB liability is based on the 20-year tax-exempt general obligation municipal bond index rate, which was 4.67% on June 30, 2023. PSERS' proportion of the net OPEB liability was calculated utilizing a contribution method. At June 30, 2022, PSERS' proportion was 0.453418 percent and at June 30, 2021 PSERS' proportion was 0.429416 percent.

REHP had a decrease in Total OPEB Liability of approximately $0.4 billion. The primary cause was due to changes in actuarial assumptions driven by an increase in the discount rate from 3.63% to 4.67%.

PSERS recognized total OPEB expense of $(6.2) million in FY 2023 is included in the Statement of Changes in Fiduciary Net Position. Of the $(6.2) million of OPEB expense, $(4.7) million was reflected in Pension administrative expenses, $(0.01) million in Postemployment Healthcare, $(0.01) million in Defined Contribution and $(1.3) million was reflected in Investment Expenses. Deferred outflows of resources of $13.9 million and $13.7 million at June 30, 2023 and June 30, 2022, respectively, are reported in Miscellaneous assets. Of the $13.9 million of deferred outflows at June 30, 2023, PSERS recorded $0.5 million for contributions subsequent to the measurement date which will be recognized as a reduction of the net OPEB liability in the year ending June 30, 2024. Deferred inflows of resources of $21.6 million and $28.4 million at June 30, 2023 and June 30, 2022, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position and will be recognized in OPEB expense as follows:

Years Ending June 30:	(Dollar amounts in thousands)
2024	$ (6,011)
2025	(1,771)
2026	169
2027	(547)
Thereafter	173

(E) REHP Plan Fiduciary Net Position

Detailed information about the REHP fiduciary net position is available in the Commonwealth's Annual Comprehensive Financial Report which can be found at www.budget.pa.gov.

10. Litigation and Contingencies

The System is subject to various threatened and pending lawsuits. These lawsuits include issues related to benefit calculations and eligibility. The System is also exposed to various other liabilities and risks related to fiduciary responsibilities of directors and officers.

In 2021, the System received subpoenas from the Department of Justice ("DOJ") and the Securities and Exchange Commission ("SEC") regarding the certification of the shared risk member contribution rate in December 2020, as well as the purchase and valuation of certain directly held properties. PSERS' Board retained outside counsel to conduct an independent internal investigation of the shared risk calculation and the purchase and valuation of certain directly held properties. The independent internal investigation concluded in January 2022 with no findings of wrongdoing. In August 2022, PSERS was informed by the DOJ that it has closed its investigation of PSERS with no criminal or civil charges. PSERS continues to cooperate fully with the SEC investigation which is ongoing.

It is the opinion of management that the ultimate liability arising from such threatened, pending litigation and investigations will not have a material effect on the financial position of the System.

Required Supplementary Information

Schedule 1
Schedule of Changes in the Employer Net Pension Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2023	2022	2021	2020	2019
Total pension liability					
Service cost	**$ 1,822,768**	$ 1,826,693	$ 1,963,645	$ 1,949,427	$ 1,921,417
Interest	**7,915,834**	7,789,946	7,703,465	7,546,367	7,465,228
Changes of benefit terms	**—**	—	—	—	—
Differences between expected and actual experience	**(545,873)**	(399,385)	40,322	(339,969)	(1,477,660)
Changes of assumptions	**—**	—	2,655,180	—	—
Benefit payments	**(7,580,983)**	(7,254,372)	(7,134,332)	(6,876,515)	(6,761,172)
Net change in total pension liability	**1,611,746**	1,962,882	5,228,280	2,279,310	1,147,813
Total pension liability - beginning	**114,986,964**	113,024,082	107,795,802	105,516,492	104,368,679
Total pension liability - ending (a)	**116,598,710**	114,986,964	113,024,082	107,795,802	105,516,492
Plan fiduciary net position					
Contributions - employer	**5,249,018**	4,997,912	4,759,189	4,676,413	4,487,520
Contributions - member	**1,174,580**	1,134,051	1,080,701	1,067,957	1,064,043
Net investment income	**2,795,296**	(267,250)	14,754,624	1,001,846	3,628,710
Benefit payments	**(7,580,983)**	(7,254,372)	(7,134,332)	(6,876,515)	(6,761,172)
Administrative expense	**(53,823)**	(49,451)	(49,616)	(46,799)	(48,931)
Net Change in plan fiduciary net position	**1,584,088**	(1,439,110)	13,410,566	(177,098)	2,370,170
Plan fiduciary net position - beginning	**70,528,242**	71,967,352	58,556,786	58,733,884	56,363,714
Effect of change in accounting principle	**—**	—	—	—	—
Plan fiduciary net position - beginning restated	**70,528,242**	71,967,352	58,556,786	58,733,884	56,363,714
Plan fiduciary net position - ending (b)	**$ 72,112,330**	$ 70,528,242	$ 71,967,352	$ 58,556,786	$ 58,733,884
Employer net pension liability - ending (a)-(b)	**$ 44,486,380**	$ 44,458,722	$ 41,056,730	$ 49,239,016	$ 46,782,608

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

Required Supplementary Information

Schedule 1
Schedule of Changes in the Employer Net Pension Liability
(continued)
(Unaudited – See Accompanying Independent Public Accountant's Report)
(Dollar Amounts in Thousands)

	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$ 1,890,906	$ 1,873,844	$ 1,932,401	$ 1,926,539	$ 2,139,037
Interest	7,334,484	7,110,987	7,028,292	6,857,497	6,523,484
Changes of benefit terms	—	(449)	—	—	—
Differences between expected and actual experience	(745,306)	644,051	(348,429)	(223,437)	—
Changes of assumptions	—	—	2,236,118	—	—
Benefit payments	(6,655,146)	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Net change in total pension liability	1,824,938	3,154,854	4,488,057	2,339,998	2,609,016
Total pension liability - beginning	102,543,741	99,388,887	94,900,830	92,560,832	89,951,816
Total pension liability - ending (a)	*104,368,679*	*102,543,741*	*99,388,887*	*94,900,830*	*92,560,832*
Plan fiduciary net position					
Contributions - employer	4,249,611	3,832,773	3,189,510	2,596,731	1,992,084
Contributions - member	1,026,375	1,013,847	989,266	984,634	966,926
Net investment income	4,714,158	4,995,362	473,206	1,328,516	7,097,761
Benefit payments	(6,655,146)	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Administrative expense	(46,544)	(45,127)	(45,118)	(42,331)	(38,712)
Net Change in plan fiduciary net position	3,288,454	3,323,276	(1,753,461)	(1,353,051)	3,964,554
Plan fiduciary net position - beginning	53,155,336	49,832,060	51,585,521	52,980,115	49,015,561
Effect of change in accounting principle	(80,076)	—	—	(41,543)	—
Plan fiduciary net position - beginning restated	53,075,260	49,832,060	51,585,521	52,938,572	49,015,561
Plan fiduciary net position - ending (b)	$ 56,363,714	$ 53,155,336	$ 49,832,060	$ 51,585,521	$ 52,980,115
Employer net pension liability - ending (a)-(b)	$ 48,004,965	$ 49,388,405	$ 49,556,827	$ 43,315,309	$ 39,580,717

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 Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2023	2022	2021	2020	2019
Total pension liability	**$116,598,710**	$114,986,964	$113,024,082	$107,795,802	$105,516,492
Less: Plan fiduciary net position	**72,112,330**	70,528,242	71,967,352	58,556,786	58,733,884
Employer Net Pension liability	**$ 44,486,380**	$ 44,458,722	$ 41,056,730	$ 49,239,016	$ 46,782,608
Plan fiduciary net position as a percentage of the total pension liability	**61.85%**	61.34%	63.67%	54.32%	55.66%
Covered Payroll	**$15,320,427**	$ 14,704,344	$ 14,176,097	$ 14,036,006	$ 13,791,197
Employer net pension liability as a percentage of covered payroll	**290.37%**	302.35%	289.62%	350.81%	339.22%

Schedule 2
Schedule of Employer Net Pension Liability
(continued)
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2018	2017	2016	2015	2014
Total pension liability	$104,368,679	$102,543,741	$ 99,388,887	$ 94,900,830	$ 92,560,832
Less: Plan fiduciary net position	56,363,714	53,155,336	49,832,060	51,585,521	52,980,115
Employer Net Pension liability	$ 48,004,965	$ 49,388,405	$ 49,556,827	$ 43,315,309	$ 39,580,717
Plan fiduciary net position as a percentage of the total pension liability	54.00%	51.84%	50.14%	54.36%	57.24%
Covered Payroll	$ 13,466,526	$13,313,900	$12,951,077	$12,866,473	$12,760,785
Employer net pension liability as a percentage of covered payroll	356.48%	370.95%	382.65%	336.65%	310.17%

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

Required Supplementary Information

Schedule 3
Schedule of Employer Pension Contributions
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2023	2022	2021	2020	2019
Actuarially determined contribution	**$ 5,237,092**	$ 4,985,571	$ 4,752,338	$ 4,671,931	$ 4,478,236
Contributions in relation to the actuarially determined contribution (1)(2)	**5,237,092**	4,985,571	4,752,338	4,671,931	4,478,236
Contribution deficiency	$ —	$ —	$ —	$ —	$ —
Covered payroll	**$ 15,320,427**	$14,704,344	$14,176,097	$14,036,006	$13,791,197
Contributions as a percentage of covered payroll	**34.18%**	33.91%	33.52%	33.29%	32.47%

Schedule 3
Schedule of Employer Pension Contributions
Unaudited – See Accompanying Independent Public Accountant's Report (continued)
(Dollar Amounts in Thousands)

	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 4,243,328	$ 3,824,908	$ 3,540,304	$ 3,289,615	$ 2,965,715
Contributions in relation to the actuarially determined contribution (1)(2)	4,243,328	3,824,908	3,181,438	2,582,114	1,992,084
Contribution deficiency	$ —	$ —	$ 358,866	$ 707,501	$ 973,631
Covered payroll	$13,466,526	$13,313,900	$12,951,077	$12,866,473	$12,760,785
Contributions as a percentage of covered payroll	31.51%	28.73%	24.57%	20.07%	15.61%

(1) Amounts for 2015-2023 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 (Premium Assistance) Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

Total OPEB liability	**2023**	2022	2021	2020	2019	2018	2017
Service cost	**$ 27,596**	$ 47,563	$ 44,699	$ 42,643	$ 40,201	$ 37,809	$ 42,038
Interest	**79,672**	54,361	60,632	62,452	65,319	67,091	61,404
Differences between expected and actual experience	**(12,047)**	(11,835)	7,272	11,987	1,435	15,019	—
Changes of assumptions	**(8,656)**	(502,733)	212,419	35,284	50,166	38,456	(110,610)
Benefit payments	**(112,870)**	(113,707)	(113,538)	(113,279)	(112,777)	(111,847)	(110,229)
Net change in total OPEB liability	**(26,305)**	(526,351)	211,484	39,087	44,344	46,528	(117,397)
Total OPEB liability - beginning	**1,976,247**	2,502,598	2,291,114	2,252,027	2,207,683	2,161,155	2,278,552
Total OPEB liability - ending (a)	**$ 1,949,942**	$ 1,976,247	$ 2,502.598	$ 2,291,114	$ 2,252,027	$ 2,207,683	$ 2,161,155
Plan fiduciary net position							
Contributions - employer	**$ 114,721**	$ 117,178	$ 116,519	$ 117,907	$ 114,829	$ 111,986	$ 110,985
Net investment income	**4,474**	316	260	1,752	2,313	1,455	663
Benefit payments	**(112,870)**	(113,707)	(113,538)	(113,279)	(112,777)	(111,847)	(110,229)
Administrative expense	**(1,085)**	(826)	(1,143)	(1,148)	(1,914)	(2,602)	(2,239)
Net Change in plan fiduciary net position	**5,240**	2,961	2,098	5,232	2,451	(1,008)	(820)
Plan fiduciary net position - beginning	**135,476**	132,515	130,417	125,185	122,735	123,743	124,563
Plan fiduciary net position - ending (b)	**$ 140,716**	$ 135,476	$ 132,515	$ 130,417	$ 125,185	$ 122,735	$ 123,743
Employer net OPEB liability - ending (a) - (b)	**$ 1,809,226**	$ 1,840,771	$ 2,370,083	$ 2,160,697	$ 2,126,842	$ 2,084,948	$ 2,037,412

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

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

Required Supplementary Information

Schedule 5
Schedule of Employer Net OPEB (Premium Assistance) Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2023	2022	2021	2020
Total OPEB Liability	**$1,949,942**	$ 1,976,247	$ 2,502,598	$ 2,291,114
Less: Plan fiduciary net position	**140,716**	135,476	132,515	130,417
Employer Net OPEB Liability	**$1,809,226**	$ 1,840,771	$ 2,370,083	$ 2,160,697
Plan fiduciary net position as a percentage of the total OPEB liability	**7.22 %**	6.86%	5.30%	5.69%
Covered Payroll	**$15,320,427**	$ 14,704,344	$ 14,176,097	$ 14,036,006
Employer net OPEB liability as a percentage of covered payroll	**11.81 %**	12.52%	16.72%	15.39%

	2019	2018	2017	2016
Total OPEB Liability	$ 2,252,027	$ 2,207,683	$ 2,161,155	$ 2,278,552
Less: Plan fiduciary net position	125,185	122,734	123,743	124,563
Employer Net OPEB Liability	$ 2,126,842	$ 2,084,949	$ 2,037,412	$ 2,153,989
Plan fiduciary net position as a percentage of the total OPEB liability	5.56%	5.56%	5.73%	5.47%
Covered Payroll	$ 13,791,197	$ 13,466,526	$ 13,313,900	$ 12,951,077
Employer net OPEB liability as a percentage of covered payroll	15.42%	15.48%	15.30%	16.63%

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

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

Schedule 6
Schedule of Employer OPEB (Premium Assistance) Contributions
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2023	**2022**	2021	2020
Actuarially determined contribution	**$ 119,084**	**$ 147,312**	$ 133,971	$ 138,776
Contributions in relation to the actuarially determined contribution (1)(2)	**114,358**	**116,773**	116,365	117,723
Contribution deficiency	**$ 4,726**	**$ 30,539**	$ 17,606	$ 21,053
Covered payroll	**$15,320,427**	**$14,704,344**	$ 14,176,097	$ 14,036,006
Contributions as a percentage of covered payroll	**0.75%**	**0.79%**	0.82%	0.84%

	2019	2018	2017	2016
Actuarially determined contribution	$ 139,484	$ 134,607	$ 125,694	$ 129,494
Contributions in relation to the actuarially determined contribution (1)(2)	114,571	111,724	110,558	112,557
Contribution deficiency	$ 24,913	$ 22,883	$ 15,136	$ 16,937
Covered payroll	$ 13,791,197	$ 13,466,526	$ 13,313,900	$ 12,951,077
Contributions as a percentage of covered payroll	0.83%	0.83%	0.83%	0.87%

(1) Amounts exclude purchase of service contributions.
(2) Same as contractually required contributions.

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

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 Independent Public Accountant's Report

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense- Pension	3.54%	2.40%	24.57%	1.14%	6.58%	9.30%	10.15%	1.11%	3.08%	14.98%
Annual money-weighted rate of return, net of investment expense- OPEB	4.36%	0.35%	0.31%	1.97%	2.68%	1.63%	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, 2023

Pension

Changes in benefit terms

With the passage of Act 5 on June 12, 2017, 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, 2022, and June 30, 2023

None.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2021

The Discount Rate decreased from 7.25% to 7.00%. The inflation assumption was decreased from 2.75% to 2.50%. Payroll growth assumption decreased from 3.50% to 3.25%.

Salary growth changed from an effective average of 5.00%, which was comprised of inflation of 2.75%, real wage growth and for merit or seniority increases of 2.25%, to an effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.

For disabled annuitants the rates were modified from the RP-2014 Mortality Tables for Males and Females to Pub-2010 Disability Mortality Non-Safety Headcount Weighted table, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2020.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2017, beginning June 30, 2018, beginning June 30, 2019 & beginning June 30, 2020

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, 2022 actuarial valuation will be made during the fiscal year ending June 30, 2024. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule.

Notes to Required Supplementary Information for the Years Ended June 30, 2014 thru June 30, 2023 (continued)

Pension

- Investment return - 7.00%, includes inflation at 2.50% and the real rate of return 4.50%.
- Salary growth - Effective average of 4.50%, which reflects an allowance for inflation of 2.50%, real wage growth and merit or seniority of 2.00%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2014, and June 30, 2015
None.

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, 2014 actuarial valuation will be made during the fiscal year ended June 30, 2016. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 7.50%, includes inflation at 3.00%
- Salary increases - Effective average of 5.50%, which reflects an allowance for inflation of 3.00%, real wage growth of 1%, and merit or seniority increases of 1.50%
- Benefit payments - no postretirement benefit increases assumed in the future
- Multiple decrement tables - mortality, vesting, retirement age, and withdrawal estimates are based upon tables
- provided by the actuary

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, 2016 thru June 30, 2023

OPEB

Changes in benefit terms
None.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2023
The Discount Rate increased from 4.09% to 4.13%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2022
The Discount Rate increased from 2.18% to 4.09%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2021
The Discount Rate decreased from 2.66% to 2.18%.The inflation assumption was decreased from 2.75% to 2.50%. Payroll growth assumption decrease from 3.50% to 3.25%.

Salary growth changed from an effective average of 5.00%, which was comprised of inflation of 2.75%, real wage growth and for merit or seniority increases of 2.25%, to an effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.

For disabled annuitants the rates were modified from the RP-2014 Mortality Tables for Males and Females to Pub-2010 Disability Mortality Non-Safety Headcount Weighted table, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2020.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2020
The Discount Rate decreased from 2.79% to 2.66%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2019
The Discount Rate decreased from 2.98% to 2.79%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2018
The Discount Rate decreased from 3.13% to 2.98%.

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.

Notes to Required Supplementary Information for the Years Ended June 30, 2016 thru June 30, 2023 (continued)

OPEB

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, 2022 actuarial valuation will be made during the fiscal year ending June 30, 2024. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 4.13% - 20-year S&P Municipal Bond Rate.
- Salary growth - Effective average of 4.50%, which reflects an allowance for inflation of 2.50%, real wage growth and merit or seniority of 2.00%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.
- 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.psers.pa.gov.

Supplementary Schedule 1
Schedule of Administrative and Investment Expenses
Year Ended June 30, 2023
(Dollar Amounts in Thousands)

	Administrative Expenses				
	Pension	Defined Contribution	Postemployment Healthcare (1)	Investment Expenses (2)	Total
Personnel costs:					
Salaries and wages	$ 18,725	$ 323	$ 1,251	$ 11,490	**$ 31,789**
Employee benefits	12,197	207	769	5,284	**18,457**
Total personnel costs	30,922	530	2,020	16,774	**50,246**
Operating costs:					
Investment managers' fees	—	—	—	368,514	**368,514**
Custodian fees	—	—	—	2,503	**2,503**
Specialized services	316	1,865	96	543	**2,820**
Investment Services	—	—	—	1,964	**1,964**
Third-party administrator	—	—	32,514	—	**32,514**
Fitness program administrator	—	—	856	—	**856**
Healthcare project management	—	—	3,448	—	**3,448**
Real estate rental, electricity	1,706	—	268	276	**2,250**
Consultant and legal fees	4,278	85	1,097	5,551	**11,011**
Treasury and other Commonwealth services	1,880	—	—	192	**2,072**
Postage	685	—	105	—	**790**
Contracted maintenance and repair services	3,421	—	—	387	**3,808**
Printing and office supplies	290	—	16	—	**306**
Equipment and software rental	714	—	—	—	**714**
Travel and training	191	1	91	55	**338**
Telecommunications	371	—	29	91	**491**
Equipment (non-capital assets)	639	—	—	—	**639**
Subscriptions	35	—	—	1,008	**1,043**
Miscellaneous	1,424	23	96	1,635	**3,178**
Total operating costs	15,950	1,974	38,616	382,719	**439,259**
Other charges:					
Depreciation	8,749	—	—	5,398	**14,147**
Total Administrative and Investment Expenses Before Pension, OPEB Expense	55,621	2,504	40,636	404,891	**503,652**
Pension expense (3)	2,944	51	208	1,998	**5,201**
OPEB expense (4)	(4,742)	(97)	(19)	(1,324)	**(6,182)**
Total Administrative and Investment Expenses	$ 53,823	$ 2,458	$ 40,825	$ 405,565	**$ 502,671**

(1) Administrative expenses for Postemployment Healthcare includes $1,085 related to Premium Assistance and $39,740 related to Health Options Program for the fiscal year ended June 30, 2023.

(2) Includes investment expenses of $39 related to Postemployment Healthcare Premium Assistance, $34 related to Health Options Program and $275 for DC for the fiscal year ended June 30, 2023 and does not include $2,570 in capitalized broker commissions for the fiscal year ended June 30, 2023.

(3) Total GASB 68 pension expense is $15.0 million and is reflected under Employee benefits and Pension expense. Employer contributions of $9.8 million are included as Employee benefits under Personnel costs and $5.2 million is reflected as Pension expense.

(4) Total GASB 75 OPEB expense is $(5.4) million and is reflected under Employee benefits and OPEB expense. Employer contributions of $0.8 million are included as Employee benefits under Personnel costs and $(6.2) million is reflected as OPEB expense.

Supplementary Schedule 2
Summary of Investment Expenses*
Year Ended June 30, 2023
(Dollar Amounts in Thousands)

	Investment Management			
	Base	Performance	Other Expenses	Total
External management:				
International equity	$ 21,245	$ 5,498	$ —	**$ 26,743**
Fixed income	22,687	5,300	—	**27,987**
Real estate	48,381	—	—	**48,381**
Alternative investments	107,516	—	—	**107,516**
Absolute return	41,353	30,146	—	**71,499**
Commodities	6,162	—	—	**6,162**
Infrastructure	16,328	—	—	**16,328**
Private credit	60,252	—	—	**60,252**
Tail Risk Mitigation	3,372	—	—	**3,372**
Defined Contribution	274	—	—	**274**
Total external management	327,570	40,944	—	**368,514**
Total internal management	—	—	28,997	**28,997**
Total investment management	327,570	40,944	28,997	**397,511**
Custodian fees	—	—	2,503	**2,503**
Consultant and legal fees	—	—	5,551	**5,551**
Total investment expenses	$ 327,570	$ 40,944	$ 37,051	**$ 405,565**

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

Supplementary Schedule 3
Schedule of Payments to Non-Investment Consultants
Year Ended June 30, 2023
(Dollar Amounts Greater than $100,000)

Non-Investment Consultants	Fees	Services Provided
Trustmark Health Benefits, Inc.	$ 32,509,092	Postemployment Healthcare benefits Administration and claims adjudication
Optum Rx, Inc.	7,151,332	Administration of post employment healthcare benefits and prescription drug plan
Vitech Systems Group, Inc.	5,769,000	Pension administration system services
The Segal Company, Inc.	3,536,660	Actuarial services and consulting for HOP and prescription drug plan
Gallagher Benefit Services, Inc.	1,097,220	Pharmacy benefit consulting services
OST Inc.	914,928	Information technology, training, testing, and consulting services
Tivity Health	856,383	Administration of the Silver Sneakers Fitness program
Buck Global, LLC	303,207	Pension benefit actuarial services
CliftonLarsonAllen, LLP	145,300	Financial audit of pension system, defined contribution plan and postemployment healthcare programs
Hudepohl & Associates, Inc.	106,933	Executive recruiting services
Cheiron, Inc.	105,000	Pension actuarial consulting

Investment Section

Report on Investment Activity and Policies

For Fiscal Year July 1, 2022 through June 30, 2023

Authority and Fiduciary Standard

The Board has the responsibility to invest the System's funds in accordance with guidelines and limitations set forth in the Retirement Code and other applicable state law and Board Policy. Pursuant to the Board's enabling legislation, the members of the Board, employees of the Board, and their agents are fiduciaries to the System's members and beneficiaries and must invest and manage the fund for exclusive benefit of the System's members and beneficiaries (24 Pa. C. S. §8521(e)). As such, they must act consistent with the duty of prudence as well as the duty of loyalty.

In performance of their duties, the trustees shall exercise "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." (24 Pa. C.S.§8521(a)).

The System shall, at all times, be managed in accordance with all applicable state and federal laws, rules, and regulations, as well as the Investment Policy Statement and other applicable policies of the Board.

Policies and Objectives and Investment Philosophy

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

- to generate returns to support the System's actuarial soundness so it may provide its members with benefits as required by law;
- to earn a long-term total return, net of fees, and investment and administrative expenses, that equals or exceeds the actuarial assumed rate approved by the Board (currently 7.00%);
- to earn a long-term total return, net of fees and investment expenses, that equals or exceeds the Policy Index approved by the Board; and
- to prudently manage investment risks that are related to the achievement of investment goals.

The PSERS Board of Trustees believes the System's assets should be managed in accordance with the System's unique liability stream, funding sources, cash flows, and portfolio size, focusing on the prudent accumulation of wealth over the long term to meet the retirement benefit obligations established by the plan sponsor to its members. The Board's Investment Policy Statement states that the System's assets should be managed based on the following investment beliefs:

1. Uncertainty - The future is difficult to forecast with any accuracy or certainty, particularly changes in the economic and market environment.
2. Asset Allocation - The strategic asset allocation mix, more than implementation or any other factor or decision, largely determines the portfolio's overall risk and return.
3. Diversification - Diversification is the best approach to addressing future uncertainty and therefore meeting PSERS' long-term investment objectives.
4. Risk - For an underfunded plan or for a plan with negative external cash flow (benefits paid exceed contributions received), the path of compounding of investment returns – from month to month, quarter to quarter, and year to year – matters more than for a plan that is fully funded or has positive external cash flow; for the former type of plan, peak-to-trough declines transform unrealized losses into permanent ones. Drawdown risk should be mitigated, especially since the environment in which drawdowns occur is likely to take place when the plan sponsor's willingness and ability to make contributions to the plan may be less than in normal times. Liquidity should be managed to reasonably ensure that the fund can meet its obligations during periods of market dislocations.
5. Leverage - Leverage at the total fund level can be an effective tool to enhance diversification, since asset classes, over the long-term, have similar risk-adjusted returns, different correlations to each other, and different responses to changes in the economic and market environment. Leverage can be a vital tool to increase or decrease total fund risk in a diversified manner.
6. Rebalancing - Disciplined rebalancing enhances long-term returns as it is an inherently contrarian process. Rebalancing restores strategic asset allocation as the primary driver of return and risk.

7. Portfolio Size - Managing a large pool of assets provides investors unique access to investment opportunities not available to smaller institutional investors or individual investors. PSERS should use its size to its advantage to enhance its net-of fees return and diversification opportunities.
8. Private Investments - Allocations to Private Equity, Private Credit, Private Real Estate, Private Infrastructure, and other illiquid asset classes may be justified by the illiquidity risk premium available to investors. Allocations to these asset classes may also be justified by the diversification benefit they provide, through exposure to sectors, businesses, and mode of corporate governance not obtainable through public markets.
9. Active Management - Passive investing, rather than active management, is the default choice to be used for any asset class that is highly efficient or where skilled active managers are less likely to be identified. Certain asset classes continue to exhibit information inefficiency, where skilled active management and well-resourced investors such as PSERS can potentially persistently outperform peers and the benchmark for that asset class. There will be short-term periods when a skilled active manager may underperform peers and the benchmark; that is to be expected and accepted; therefore, a long-term perspective will be employed.
10. Internal Management - PSERS has developed skilled internal investment managers; as such, internal investment management is preferred over external investment management in cases where internal management most likely can match or exceed the long-term, net of fees, risk-adjusted returns provided by external managers, provided the internal investment and operational resources are available to do so.
11. Investment Fees - Investment management fees for external management are one of the few aspects of investment management that are certain and over which the investor has control. Investment management and performance fees should be managed to (i) maximize long-term, net of fees, risk-adjusted returns, (ii) split the value added fairly between the investment manager and PSERS, and (iii) align the interests of the investment manager with PSERS.

Assets are managed in accordance with allocation plan and investment policies by internal investment office professionals and external investment management firms acting as agents for the system.

Roles and Responsibilities

The Board, via its Investment Committee, provides direction and 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 consultants, external investment managers, Investment Accounting professionals and Internal Audit professionals assist the Board in achieving investment objectives and monitoring compliance with investment policies.

As of June 30, 2023, the Board's consultants include the following: Verus Advisory, Inc., serves as the general investment consultant, assisting the Board and Professional Staff in formalizing investment objectives, establishing an asset allocation, conducting investment manager due diligence, calculating and reviewing performance, and commenting on compliance with investment policies; Aon Investment Consulting, Inc. provided performance reporting through June 30, 2023, facilitating an orderly transition of performance and other related services to Verus. Aksia, LLC, serves as private markets consultant; and Constellation Advisers LLC, provides investment compliance services.

Investment Office professionals implement 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 managers to manage the investment portfolio of the System. At fiscal year-end, $10.0 billion in assets were managed by external public markets managers, $35.8 billion in assets were managed by internal investment managers, and the remaining $25.2 billion in pension assets were managed by numerous private equity, private credit, private infrastructure, private real estate investment managers, and absolute return managers.

Asset Allocation

The Board reviews the long-term asset allocation targets of the System on a periodic basis. The Board consults with its actuary, consultants, Investment Office professionals, and other sources of information it deems appropriate in formulating the asset allocation. The level of risk assumed by the System is largely a result of the asset allocation. 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 Board's willingness and ability to take risk; and
- The employers' (Commonwealth and school districts) financial strength.

In approving the asset allocation for the System, the Board considers capital market expectations for expected return, volatility, and asset class correlations for each asset class, as prepared by its general investment consultant.

PSERS asset allocation targets as of June 30, 2023, are as follows:

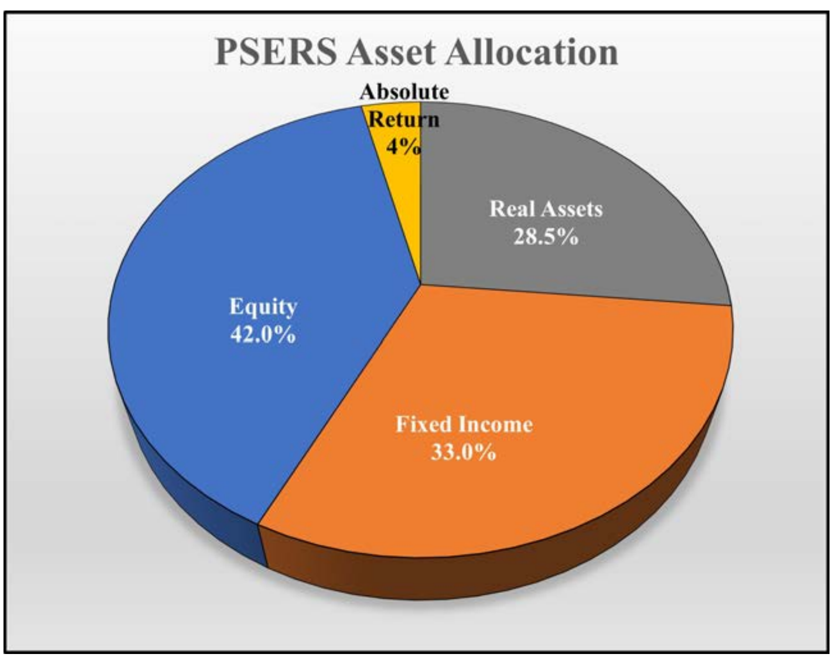
The equity target allocation was 42%, comprised of 30% public equity and 12% private equity. Public equity consisted of an equal split between U.S. equity (15%) and non-U.S. equity (15%). Within U.S. equity, the allocation was diversified across small, mid, and large capitalization equity. Within non-U.S. equity, exposure included international developed markets and emerging markets. Non-U.S. developed markets equity exposure was partially currency-hedged back to the U.S. dollar.

The fixed income target allocation was 33%, comprised of 10% investment grade exposure, 6% public credit-related exposure, 6% private credit-related exposure, and 11% Inflation-protected exposure. Investment grade exposure consisted of U.S. core fixed income (2%) and U.S. long-term treasury bonds (8%). Public credit-related exposure consisted of high yield bonds (4%) and emerging markets debt (2%). The real assets target allocation was 28.5%, comprised of 16.5% public real assets including real estate (4%), infrastructure (5%), commodities (2.5%) and gold (5%). Private real asset exposure of 12% was broken out between private real estate (7%) and private infrastructure (5%).

The System had a target allocation of 4% to absolute return. Any allocation to the absolute return program was with the purpose to generate positive, absolute returns with low volatility and low correlation to the public financial markets and serve to diversify the System's total portfolio risk.

Leverage was utilized in the asset allocation as a means of gaining exposure to a portion of the above fixed income and real assets asset classes. Leverage was deployed through use of derivative instruments (typically total return swaps) that allow the System to gain market exposure. Total leverage was targeted at (10.5%). (Market convention was to show this with a negative sign.)

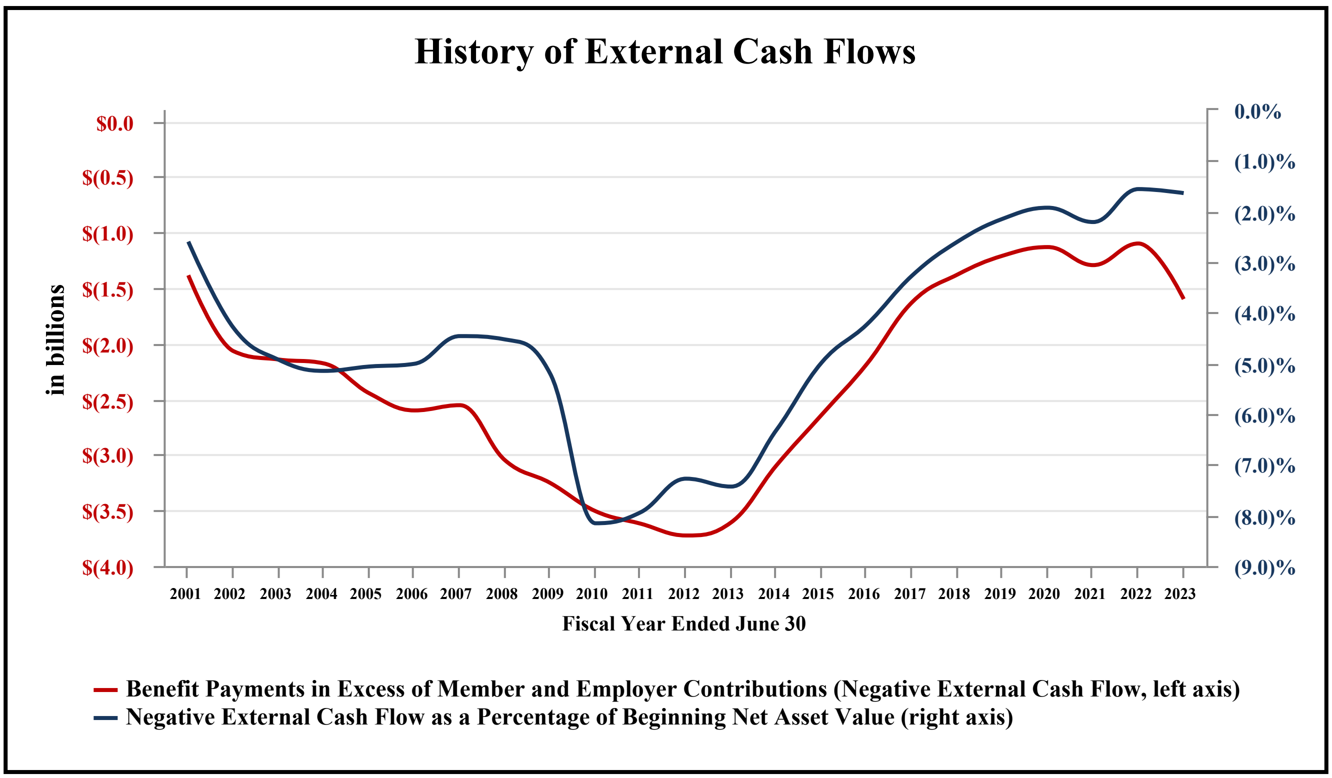
Finally, the System had a 3% allocation to cash, consisting of short-duration, liquid, high quality securities.



Over the fiscal year, the System also participated 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.

Liquidity and Cash Flow

The System's asset allocation and risk profile are, in part, driven by its liquidity needs. Over the past 20 fiscal years, the System has paid out $55.5 billion more in benefits than it has received in member and employer contributions (i.e., the System has experienced negative external cash flow). The average negative external cash flow was approximately $2.2 billion per year during this period. This annual funding deficiency represents the amount of investment return needed each year to make up the shortfall (For example, if in a given year the System earned 3% on its investments and had a 3% external cash flow shortfall, then the net assets of the System will be unchanged for that year). The negative annual external cash flow has improved significantly since fiscal year 2012 due to the implementation of Act 120 in 2010 (see chart below). Act 120 provided for increased employer contributions to the actuarially determined contribution levels. The 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.



The Economy and Investment Markets During The Past Fiscal Year

A primary element of PSERS' investment philosophy is diversification among various asset classes as an effective method to realize its goals while addressing uncertainty across capital markets from shifting macroeconomic and geopolitical environments. Over the past year, several such shifts emerged, with three themes (rising interest rates, tighter credit markets, and geopolitical uncertainty) having particular significance.

Rising Interest Rates – This fiscal year witnessed a significant shift higher of 350 basis points in the over-night interest rates from 1.50%-1.75% to 5.00%-5.25%. This represents a continuation of rate hikes from last fiscal year as the Federal Reserve seeks to address concerns over higher inflation rates resulting from the fiscal responses to COVID-19 and supply-chain challenges. While inflation concern has subsided somewhat from its highs (core inflation peaked at 6.6% in September 2022, compared to 4.8% as of June 30, 2023), it remains elevated in the face of strong labor markets and buoyant economic activity, making the future of monetary policy direction uncertain. However, the resulting higher rates on cash have implications across the entire PSERS portfolio, most notably on the return for holding cash, the cost for employing leverage, and risk-return value proposition for all other asset classes relative to cash.

Tighter Credit Markets – Partially because of the higher interest rates described above, Silicon Valley Bank collapsed and was taken over in March 2023. This was followed by takeovers of Signature Bank that same weekend and then First Republic in May. The initial market turbulence and concerns about contagion of cash withdrawals in other regional banks was quickly quelled through decisive government action. However, these events highlighted and exacerbated a shift towards tighter credit markets, particularly for Commercial Real Estate (CRE), as regional banks demonstrated a reduced appetite for this long-term debt given the short-term, and potentially uncertain nature of deposits relied on to fund such debt. Lending for office and retail related inventory has been most acutely impacted as employers have proven reluctant to require employees to return to the office following the shift to online working that occurred in response to COVID-19. Fewer employees coming into the traditional office centers has also translated into less foot traffic for traditional retail located in these centers. The implications of tighter credit markets, together with higher interest rates, lower occupancies and less foot traffic presents risk to the equity holders, particularly where the degree of leverage underlying such properties is high and the related maturities are relatively near. However, this disruption among bank lenders, presents opportunity for lenders with longer term capital to be more discerning within sectors of real estate with better outlooks, such as multifamily and industrial use properties.

Geopolitical Uncertainty – While Russia's invasion of Ukraine most directly impacted capital markets in the prior fiscal year, the resulting geopolitical uncertainty has influenced how investors frame investment choices across geographic regions. The long-standing theme of globalization based on the economics of comparative advantages, has more recently given way to more pragmatic discussions regarding supply chain resiliency or nearshoring/onshoring of activities that had previously been offshored. This further complicates the assessment of relative value across regional classifications, which were already clouded given difference in sector composition, financial reporting transparency, and basic investor rights across jurisdictions. Accordingly, some investors (including PSERS) have revisited and revised long standing strategic over/underweights to certain geographical regions (e.g., Public U.S. relative to Emerging Market equity allocations). We believe this trend will influence the flow of capital across regional classifications and likely impact relative market valuations over the next several years.

The table below summarizes the relative public market benchmark performance for the fiscal year grouped by three of PSERS' major asset classes.

Indices	FY 22-23
Public Equity	
S&P 500	19.6%
S&P 400	17.6%
S&P 600	9.8%
Nasdaq-100 Index	31.9%
MSCI ACWI x-US IMI Net	12.5%
MSCI Emerging Market IMI	3.2%
Public Fixed Income	
Bloomberg US Aggregate	(0.9%)
Bloomberg US Long Treasury	(6.8%)
PSERS Blended Emerging Markets Bond	7.4%
Bloomberg US Corporate High Yield	9.1%
Bloomberg US TIPS	(1.3%)
Bloomberg World Ex-US ILB Hedged	(6.2%)
Public Real Assets	
FTSE Developed Core 50/50	(1.3%)
Bloomberg Commodity Total Return	(9.6%)
Bloomberg Gold Total Return	6.2%
FTSE EPRA/NAREIT Developed	(4.6%)

Investment Results

For the one-year period ended June 30, 2023, the System generated a total net of fee return of 3.54%. This return exceeded the total fund Policy Index return of 3.21% by 0.33%. Annualized total net-of-fee returns for the three-, five- and ten-year periods ended June 30, 2023 were 9.66%, 7.30% and 7.46%, respectively. The three-, five- and ten-year returns exceeded the total fund

Policy Index returns by 1.78%, 0.50%, and 0.38%, respectively. Performance is calculated using a time-weighted return methodology.

Asset classes that were significant positive contributors to PSERS performance this past fiscal year included:

- Public Global Equity: 14.6%
- Public Credit-Related Fixed Income: 10.2%
- Private Credit: 8.6%

Asset classes that were significant detractors from PSERS performance this past fiscal year included:

- Public Investment Grade Fixed Income: -5.9%
- Public Inflation Protected Fixed Income : -2.6%

Current priorities

The Investment Office priorities are in alignment with the PSERS agency-wide strategic plan framework, which were adopted at the August 11th, 2023, Board meeting. The three specific initiatives for the Investment Office for the 2023/2024 fiscal year are the continued preparation for the Soc 1, Type 2 review, IBOR/ABOR alignment, and Global Investment Performance Standards (GIPS) compliance. Additionally, we continue to focus on moving towards PSERS revised asset allocation targets, which were also ratified at the August 11th, 2023 Board meeting for implementation by October 1st, 2023.

Prepared by PSERS Investment Office:
Ben Cotton, Chief Investment Officer

Annualized Time-Weighted Returns (%) Net of Fees (1)

Periods Ended June 30, 2023

	1 Year	3 Years	5 Years	10 Years
PSERS Total Portfolio	3.54	9.66	7.30	7.46
Total Fund Policy Index	3.21	7.88	6.80	7.08
Median Public Defined Benefit Plan (DBP) Fund Universe (Aon Investment Consulting Database)	7.64	8.28	6.25	6.94
PSERS U.S. Equity Portfolios	18.32	15.34	11.30	12.40
U.S. Equity Policy Index	18.19	14.89	11.28	12.31
PSERS Non-U.S. Equity Portfolios	11.81	7.29	5.27	7.53
Non-U.S. Equity Policy Index	11.65	7.08	4.10	6.58
PSERS Fixed Income Portfolios (4)	0.53	0.25	3.10	4.60
Fixed Income Policy Index	1.64	(1.49)	2.41	2.87
PSERS Commodity Portfolios (4)	1.04	8.15	5.10	1.44
Commodity Policy Index	1.01	7.83	4.10	(0.06)
PSERS Absolute Return Portfolios	1.67	7.63	4.91	4.55
Absolute Return Policy Index	4.67	7.13	5.83	5.43
PSERS Infrastructure (4)	2.41	10.68	1.94	N/A
Blended Infrastructure Index	-0.91	7.96	2.31	5.87
PSERS Real Estate (hedged) (2) (4)	(1.93)	12.60	9.52	10.85
Blended Real Estate Index (2)	(2.31)	9.62	6.59	8.89
Private Equity (hedged) (3)	1.11	24.90	15.73	12.86
Burgiss Private Equity (3)	(2.90)	21.49	14.84	13.81

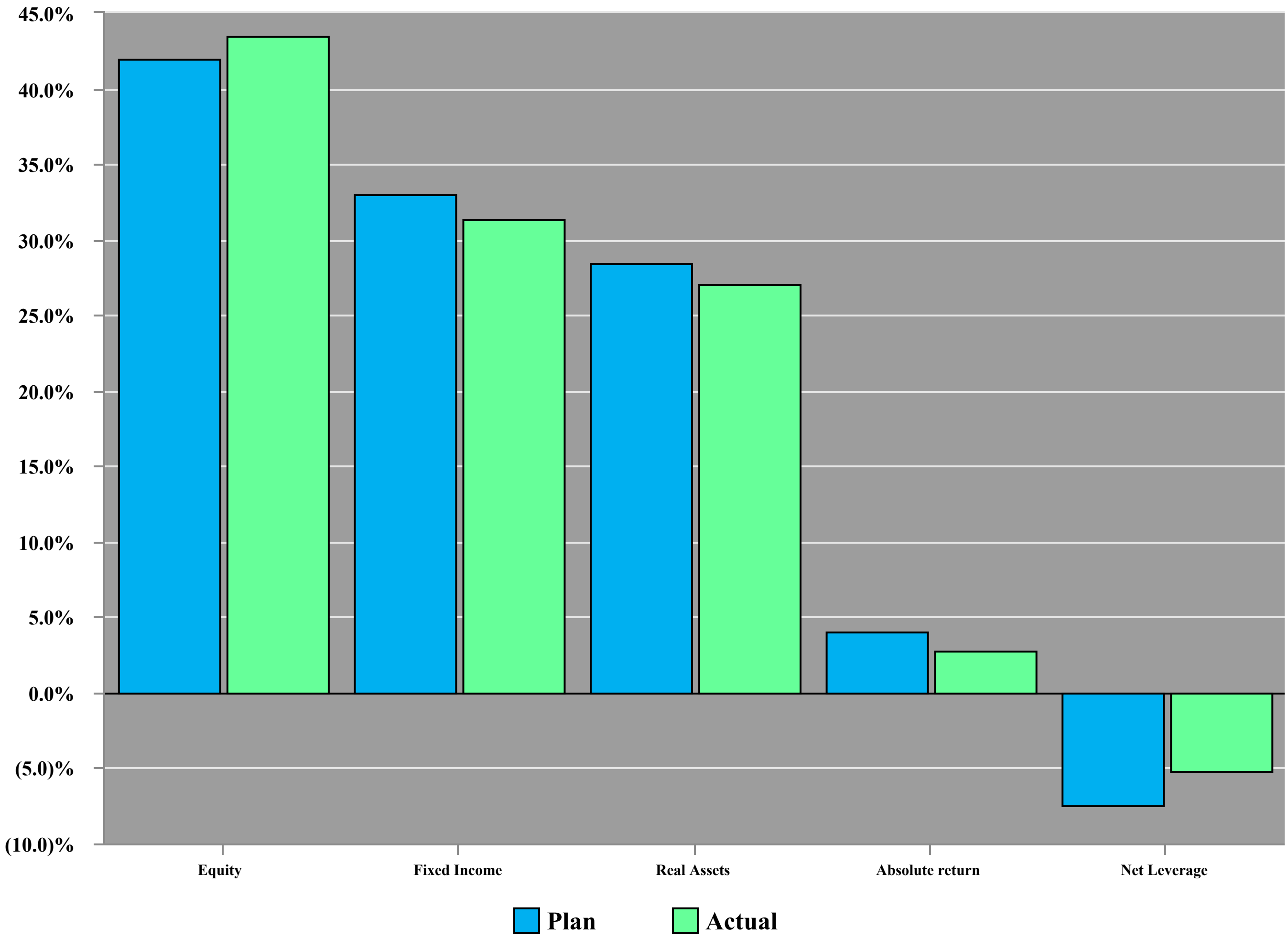
1. For more specific details on policy indices, refer to PSERS Investment Policy Statement at www.psers.pa.gov.
2. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
3. Returns reported on a one-quarter lag.
4. Returns are presented on an unleveraged basis for comparability purposes to the Policy Index.

Portfolio Summary Statistics
Asset Allocation Basis
As of June 30, 2023
(Dollar Amounts in Thousands)

Pension investments	Fair Value	% Fair Value
Public Equity:		
U.S. Equity		
Large Cap	$ 7,151,952	10.1
Mid and Small Cap	2,306,711	3.2
Non-U.S. Equity		
Large and Mid Cap	6,936,759	9.8
Small Cap	555,653	0.8
Emerging Markets	1,891,163	2.7
Private Equity	12,789,319	18.0
Total Equity	**31,631,557**	**44.6**
Public Fixed Income:		
Investment Grade Fixed Income		
U.S. Core	1,112,824	**1.6**
U.S. Long Treasuries	5,494,605	**7.7**
Credit-Related Fixed Income		
Emerging Markets	905,312	**1.3**
U.S. High Yield	2,085,216	**2.9**
Inflation Protected Fixed Income		
U.S. Inflation Protected	6,853,851	**9.7**
Non-U.S. Inflation Protected	634,176	**0.9**
Private Fixed Income	5,175,199	**7.3**
Total Fixed Income	**22,261,183**	**31.4**
Public Real Assets:		
Public Infrastructure	4,959,517	**7.0**
Public Commodities		
Broad Commodities	1,584,052	**2.2**
Gold	3,360,570	**4.7**
Public Real Estate	1,427,052	**2.0**
Private Real Assets:		
Private Infrastructure	1,682,315	2.4
Private Real Estate	5,755,416	8.1
Total Real Asset	**18,768,922**	**26.4**
Absolute Return	**2,050,902**	**2.8**
Leverage:		
Leverage	(6,337,337)	(8.9)
Cash and Cash Equivalents	2,626,636	3.7
Total Net Leverage	**(3,710,701)**	**(5.2)**
Total Pension investments	**71,001,863**	**100.0**
Postemployment Healthcare investments	**529,247**	**100.0**
Defined Contribution plan investments	**202,766**	**100.0**

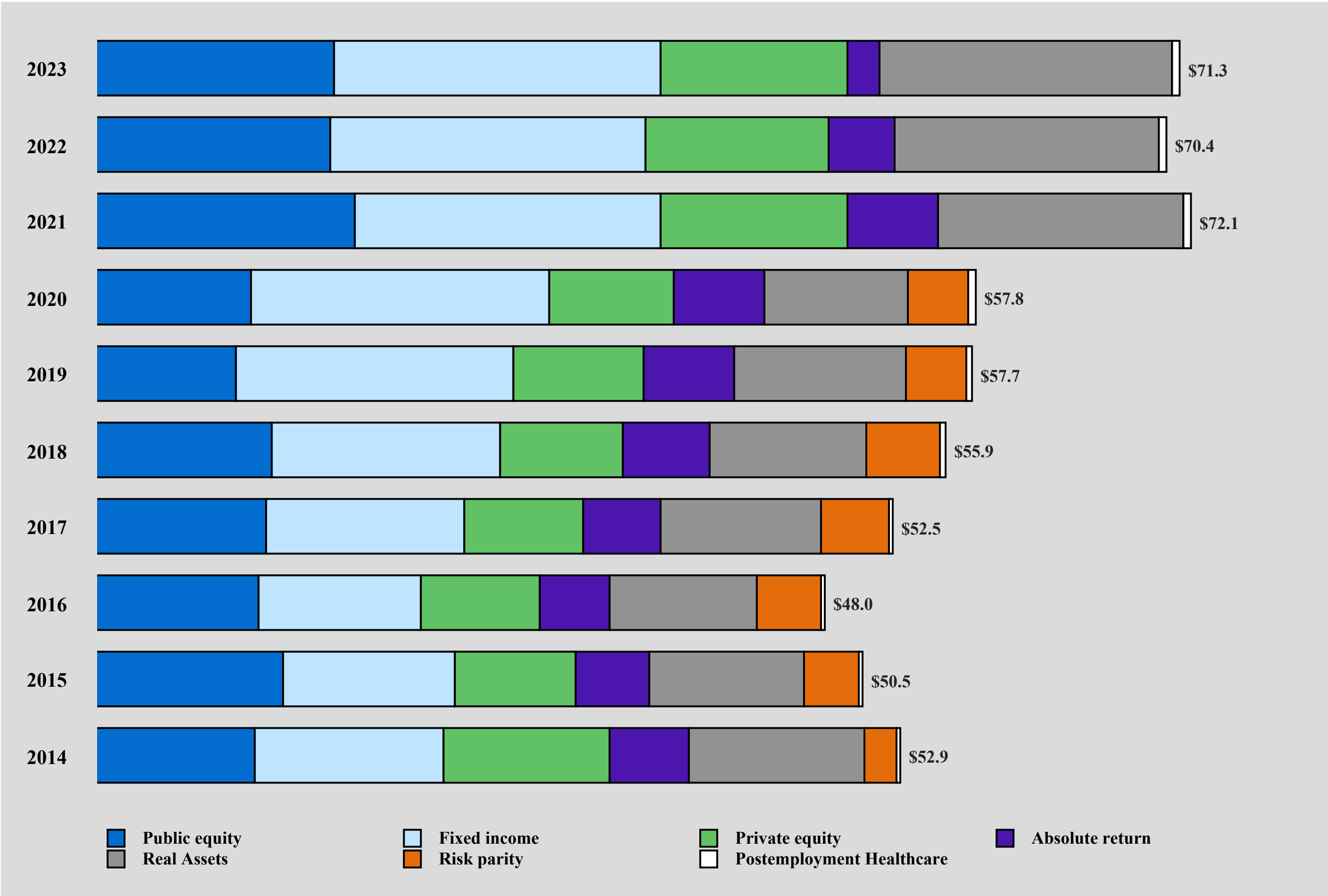
Comparison of Actual Portfolio Distribution to Asset Allocation Plan - Pension Investments * As of June 30, 2023

Asset Category	Plan	Actual
Equity	42.0%	44.6%
Fixed Income	33.0	31.4
Real Assets	28.5	26.4
Absolute return	4.0	2.8
Net Leverage	(7.5)	(5.2)
Total	**100.0%**	**100.0%**



Portfolio Capital Distribution 10 Year Trend*

(Fair Value - Dollar Amounts in Billions)



*Defined Contribution Plan and Tail Risk Mitigation are not included in the above chart.

Equity

10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2023
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Apple Inc.	2,579	$ 500,161
Microsoft Corporation	1,297	441,603
Nextera Energy, Inc.	2,906	215,620
Amazon.com, Inc.	1,557	202,946
Transurban Group	20,980	199,008
Aena S.M.E., S.A.	1,223	197,427
iShares MSCI ETF	3,881	191,294
NVIDIA CORPORATION	431	182,458
The Southern Company	2,017	141,671
American Tower REIT, Inc.	730	141,491
Total of 10 Largest Holdings		**$ 2,413,679**

Fixed Income

10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2023
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
iShares J.P. Morgan USD Emerging Markets Bond ETF, December 31, 2049	6,219	$ 538,188
iShares Core U.S. Aggregate Bond ETF	5,197	509,045
U.S.A. Treasury Note, 5.4177%, April, 30, 2025	250,000	250,173
U.S.A. Treasury Note, 5.4487%, January 31, 2025	240,000	240,384
U.S.A. TIPS 1.125%, January 15, 2033	178,271	171,003
U.S.A. Treasury Bond, 4.00%, November 15, 2052	149,000	153,144
U.S.A. TIPS 0.625%, January 15, 2026	156,991	149,751
U.S.A. TIPS 0.250%, January 15, 2025	153,277	146,950
U.S.A. Treasury Bond, 2.375%, May 15, 2051	195,900	145,701
U.S.A. TIPS 0.125%, January 15, 2031	163,199	145,128
Total of 10 Largest Holdings		**$ 2,449,467**

Postemployment Healthcare Investments
Holdings in Descending Order by Fair Value
As of June 30, 2023
(Dollar Amounts in Thousands)

Description	Maturity Date	Interest Rate (%)	Par Value	Fair Value
Wilmington US Government MM	N/A	Various	$ 284,745	$ 284,745
PSERS Short-Term Investment Fund	Various	Various	205,059	205,059
Total Holdings*				**$ 489,804**

*Excludes Cash on Deposit

Defined Contribution Plan Investments
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2023
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
T Rowe Price Target Date 2060	4,057	$ 61,548
T Rowe Price Target Date 2065	2,275	28,322
T Rowe Price Target Date 2055	1,772	25,516
T Rowe Price Target Date 2050	1,347	19,402
T Rowe Price Target Date 2045	1,117	16,076
T Rowe Price Target Date 2040	919	13,025
T Rowe Price Target Date 2035	780	10,812
T Rowe Price Target Date 2030	566	7,636
Vanguard® Treasury Money Market	5,347	5,347
PSERS Short-Term Investment Fund	N/A	4,844
Total of 10 Largest Holdings		**$ 192,528**

Information on the complete holdings of the System can be downloaded from the PSERS website at www.psers.pa.gov.

Comparison of Investment Activity Income
Fiscal Years Ended June 30, 2023 and 2022
(Dollar Amounts in Thousands)

Investment Activity	2023	2022
Net appreciation (depreciation) in fair value of investments	**$ 1,336,804**	$ (1,781,150)
Short-term	**276,739**	23,385
Fixed income	**663,883**	556,068
Equity	**445,086**	416,326
Collective trust funds	**981**	477
Real estate	**188,922**	455,027
Alternative investments	**300,455**	547,142
Total investment activity income	**$ 3,212,870**	$ 217,275

Brokers' fees on equity investment transactions for the fiscal year ended June 30, 2023, were $2.6 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, 2023, the System earned $16,000 from a commissions recapture program. A list of the individual brokers receiving fees in excess of $100,000 during the fiscal year, as well as all other brokers (receiving fees less than $100,000) is as follows:

Schedule of Broker Commissions
Fiscal Year Ended June 30, 2023

Brokerage Firm	Commissions Paid	Shares	Average Commission Per Share
Instinet LLC	$ 433,278	156,100,826	$ 0.003
Fimat USA Inc.	252,375	101,355	2.490
Liquidnet, Inc	179,540	22,300,844	0.008
Macquarie Bank Ltd.	135,121	92,549,200	0.001
All other brokers (less than $100,000)	1,569,604	592,564,530	0.003
Total	**$ 2,569,918**	**863,616,755**	**$ 2.505**

Professional Consultants

Roster of Investment Managers, Advisors, and Consultants
As of June 30, 2023

Absolute Return Managers

- Aeolus Capital Management, Ltd.
- Bridgewater Associates, LP
- Capula Investment Management, LLP
- Carlyle Aviation Management Limited
- Falko Regional Aircraft Limited
- Garda Capital Partners, LP
- HS Group Ltd.
- Independence Reinsurance Partners GP, LLC
- Nephila Capital, Ltd.
- Oceanwood Capital Management, Ltd.
- One William Street Capital Management, LP
- Venor Capital Management, LP

Non-U.S. Public Equity Managers

- Acadian Asset Management, LLC
- Baillie Gifford Overseas, Ltd.
- BlackRock Institutional Trust Company, N.A.
- Cederberg Capital
- Effissimo Capital Management Pte. Ltd.
- Marathon Asset Management Limited
- Oberweis Asset Management, Inc.
- Steadview Capital Partners, LP
- The Children's Investment Fund, LP
- Wasatch Advisors, Inc.

Tail Risk Mitigation Manager

- Capstone

Fixed Income Managers

U.S. High Yield Fixed Income Managers

- Bain Capital Credit, LP
- BlackRock Institutional Trust Company, N.A.
- Caspian Capital, LP

Private Credit Managers

- Apollo Global Management, LLC
- Ares SSG Capital Management Limited
- Avenue Capital Group
- Bain Capital Credit, LP
- Cerberus Business Finance, LLC
- Clearlake Capital Group, LP
- Galton Capital Group, LLC
- Hayfin Capital Management, LLP
- Intermediate Capital Group PLC
- LaSalle Mortgage Real Estate Investors
- LBC Credit Management, LP
- Newmarket Global Management, LP
- Pacific Investment Management Company, LLC
- Park Square Capital, LLC
- Sixth Street Partners, LLC
- Summit Partners
- TCI Fund Management Limited
- The Carlyle Group
- Värde Partners, Inc.
- Whitehorse Liquidity Partners, Inc.

Emerging Markets Debt Manager

- Franklin Templeton Investments

Non-U.S. Inflation-Linked Securities Manager

- Bridgewater Associates, LP

LIBOR-Plus Short-Term Investment Pool Manager

- Radcliffe Capital Management

Real Assets

Commodity Managers

- Denham Capital Management, LP
- Gresham Investment Management, LLC
- NGP Energy Capital Management

Professional Consultants (Continued)

Farmland Advisor

- Prudential Agricultural Group

Private Infrastructure Managers

- Blackstone Group
- Brookfield Asset Management, Inc.
- CIM Group, LLC
- GCM Grosvenor
- I Squared Capital
- Newmarket Global Management, LP

Publicly Traded Real Estate Securities Manager

- Security Capital Research & Management, Inc

Real Estate Advisors

- Bell Partners, Inc.
- GF Management, Inc.
- L&B Realty Advisors
- O'Connor Real Estate Advisors, LLC.
- Property Management, Inc.
- Stockbridge Capital Partners

Private Real Estate Fund Managers

- Almanac Realty Investors, LLC
- Angelo, Gordon & Co., LP
- Ares Management, LLC
- Avenue Capital Group
- Bell Partners, Inc.
- BlackRock Real Estate
- Blackstone Group
- Brookfield Asset Management, Inc.
- Cabot Properties, Inc.
- C-III Capital Partners, LLC
- DRA Advisors, LLC
- Exeter Property Group
- Fortress Investment Group
- GF Management, Inc.
- LaSalle Mortgage Real Estate Investors
- LEM Capital Partners, LP
- O'Connor Capital Partners
- LEM Capital Partners, LP
- O'Connor Capital Partners
- Paramount Group, Inc.
- PGIM Real Estate
- RCG Longview Management, LLC
- Silverpeak Real Estate Partners
- Stockbridge Capital Partners
- The Carlyle Group
- UBS Realty Investors, LLC

Currency Hedging Manager

- Insight Investment International Limited

Private Equity Fund Managers

- Actis, LLP
- Adams Capital Management, Inc.
- Aisling Capital, LLC
- APAX Partners, LLP
- Apogem Capital, LLC
- Apollo Global Management, LLC
- Ares Management Corporation
- Arrowhead Mezzanine
- Avenue Capital Group
- Bain Capital Investors, LLC
- Baring Private Equity Asia Limited
- Black Diamond Capital Management, LLC
- Blackstone Group
- Blue Point Capital Partners LLC
- Bridgepoint Capital, LTD
- Bryn Mawr Trust
- Capital Group
- Cerberus Capital Management, LLC
- Cinven
- Clearlake Capital Group, LP
- Coller Investment Management, LTD
- Crestview Advisors LLC
- Cross-Atlantic Capital Partners
- CVC Capital Partners Group
- Denham Capital
- Equistone Partners Europe Limited
- First Reserve Corporation

Professional Consultants (Continued)

- Gold Hill Venture Lending 03, LLC
- Greenoaks Capital
- Hahn & Co.
- HgCapital
- Huntsman Gay Global Capital LLC
- Incline Management Corp
- Insight Venture Management, LLC
- IPC Advisors
- K4 Capital Advisors
- L Catterton Management Company, LLC
- Lindsay Goldberg & Bessermer
- LLR Partners
- Milestone Partners
- Morgan Stanley
- New Mountain Investments
- NGP Energy Capital Management
- Oak HC/FT Management Company, LLC
- Oaktree Capital Management, LP
- Odyssey Investment Partners, LLC
- Orchid Asia
- PAI Europe
- Palladium Equity Partners
- Partners Group Mgt VI, LTD
- Platium Equity Advisors, LLC
- Polaris Capital Group, LTD
- Portfolio Advisors, LLC
- Sante Ventures
- SCP Private Equity Partners
- Searchlight Capital Partners, LP
- StarVest Associates
- StepStone Group
- Sterling Partners
- Summit Partners
- Tenaya Capital
- The Energy & Minerals Group
- Trilantic Capital Management, LLC
- Tulco Management, LLC
- Valar Ventures LLC
- Venor Capital Management, LP
- Versa Capital Management, LLC
- Webster Capital Management, LLC

Custodian Bank

- The Bank of New York Mellon Corporation

Securities Lending Agent

- Deutsche Bank AG

Investment Accounting Application Service Provider

- STP Investment Services, LLC

Proxy Voting Agent

- Glass, Lewis & Co., LLC

Board Investment Consultant

- Verus Advisory, Inc.

General Investment Consultant

- Aon Investments USA Inc.

Absolute Return, Private Equity, Private Real Estate, Private Credit, and Private Infrastructure Investment Consultant

- Aksia, LLC

Risk Management System

- BlackRock Solutions

Defined Contribution Investment Consultant

- CAPTRUST Financial Advisors

General Pension Consultant

- Ernst & Young US LLP

Actuarial Section

BUCK 200 Plaza Drive 1st Floor
Secaucus, New Jersey 07094-1533

September 8, 2023

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, 2022. 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 120 of 2010, 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 5 of 2017, contribute 2.25% of pay for future Class T-G members and 2.00% for future Class T-H members and DC only participants to the School Employees' Defined Contribution Plan (Act 5 DC contributions).

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, 2022 actuarial valuation, a total contribution rate of 34.00% (33.09% Pension plus 0.64% Health Insurance Premium Assistance and 0.27% for Act 5 DC contributions) of payroll payable by employers for fiscal year 2023/2024, 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 5.86%. The 0.27% Act 5 DC contribution rate is an estimated average employer DC contribution rate. The actual DC contribution rate applicable to each employer will be based on the employer's Class T-G, Class T-H, and Class-DC-only membership/participation.

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, 2022, including pension and survivor benefits, as the basis for the pension contribution rate for fiscal year 2023/2024.

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, 2020. This valuation was prepared on the basis of the demographic and economic assumptions that were recommended on the basis of the July 1, 2015 – June 30, 2020 Experience Review and approved by the Board of Trustees at its March 5, 2021, June 11, 2021 and August 6, 2021 meetings, which includes a 7.00% 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. The Health Insurance funding provisions of the Retirement Code differ from the GASB 74 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 74 purposes the Health Insurance actuarial liability and normal cost requirements are determined under the entry age actuarial cost method. The entry age actuarial cost method meets the GASB 74 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 Buck Global, LLC (Buck):

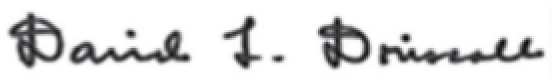
- Summary of Results of Actuarial Valuation as of June 30, 2022
- History of Contribution Rates and Funded Ratios
- Description of Actuarial Assumptions and Methods
- Schedule of Active Member Valuation Data
- Schedule of Retired Members and Beneficiaries Added To and Removed From Rolls
- Solvency Test
- Schedule of Funding Progress for Pensions
- Analysis of Past Financial Experience - Reconciliation of Employer Contribution Rates

In addition, Buck 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 (Premium Assistance) Liability", "Schedule of Employer Net OPEB (Premium Assistance) Liability", and the "Schedule of Employer OPEB (Premium Assistance) Contributions" in the Financial Section.

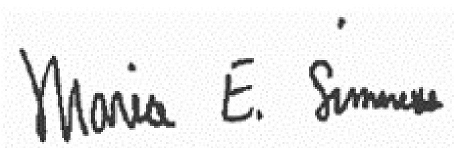
This report was prepared solely for the Pennsylvania Public School Employees' Retirement System for the purposes herein stated and may not be appropriate to use for other purposes. Buck does not intend to benefit and assumes no duty or liability to other parties who receive this work. Use of this report 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. Buck should be asked to review any statement to be made on basis of the results contained in this report. Buck will accept no liability for any such statement made without prior review by Buck.

David L. Driscoll and Maria E. Simmers are Fellows of the Society of Actuaries and Members of the American Academy of Actuaries. Salvador Nakar is a Member 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,



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



Maria E. Simmers, FSA, EA, MAAA, FCA
Director, Retirement Actuary

Salvador Nakar, EA, MAAA, FCA
Senior Consultant, Actuary

SUMMARY OF RESULTS OF ACTUARIAL VALUATION AS OF JUNE 30, 2022 (Dollar Amounts in Thousands)

	Item	June 30, 2022	June 30, 2021
	Member Data		
1.	Number of Members		
	a) Active Members [1]	247,873	248,091
	b) Vestees [2]	26,836	26,892
	c) Annuitants, Beneficiaries and Survivor Annuitants [3]	246,901	242,839
	d) Total	521,610	517,822
2.	Annualized Salaries [4]	$ 14,397,002	$ 14,057,526
3.	Annual Annuities	$ 6,438,598	$ 6,311,757
	Valuation Results		
4.	Present Value of Future Pension Benefits		
	a) Active Members	$ 66,333,616	$ 65,522,561
	b) Inactive Members	383,991	335,949
	c) Vestees	2,549,763	2,491,779
	d) Annuitants, Beneficiaries and Survivor Annuitants	61,869,159	61,168,172
	e) Total	$ 131,136,529	$ 129,518,461
5.	Present Value of Future Pension Normal Cost		
	a) Active Members	$ 9,737,095	$ 9,697,482
	b) Employer	6,922,633	7,170,154
	c) Total	$ 16,659,728	$ 16,867,636
6.	Pension Accrued Liability		
	a) Active Members (4a) - (5c)	$ 49,673,888	$ 48,654,925
	b) Inactive Members	383,991	335,949
	c) Vestees	2,549,763	2,491,779
	d) Annuitants, Beneficiaries and Survivor Annuitants	61,869,159	61,168,172
	e) Total	$ 114,476,801	$ 112,650,825
7.	Health Insurance Assets for Premium Assistance	$ 135,476	$ 132,515
8.	Total Accrued Liability for Funding (6) + (7)	$ 114,612,277	$ 112,783,340
9.	Actuarial Value of Assets	$ 70,646,769	$ 67,248,672
10.	Funded Status (9) / (8)	61.6%	59.6%
11.	Unfunded Accrued Liability (8) - (9)	$ 43,965,508	$ 45,534,668
12.	Total Normal Cost Rate	13.30%	13.59%
13.	Member Contribution Rate	7.44%	7.52%
14.	Employer Normal Cost Rate (12) - (13)	5.86%	6.07%
	Employer Annual Funding Requirement	**Fiscal 2023/2024**	**Fiscal 2022/2023**
15.	Employer Contribution Rate Calculated by Actuary		
	a) Normal Cost	5.86%	6.07%
	b) Unfunded Accrued Liability	27.23	28.24
	c) Preliminary Pension Rate	33.09%	34.31%
	d) Health Insurance Premium Assistance	0.64	0.75
	e) Act 5 DC [5]	0.27	0.20
	f) Total Rate [6] = (15c) + (15d) + (15e)	34.00%	35.26%

1. Excludes 520 and 319 DC-only participants as of June 30, 2022 and June 30, 2021, respectively. Based on discussions with PSERS staff, the 2021 amount has been updated from 54.
2. Excludes 148,999 and 140,771 inactive members and non-members as of June 30, 2022 and June 30, 2021, respectively, who are no longer participating and are valued for their accumulated deductions only.
3. Excludes 1,776 and 1,678 beneficiaries as of June 30, 2022 and June 30, 2021, respectively, who are only entitled to a pending lump sum distribution.
4. The salaries shown represent an annual rate of pay for members who were in active service on the valuation date.
5. Average DC contribution rate. Actual rate will vary by employer based on Class T-G, Class T-H, and Class DC only memberships.
6. The Act 120 minimum pension rate is 5.86% and 6.07% for the June 30, 2022 and June 30, 2021 valuations, respectively.

HISTORY OF CONTRIBUTION RATES AND FUNDED RATIOS

Fiscal Year Ending June	Budgeted Total Employer Payroll (Thousands)	Contribution Rates[1]								Funded Ratio
		Employee	Employer Normal Cost	Employer Unfunded Liability	Preliminary Employer Pension	Final Employer Pension[2]	Act 5 Employer DC[7]	Employer Health Insurance	Total Employer	
2013[3,4]	$ 14,297,000	7.40%	8.66%	12.99%	21.65%	11.50%	N/A	0.86%	12.36%	63.8%
2014	13,720,000	7.43	8.57	15.25	23.82	16.00	N/A	0.93	16.93	62.0
2015	13,482,000	7.46	8.46	17.51	25.97	20.50	N/A	0.90	21.40	60.6
2016	13,375,000	7.49	8.38	19.44	27.82	25.00	N/A	0.84	25.84	57.3
2017	13,549,000	7.52	8.31	20.89	29.20	29.20	N/A	0.83	30.03	56.3
2018[5]	13,449,000	7.54	7.70	24.04	31.74	31.74	N/A	0.83	32.57	56.5
2019	13,775,000	7.57	7.59	25.01	32.60	32.60	N/A	0.83	33.43	58.1
2020	13,880,000	7.59	7.49	25.87	33.36	33.36	0.09	0.84	34.29	59.2
2021	14,078,000	7.61	7.37	26.14	33.51	33.51	0.18%	0.82	34.51	59.6
2022	14,289,000	7.56	7.20	26.79	33.99	33.99	0.15	0.80	34.94	**61.6**
2023[6]	14,497,000	7.52	6.07	28.24	34.31	34.31	0.20	0.75	35.26	*
2024	**15,260,000**	**7.44**	**5.86**	**27.23**	**33.09**	**33.09**	**0.27**	**0.64**	**34.00**	*

1. 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, Act 5 Employer DC Rate and the Employer Health Insurance Premium Assistance Rate.

2. The Final Employer Pension rate is limited by the Act 120 of 2010 pension rate collars for fiscal years 2013 through 2016.

3. 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%.

4. 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%.

5. Revised actuarial assumptions based on a five-year experience review ended June 30, 2020 were used to determine the contributions for the fiscal year ending June 30, 2023 and thereafter, which include an interest rate of 7.00%.

6. Act 5 new member assumptions:

Valuation	Class T-G	Class T-H	DC Only
2018-2019	65%	30%	5%
After 2019	98%	1%	1%

The above rate is an average DC contribution rate. Actual rate will vary by employer based on Class T-G, Class T-H, and Class DC only memberships.

* Not Available

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS

ASSUMPTIONS

Interest Rate: 7.00% per annum, compounded annually (adopted as of June 30, 2021). The components are 2.50% for inflation and 4.50% for the real rate of return. Actuarial equivalent benefits are determined based on an interest rate of 4.00% per year (since 1960) except, in accordance with Act 5 of 2017, an interest rate of 7.00% per year is used for Class T-E, Class T-F, Class T-G and Class T-H members' Option 4 partial withdrawal of accumulated member contributions and certain Class T-G and Class T-H early retirement factors.

Discount Rate for GASB 67 Accounting: 7.00% as of June 30, 2021 and June 30, 2022. Rates were determined in accordance with the methods prescribed in GASB Statement No. 67.

Discount Rate for GASB 74 Accounting: 2.18% as of June 30, 2021 and 4.09% as of June 30, 2022. 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, 2021).

Age	Class T-C and Class T-D Annual Rate of:						
	Withdrawal Less Than 5 Years of Service	Withdrawal Between 5 and 10 Years of Service	Withdrawal 10 or More Years of Service	Death [1]	Disability	Early Retirement [2]	Superannuation Retirement
MALES							
25	21.83%	9.22%	4.55%	0.022%	0.01%		
30	14.93	3.84	4.55	0.029	0.01		
35	15.17	3.77	1.68	0.038	0.04		
40	16.04	4.44	1.42	0.053	0.06		
45	15.12	5.17	1.41	0.082	0.11		19.00%
50	15.81	4.96	1.89	0.129	0.23		19.00
55	15.54	4.96	3.63	0.194	0.37	14.50%	25.00
60	13.85	6.37	5.49	0.289	0.37	14.50	29.00
65				0.447	0.11		23.00
70				0.699	0.08		20.00
75				1.076	0.08		25.00
79				1.701	0.08		25.00
FEMALES							
25	18.33%	7.47%	3.90%	0.008%	0.01%		
30	15.16	5.92	3.90	0.013	0.02		
35	14.66	5.68	2.83	0.019	0.03		
40	12.86	5.16	1.67	0.030	0.06		
45	12.82	5.25	1.60	0.046	0.11		16.00%
50	13.02	5.23	2.08	0.069	0.18		16.00
55	13.43	5.31	3.66	0.102	0.29	14.50%	16.00
60	13.81	7.53	5.94	0.154	0.24	15.00	31.00
65				0.251	0.07		28.00
70				0.431	0.09		23.00
75				0.766	0.09		25.00
79				1.239	0.09		25.00

1. These base mortality tables will then be projected on a generational basis using the Buck Modified scale MP-2020. Refer to the pre-retirement mortality description below.
2. Early Retirement - Age 55 with 25 years of service, but not eligible for Superannuation retirement.

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS
(Continued)

Age	Class T-E, Class T-F, Class T-G and Class T-H Annual Rate of:					
	Withdrawal					
	Less Than 10 Years of Service	10 or More Years of Service	Death [1]	Disability	Early Retirement [2]	Superannuation Retirement
MALES						
25	17.02%	4.55%	0.022%	0.01%		
30	11.25	4.55	0.029	0.01		
35	12.09	1.68	0.038	0.04		
40	13.14	1.42	0.053	0.06		
45	13.87	1.41	0.082	0.11		
50	13.67	1.89	0.129	0.23		
55	11.91	3.63	0.194	0.37	14.50%	16.30%
60	11.19	5.49	0.289	0.37	14.50	16.30
65	11.19		0.447	0.11		16.30
70	11.19		0.699	0.08		16.30
75	11.19		1.076	0.08		16.30
79	11.19		1.701	0.08		16.30
FEMALES						
25	14.54%	3.90%	0.008%	0.01%		
30	11.68	3.90	0.013	0.02		
35	12.39	2.83	0.019	0.03		
40	11.53	1.67	0.030	0.06		
45	10.99	1.60	0.046	0.11		
50	10.72	2.08	0.069	0.18		
55	10.75	3.66	0.102	0.29	14.50%	19.50%
60	11.62	5.94	0.154	0.24	15.00	19.50
65	11.62		0.251	0.07		19.50
70	11.62		0.431	0.09		19.50
75	11.62		0.766	0.09		19.50
79	11.62		1.239	0.09		19.50

1. These base mortality tables will then be projected on a generational basis using the Buck Modified scale MP-2020. Refer to the pre-retirement mortality description below.
2. Early Retirement - prior to eligibility for Superannuation retirement.

Death before Retirement:
Male participants: 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 Employee (Total General Employees dataset) Amount Weighted Male Tables, with a 99.0% adjustment, generationally projected with Buck Modified scale MP-2020.

Female participants: 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 Employee (Total General Employees dataset) Amount Weighted Female Tables, with a 88.6% adjustment, generationally projected with Buck Modified scale MP-2020.

Death after Retirement:
Male annuitants: 50% PubT-2010 Retiree (Total Teacher dataset) and 50% PubG-2010 Retiree (Total General Employees dataset) Amount Weighted Male Tables, with a 99.7% adjustment, generationally projected with Buck Modified scale MP-2020.

Female annuitants: 50% PubT-2010 Retiree (Total Teacher dataset) and 50% PubG-2010 Retiree (Total General Employees dataset) Amount Weighted Female Tables, with a 95.4% adjustment, generationally projected with Buck Modified scale MP-2020.

Male disabled annuitants: Pub-2010 Disability Mortality Non-Safety Amount Weighted Male Table, with a 105.4% adjustment, generationally projected with Buck Modified scale MP-2020.

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS (Continued)

Female disabled annuitants: Pub-2010 Disability Mortality Non-Safety Amount Weighted Female Table, with a 95.0% adjustment, generationally projected with Buck Modified scale MP-2020.

Male contingent annuitants: Pub-2010 Contingent Survivor Amount Weighted Male Table, with a 106.0% adjustment, generationally projected with Buck Modified scale MP-2020.

Female contingent annuitants: Pub-2010 Contingent Annuitant Amount Weighted Female Table, with a 116.2% adjustment, generationally projected with Buck Modified scale MP-2020.

For determination of actuarial equivalence, a unisex table based on 25% males and 75% females blend of the Board-approved base mortality tables to be used for actuarial valuations beginning June 30, 2021, generationally projected to 2025 with the Buck Modified MP-2020 improvement scale.

Salary Increase: Effective average of 4.50% per annum, compounded annually (adopted as of June 30, 2021). The components are 2.50% for inflation, and 2.00% for real wage growth and merit or seniority increases. Representative values are as follows:

Age	Annual Rate of Salary Increase
20	9.65%
30	7.15
40	5.15
50	3.15
55	2.75
60	2.75
65	2.75
Over 65	2.75

Payroll Growth: A 3.25% per annum payroll growth assumption is used to liquidate the unfunded accrued liability based on level-percent-of-pay amortization schedules required by the Retirement Code as amended by Act 120 of 2010 and Act 5 of 2017, i.e., a schedule of 24 years for the unfunded accrued liability as of June 30, 2010 and each change in the unfunded accrued liability due to actuarial experience after the June 30, 2010 valuation. Any legislation after June 30, 2010 that increases the liability due to benefit enhancements will be funded over 10 years based on level-percent-of-pay amortization.

MISCELLANEOUS

Option 4 - Refund of Contributions Elections: 75% of Class T-C and Class T-D and 50% of Class T-E, Class T-F, Class T-G and Class T-H members are assumed to elect a refund of contributions and a reduced annuity.

Withdrawal Annuity: 50% of members are assumed to commence payment immediately and 50% are assumed to defer payment to superannuation age.

Optional Forms of Annuity Payment at Retirement: Anticipated active member elections of optional forms of payment at retirement as follows:

- 45% will elect Maximum Straight Life Annuity (MSLA)
- 25% 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 Forms of Payment Factors: Actuarial equivalent benefits are determined based on a statutorily specified interest rate of 4.00% per year or 7.00% per annum, as applicable. The mortality basis is a blend of 25% males and 75% females blend of the Board-approved base mortality tables to be used for actuarial valuations beginning June 30, 2021, generationally projected to 2025 with the Buck Modified MP-2020 improvement scale.

Health Insurance Premium Assistance: Elections: 62% of eligible retirees are assumed to elect premium assistance for fiscal years 2022/2023. Beginning in fiscal year 2023/2024, 61% of eligible retirees are assumed to elect premium assistance.

Administrative Expenses: Assumed equal to $1,113,000 for fiscal year 2022/2023, $1,054,000 for fiscal year 2023/2024 and $1,085,000 for fiscal year 2024/2025.

Summary of Changes since the June 30, 2021 Valuation:
Beginning in fiscal year 2023/2024, 61% of eligible retirees are assumed to elect premium assistance.

Assumed administrative expenses for the Health Insurance Premium Assistance plan changed from $1,415,000 to $1,113,000 for fiscal year 2022/2023, from $1,486,000 to $1,054,000 for fiscal year 2023/2024, and the amount of $1,085,000 was added for the fiscal year 2024/2025.

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 7.00% (7.25% prior to June 30, 2021, 7.50% prior to June 30, 2016, and 8.00% prior to June 30, 2011, 8.25% prior to June 30, 2009 and 8.50% prior to June 30, 2008) actuarial expected investment return immediately and spreads the difference between the actual return on the market value of assets and the expected return on the actuarial value of the assets over a period of ten years. The actuarial value of assets can be no less than 70% and no more than 130% of the market value of assets.

DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS (Continued)

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). It is the ratio of the gross normal cost amount to the anticipated total salary during the first year, which is adjusted to the beginning of the year by one-half of the effective average salary increase assumption of 4.5% per annum. This method produces a gross normal cost rate that is consistent with the Retirement System's past annual valuations. 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. As provided by Act 5 of 2017, future increases in the unfunded accrued liability due to benefit enhancement legislation will be amortized over 10-year periods, as a level percent of pay. Act 120 also modified the employer pension contribution requirements by imposing collars on the rate for fiscal years ending June 30, 2012, June 30, 2013, and on or after June 30, 2014; the pension contribution rate was limited to 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 ending June 30, 2017, the actuarially determined contribution rate was less than the collared rate and the final contribution rate was the actuarially determined contribution rate. However, as provided by Act 120 of 2010, the final contribution rate cannot be less than the employer normal contribution rate.

Actuarial Cost Method for Health Insurance Premium Assistance 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.

Employer DC Contributions: An average DC contribution rate is determined based on the anticipated employer contributions for DC participants and Retirement System appropriation payroll for the second succeeding fiscal year after the June 30 valuation date. It is assumed that among new employees hired on or after July 1, 2022, that 98% will become Class T-G members, 1% will become Class T-H members and 1% will become Class DC-only participants. The actual rate will vary by employer based on Class T-G, Class T-H, and Class DC-only memberships.

Actuarial Cost Method for GASB 74 Accounting for Health Insurance: The actuarial liability and service cost are determined under the entry age actuarial cost method.

Summary of Changes since the June 30, 2021 Valuation: None.

DATA

Census and Assets: The valuation was based on members of the Retirement System as of June 30, 2022, 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 actuaries adjust 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.

For employer DC contributions, it is assumed among new employees hired on or after July 1, 2021, that 98% will become Class T-G members, 1% will become Class T-H members and 1% will become Class DC only participants. This is the same assumption that was used for the June 30, 2020, valuation and reflects the actual Class T-G, Class T-H and Class DC only elections as of June 30, 2020.

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
2022	770	247,873	$ 14,397,002	$ 58,082	2.50%
2021	769	248,145	14,057,526	56,663	3.90
2020	770	256,306	13,974,295	54,535	2.01
2019	773	255,749	13,671,927	53,458	2.43
2018	775	256,362	13,379,041	52,188	2.48
2017	775	255,945	13,033,919	50,924	1.87
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

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

Valuation Date as of June 30	Added to Rolls		Removed from Rolls		Rolls at End of Year		% Increase in Annual Allowance	Average Annual Allowance
	Number	Annual Allowance (Millions)	Number	Annual Allowance (Millions)	Number	Annual Allowance [1] (Millions)		
2022	11,493	$ 309.9	7,431	$ 120.4	246,901	$ 6,438.6	2.01%	$ 26,078
2021	11,682	320.2	8,457	135.9	242,839	6,311.8	2.28	25,992
2020	9,708	256.1	7,433	115.6	239,614	6,170.9	1.97	25,753
2019	10,553	246.6	6,502	107.0	237,339	6,051.6	2.11	25,498
2018	11,806	235.3	8,532	98.6	233,288	5,926.7	1.90	25,405
2017	12,876	274.2	7,690	102.1	230,014	5,816.4	2.65	25,287
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

1. 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 Rolls		Removed from Rolls		Rolls at End of Year		% Increase in Annual Premium Assistance	Average Annual Premium Assistance
	Number [2]	Annual Premium Assistance (Millions)	Number [2]	Annual Premium Assistance (Millions)	Number [2]	Annual Premium Assistance (Millions)		
2022	6,601	$ 4.9	4,505	$ 3.4	156,064	$ 116.1	0.00 %	$ 1,200
2021	6,734	5.1	5,431	4.1	153,968	116.4	0.87	1,200
2020	5,979	4.5	4,230	5.0	152,665	115.4	1.14	1,200
2019	5,673	4.3	3,999	3.0	150,916	114.1	1.15	1,200
2018	5,501	4.2	3,770	2.9	149,242	112.8	1.17	1,200
2017	5,821	4.4	3,806	2.9	147,511	111.5	1.36	1,200
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

2. Number of retired members eligible to participate in the Health Insurance Premium Assistance; 62% of eligible retirees are assumed to elect premium assistance as of June 30, 2022; 63% of eligible retirees are assumed to elect premium assistance as of June 30 2016 to June 30, 2021; 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 TEST FOR PENSIONS [1]
COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND ACTUARIAL VALUE OF ASSETS
(Dollar Amounts in Thousands)

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)
2022	$ 18,802,945	$ 61,869,159	$ 33,804,697	$ 70,511,293	100%	84%	0%
2021	18,156,350	61,168,172	33,326,303	67,116,157	100	80	0
2020	17,558,412	58,415,383	31,859,604	63,798,937	100	79	0
2019	16,839,956	57,413,088	30,946,461	61,065,304	100	77	0
2018	16,120,538	56,742,925	30,127,445	58,135,539	100	74	0
2017	15,500,215	56,184,146	30,164,456	57,336,856	100	74	0
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

SCHEDULE OF FUNDING PROGRESS FOR PENSIONS [1]
(Dollar Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll[2]	Unfunded Accrued Liability as a Percentage of Covered Payroll
2022	$ 70,511,293	$ 114,476,801	$ 43,965,508	61.6%	$ 14,397,002	305.4%
2021	67,116,157	112,650,825	45,534,668	59.6	14,057,526	323.9
2020	63,798,937	107,833,399	44,034,462	59.2	13,974,295	315.1
2019	61,065,304	105,199,505	44,134,201	58.0	13,671,927	322.8
2018	58,135,539	102,990,908	44,855,369	56.4	13,379,041	335.3
2017	57,336,856	101,848,817	44,511,961	56.3	13,033,919	341.5
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

1. The amounts reported include assets and liabilities for Pensions.
2. The salaries shown represent an annual rate of pay for the year ended June 30th for members who were in active service on June 30th.

ANALYSIS OF PAST FINANCIAL EXPERIENCE
RECONCILIATION OF EMPLOYER CONTRIBUTION RATES

Fiscal Year Ending June 30	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Effective Prior Year Contribution Rate	35.26%	34.94%	34.51%	34.29%	33.43%	32.57%	30.03%	25.84%	21.40%	16.93%
Prior Year Adjustment for Legislation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.82	5.47	7.82
Net Change Due to:										
Change in Normal Rate	(0.21)	(0.18)	(0.17)	(0.12)	(0.10)	(0.11)	(0.23)	(0.07)	(0.08)	(0.11)
Payroll Growth and Liability Experience	(1.08)	0.12	0.39	0.25	(0.12)	(0.17)	0.96	0.14	0.58	0.68
Investment Loss/(Gain)	0.07	(0.01)	0.26	0.02	0.98	1.22	1.08	0.83	0.66	0.81
Health Insurance Contribution Change	(0.11)	(0.05)	(0.02)	(0.02)	0.01	0.00	0.01	(0.01)	(0.06)	(0.03)
Assumption/Method Change	N/A	0.39	N/A	N/A	N/A	(0.08)	0.44	N/A	N/A	N/A
Act 5 Benefit and Funding Reforms [2]	0.07	0.05	(0.03)	0.09	0.09	N/A	N/A	N/A	N/A	N/A
Amortization of Prior Legislation Deferrals	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.48	0.69	0.77
Legislation Deferrals:										
Act 120 Collar [1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(2.82)	(5.47)
Actual Contribution Rate:	34.00%	35.26%	34.94%	34.51%	34.29%	33.43%	32.57%	30.03%	25.84%	21.40%

1. The Final Employer Pension rate is limited by the Act 120 of 2010 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 the fiscal year 2017, the actuarially determined 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.

2. Act 5 Defined Contribution rate. The above rate is an average DC contribution rate. Actual rate will vary by employer.

Statistical Section

Statistical Section Narrative

To assist readers in the assessment of the System's economic condition, the Statistical Section of this Annual Comprehensive 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, 2022, 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
10 Year
(Dollar Amounts in Thousands)*

For years ended June 30	2023	2022	2021	2020	2019
Contribution Rates:					
Total Pension	34.31%	33.99%	33.51%	33.36%	32.60%
Health Insurance Premium Assistance	0.75%	0.80%	0.82%	0.84%	0.83%
Defined Contribution	0.20%	0.15%	0.18%	0.09%	N/A
Total Employer	35.26%	34.94%	34.51%	34.29%	33.43%
Average Member	7.52%	7.56%	7.61%	7.59%	7.57%
Total Employer Contributions ***	$ 5,363,739	$ 5,115,090	$ 4,875,708	$ 4,794,320	$ 4,602,349
Market Value of Assets ***	$ 72,253	$ 70,664	$ 72,100	$ 58,687	$ 58,859
Actuarial Value of Assets	**	$ 70,647	$ 67,249	$ 63,929.354	$ 61,190
Accrued Actuarial Liability	**	$ 114,612	$ 112,783	$ 107,963.816	$ 105,325
Actuarial Funded Ratio	**	61.60%	59.60%	59.20%	58.10%
Total Benefits & Refunds	$ 8,151,007	$ 7,794,495	$ 7,631,376	$ 7,365,198	$ 7,237,244
Average Pension *	$ 26,197	$ 26,078	$ 25,992	$ 25,753	$ 25,498
Annuitants & Beneficiaries	249,724	246,901	242,839	239,614	237,339
Average Annual Member Compensation *	$ 59,709	$ 58,076	$ 56,663	$ 54,535	$ 53,458
Active Members	251,732	248,393	248,145	256,246	255,749
Retirements	10,080	9,356	9,411	8,290	8,746

For years ended June 30	2018	2017	2016	2015	2014
Contribution Rates:					
Total Pension	31.74%	29.20%	25.00%	20.50%	16.00%
Health Insurance Premium Assistance	0.83%	0.83%	0.84%	0.90%	0.93%
Total Employer	32.57%	30.03%	25.84%	21.40%	16.93%
Average Member	7.54%	7.52%	7.49%	7.46%	7.43%
Total Employer Contributions ***	$ 4,361,597	$ 3,943,758	$ 3,302,817	$ 2,713,539	$ 2,109,952
Market Value of Assets ***	$ 56,486	$ 53,279	$ 49,957	$ 51,706	$ 53,092
Actuarial Value of Assets	$ 58,258	$ 57,461	$ 57,390	$ 57,362	$ 57,344
Accrued Actuarial Liability	$ 103,114	$ 101,973	$ 100,114	$ 95,945	$ 92,465
Actuarial Funded Ratio	56.50%	56.30%	57.30%	60.60%	62.00%
Total Benefits & Refunds	$ 7,143,341	$ 6,923,904	$ 6,779,577	$ 6,614,154	$ 6,417,455
Average Pension *	$ 25,405	$ 25,287	$ 25,203	$ 25,119	$ 24,962
Annuitants & Beneficiaries	233,288	230,014	224,828	219,775	213,900
Average Annual Member Compensation *	$ 52,188	$ 50,925	$ 49,989	$ 48,787	$ 47,931
Active Members	256,362	255,945	257,080	259,868	263,312
Retirements	9,840	9,479	10,135	10,813	9,888

* 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, 2023. Results for this valuation were not available at publication date.

*** Excludes Health Options Program and Defined Contribution Plan.

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

Additions to Fiduciary Net Position

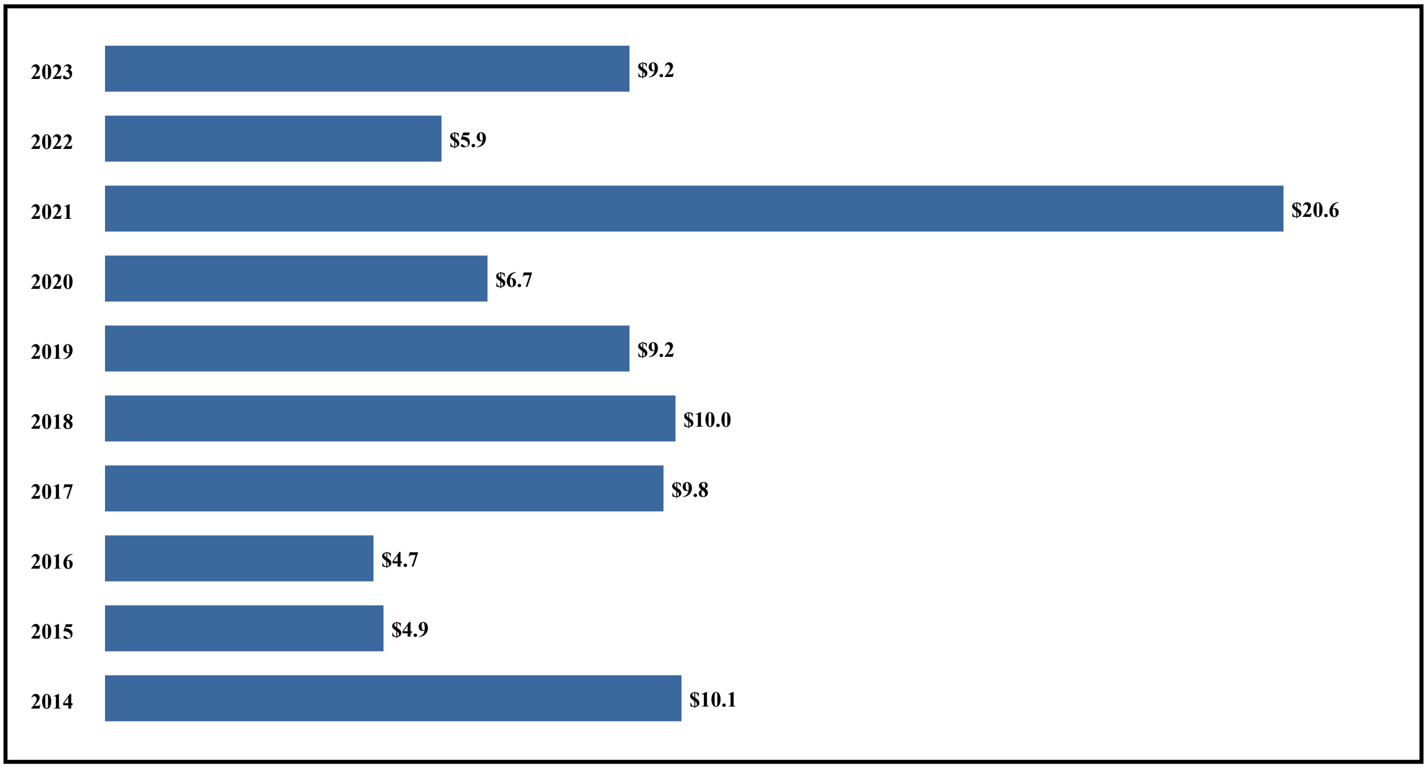
Year Ended June 30	Member Contributions	Employer Contributions	Net Investment Income (Loss)	Total Additions
2023	$ 1,174,580	$ 5,249,018	$ 2,795,296	$ 9,218,894
2022	1,134,051	4,997,912	(267,250)	5,864,713
2021	1,080,701	4,759,189	14,754,624	20,594,514
2020	1,067,957	4,676,413	1,001,846	6,746,216
2019	1,064,043	4,487,520	3,628,710	9,180,273
2018	1,026,375	4,249,611	4,714,158	9,990,144
2017	1,013,847	3,832,773	4,995,362	9,841,982
2016	989,266	3,189,510	473,206	4,651,982
2015	984,634	2,596,731	1,328,516	4,909,881
2014	966,926	1,992,084	7,097,761	10,056,771

Deductions from Fiduciary Net Position

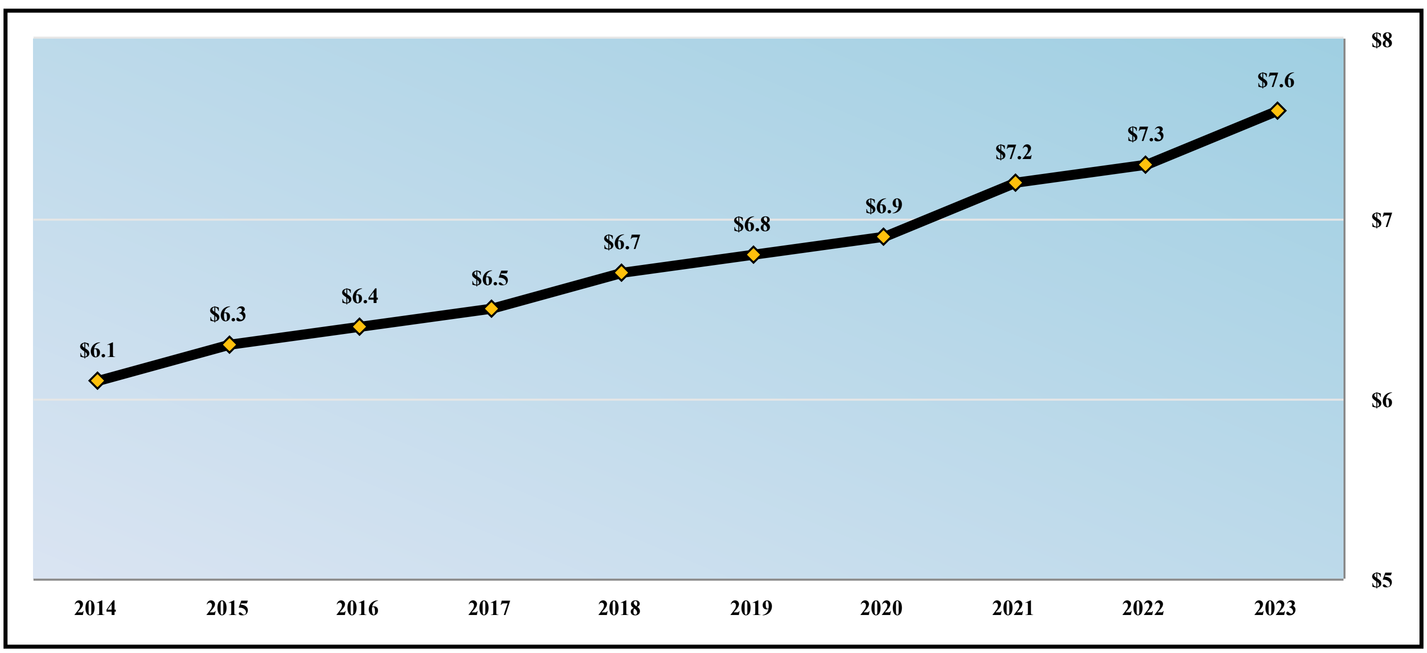
Year Ended June 30	Benefit Payments								
	Annuities	Lump Sums**	Refunds	Administrative	Gross Receipts	Gross Payments	Net Transfers*	Total Deductions	Net Increase / (Decrease)
2023	$ 6,426,706	$1,108,373	$ 43,110	$ 53,823	$ (5,145)	$ 7,940	$ 2,794	$ 7,634,806	$ 1,584,088
2022	6,306,428	906,337	36,560	49,451	(5,272)	10,319	5,047	7,303,823	(1,439,110)
2021	6,181,330	917,539	26,925	49,616	(6,264)	14,802	8,538	7,183,948	13,410,566
2020	6,051,233	794,675	27,463	46,799	(6,539)	9,683	3,144	6,923,314	(177,098)
2019	5,925,048	808,016	27,027	48,931	(4,566)	5,647	1,081	6,810,103	2,370,170
2018	5,813,139	814,384	19,881	46,544	(5,679)	13,421	7,742	6,701,690	3,288,454
2017	5,673,309	780,015	20,928	45,127	(11,015)	10,342	(673)	6,518,706	3,323,276
2016	5,522,662	815,131	20,069	45,118	(9,916)	12,379	2,463	6,405,443	(1,753,461)
2015	5,356,085	840,167	20,920	42,331	(9,687)	13,116	3,429	6,262,932	(1,353,051)
2014	5,166,777	862,018	22,823	38,712	(10,673)	12,560	1,887	6,092,217	3,964,554

* Net transfers to the Commonwealth of Pennsylvania State Employees' Retirement System.
** Lump-Sums includes both pension and death lump sums.

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

Additions to Fiduciary Net Position

Year Ended June 30	Employer Contributions	Net Investment Income	Total Additions
2023	$ 114,721	$ 4,474	$ 119,195
2022	117,178	316	117,494
2021	116,519	260	116,779
2020	117,907	1,752	119,659
2019	114,829	2,313	117,142
2018	111,986	1,455	113,441
2017	110,985	663	111,648
2016	113,307	542	113,849
2015	116,808	215	117,023
2014	117,868	70	117,938

Deductions from Fiduciary Net Position

Year Ended June 30	Benefits	Administrative	Total Deductions	Net Increase / (Decrease)
2023	$ 112,870	$ 1,085	$ 113,955	$ 5,240
2022	113,707	826	114,533	2,961
2021	113,538	1,143	114,681	2,098
2020	113,279	1,148	114,427	5,232
2019	112,777	1,914	114,691	2,451
2018	111,847	2,603	114,450	(1,009)
2017	110,229	2,239	112,468	(820)
2016	108,273	1,656	109,929	3,920
2015	106,298	2,142	108,440	8,583
2014	104,197	2,030	106,227	11,711

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

(Dollar Amounts in Thousands)

Health Options Program

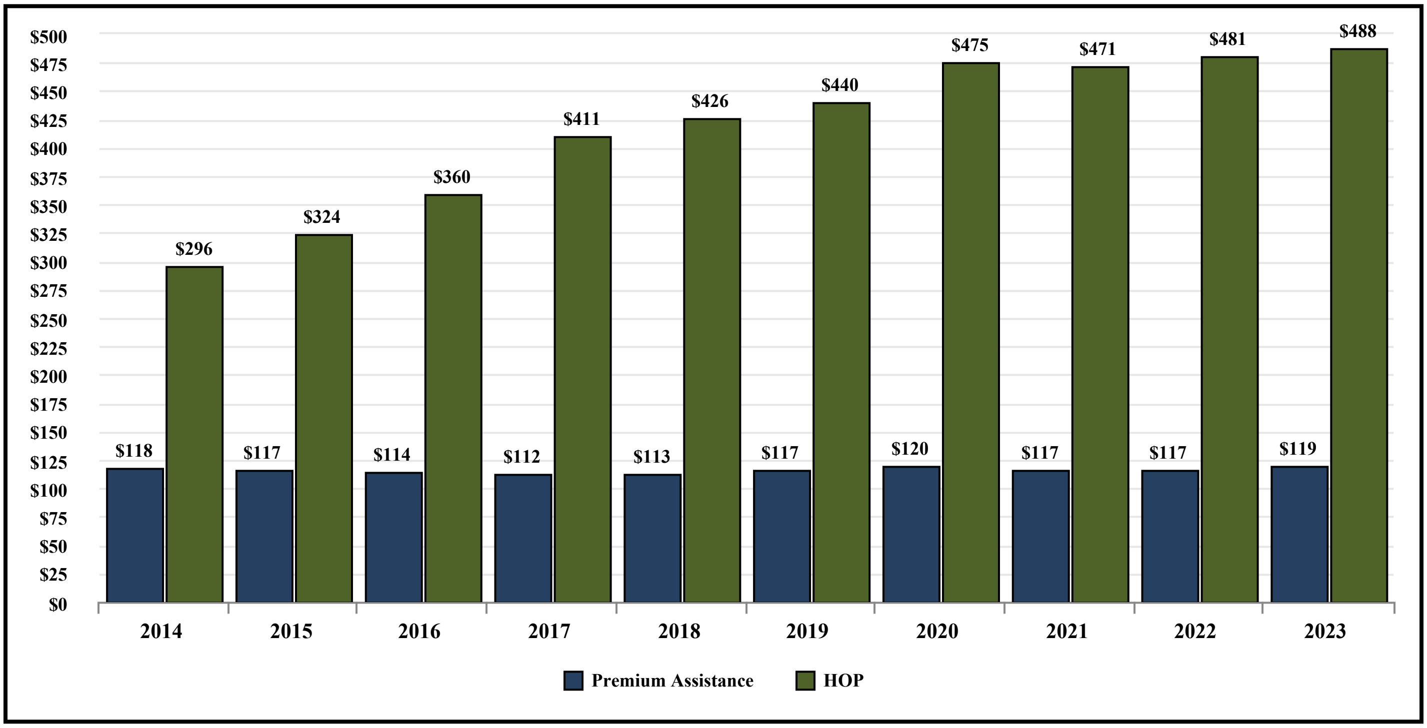
Additions to Fiduciary Net Position

Year Ended June 30	Participant Premiums	CMS Contributions	Net Investment Income	Total Additions
2023	$ 413,136	$ 65,725	$ 9,088	$ 487,949
2022	409,361	71,482	346	481,189
2021	402,945	67,812	214	470,971
2020	390,883	81,248	2,464	474,595
2019	376,449	60,379	3,654	440,482
2018	359,896	63,998	1,960	425,854
2017	336,646	73,771	678	411,095
2016	308,132	51,034	299	359,465
2015	281,855	42,436	152	324,443
2014	257,740	37,759	191	295,690

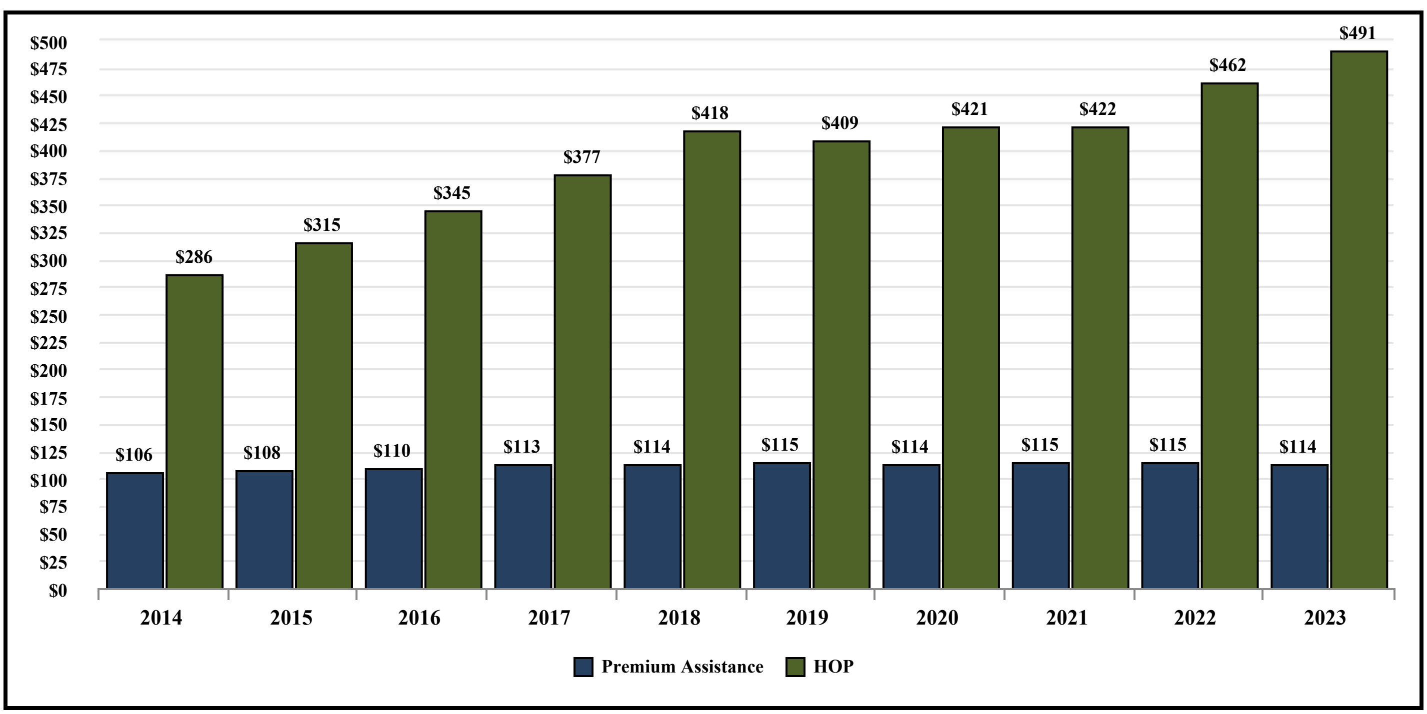
Deductions from Fiduciary Net Position

Year Ended June 30	Benefits	Administrative	Total Deductions	Net Increase / (Decrease)
2023	$ 450,984	$ 39,740	$ 490,724	$ (2,775)
2022	422,786	39,290	462,076	19,113
2021	382,466	39,051	421,517	49,454
2020	381,536	39,029	420,565	54,030
2019	363,295	45,515	408,810	31,672
2018	376,348	41,853	418,201	7,653
2017	340,096	37,071	377,167	33,928
2016	310,979	33,457	344,436	15,029
2015	287,255	28,027	315,282	9,161
2014	259,753	25,975	285,728	9,962

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)



Total Changes in Fiduciary Net Position -Defined Contribution (DC) Plan
10 Year Trend
(Dollar Amounts in Thousands)

Year Ended June 30	Member Contributions	Employer Contributions	Net Investment Income (Loss)	Total Additions
		Additions to Fiduciary Net Position		
2023	$ 50,676	$ 39,328	$ 21,534	$ 111,538
2022	32,875	25,424	(15,813)	42,486
2021	19,282	14,946	9,314	43,542
2020	8,343	6,586	655	15,584

Year Ended June 30	Benefits	Administrative	Total Deductions	Net Increase / (Decrease)
	Deductions from Fiduciary Net Position			
2023	$ 6,170	$ 2,458	$ 8,628	$ 102,910
2022	3,630	2,161	5,791	36,695
2021	1,040	1,587	2,627	40,915
2020	12	3,167	3,179	12,405

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

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	
2023	45.6	12.2	$ 63,940	45.3	11.9	$ 58,106	250,820
2022	45.6	12.3	62,541	45.4	12.0	56,393	248,393
2021	45.6	12.4	61,388	45.5	12.0	54,874	248,091
2020	45.6	12.1	59,699	45.5	11.7	52,599	256,246
2019	45.3	12.0	58,960	45.5	11.6	51,395	255,749
2018	45.2	11.8	57,722	45.4	11.4	50,115	256,362
2017	45.0	11.7	56,369	45.3	11.3	48,879	255,945
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

Summary Annuity Data
10 Year Trend

For year ended June 30	Number of Annuitants & Beneficiaries	Total Annual Annuities (In Thousands)	Average Annual Annuity
2023	249,724	$ 6,542,014	$ 26,197
2022	246,901	6,438,598	26,078
2021	242,839	6,311,758	25,992
2020	239,614	6,170,896	25,753
2019	237,339	6,051,632	25,498
2018	233,288	5,926,658	25,405
2017	230,014	5,816,388	25,287
2016	224,828	5,666,392	25,203
2015	219,775	5,520,620	25,119
2014	213,900	5,339,477	24,962

Pension Benefits and Refund Deductions from Fiduciary Net Position
10 Year Trend
(Dollar Amounts in Thousands)

For year ended June 30	Retirements				
	Normal	Early	Disability	Pension Lump Sum Benefits	Survivor and Beneficiary**
2023	$ 3,871,686	$ 2,275,803	$ 185,692	$ 1,008,341	$ 193,557
2022	3,795,603	2,243,335	184,686	806,300	182,841
2021	3,725,656	2,187,995	175,004	821,512	188,702
2020	3,621,470	2,171,691	182,731	702,122	167,894
2019	3,485,370	2,111,663	181,178	700,911	253,942
2018	3,357,416	2,114,708	191,527	734,989	228,883
2017	3,292,906	2,040,966	186,674	678,736	254,042
2016	3,203,542	2,007,372	182,320	686,988	257,571
2015	3,088,036	1,986,684	177,693	709,240	234,599
2014	2,953,187	1,928,614	167,676	741,386	237,932

For year ended June 30	Net Transfers*	Total Pension Benefits Deductions	Refunds	Total Pension Benefits and Refund Deductions
2023	$ 2,794	$ 7,537,873	$ 43,110	$ 7,580,983
2022	5,047	7,217,812	36,560	7,254,372
2021	8,538	7,107,407	26,925	7,134,332
2020	3,144	6,849,052	27,463	6,876,515
2019	1,081	6,734,145	27,027	6,761,172
2018	7,742	6,635,265	19,881	6,655,146
2017	(673)	6,452,651	20,928	6,473,579
2016	2,463	6,340,256	20,069	6,360,325
2015	3,429	6,199,681	20,920	6,220,601
2014	1,887	6,030,682	22,823	6,053,505

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

** Survivor and Beneficiary includes both death lump sums and survivor annuities.

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/ Average
Fiscal year ended June 30, 2023										
Normal and Early	4,498	20,545	27,211	23,748	24,526	28,588	48,923	37,259	10,466	**225,764**
	$ 95	$ 215	$ 412	$ 897	$ 1,535	$ 2,315	$ 3,296	$ 4,261	$ 4,592	**$ 1,958**
Disability	17	1,819	2,054	1,748	1,706	1,347	389	17	—	**9,097**
	$ 2,296	$ 858	$ 1,075	$ 1,598	$ 2,359	$ 3,216	$ 4,069	$ 3,559	$ —	**$ 2,114**
Beneficiary and Survivor	674	660	1,279	1,155	1,300	1,326	2,354	2,273	756	**11,777**
	$ 892	$ 211	$ 342	$ 624	$ 929	$ 1,337	$ 1,855	$ 2,290	$ 2,503	**$ 1,220**
Fiscal year ended June 30, 2022										
Normal and Early	4,485	20,084	27,047	23,240	23,899	27,959	48,705	37,077	9,941	**222,436**
	$ 92	$ 207	$ 399	$ 870	$ 1,499	$ 2,279	$ 3,276	$ 4,245	$ 4,584	**$ 1,939**
Disability	17	1,827	2,034	1,757	1,695	1,354	391	17	—	**9,092**
	$ 2,296	$ 792	$ 1,026	$ 1,584	$ 2,358	$ 3,176	$ 3,999	$ 3,559	$ —	**$ 2,088**
Beneficiary and Survivor	705	629	1,257	1,137	1,259	1,291	2,250	2,179	756	**11,463**
	$ 908	$ 211	$ 335	$ 606	$ 907	$ 1,297	$ 1,810	$ 2,227	$ 2,403	**$ 1,189**
Fiscal year ended June 30, 2021										
Normal and Early	4,468	19,690	26,884	22,719	23,313	27,320	48,496	36,849	9,502	**219,241**
	$ 88	$ 206	$ 390	$ 853	$ 1,475	$ 2,265	$ 3,265	$ 4,235	$ 4,592	**$ 1,930**
Disability	16	1,842	2,057	1,698	1,659	1,363	380	17	1	**9,033**
	$ 2,318	$ 813	$ 1,135	$ 1,534	$ 2,283	$ 3,062	$ 3,966	$ 3,559	$ 4,550	**$ 2,580**
Beneficiary and Survivor	749	596	1,219	1,114	1,192	1,251	2,155	2,051	734	**11,061**
	$ 907	$ 209	$ 325	$ 579	$ 875	$ 1,252	$ 1,757	$ 2,167	$ 2,310	**$ 1,153**
Fiscal year ended June 30, 2020										
Normal and Early	4,498	19,335	26,748	22,391	22,666	26,725	48,227	36,688	9,153	**216,431**
	$ 86	$ 206	$ 393	$ 835	$ 1,444	$ 2,229	$ 3,240	$ 4,209	$ 4,591	**$ 1,915**
Disability	17	1,937	2,159	1,830	1,776	1,425	390	17	1	**9,552**
	$ 2,197	$ 746	$ 972	$ 1,593	$ 2,311	$ 3,062	$ 3,960	$ 3,559	$ 4,550	**$ 2,550**
Beneficiary and Survivor	783	571	1,180	1,102	1,148	1,191	2,031	1,972	717	**10,695**
	$ 927	$ 203	$ 322	$ 562	$ 856	$ 1,219	$ 1,717	$ 2,101	$ 2,206	**$ 1,124**
Fiscal year ended June 30, 2019										
Normal and Early	4,504	18,870	26,468	22,032	22,088	26,182	47,919	36,550	8,757	**213,370**
	$ 85	$ 216	$ 385	$ 817	$ 1,413	$ 2,200	$ 3,226	$ 4,194	$ 4,604	**$ 1,904**
Disability	17	1,885	2,095	1,741	1,716	1,398	361	17	1	**9,231**
	$ 2,197	$ 750	$ 965	$ 1,628	$ 2,265	$ 3,017	$ 3,475	$ 3,559	$ 4,550	**$ 2,490**
Beneficiary and Survivor	786	545	1,143	1,084	1,123	1,150	1,963	1,901	700	**10,395**
	$ 933	$ 198	$ 315	$ 551	$ 836	$ 1,199	$ 1,680	$ 2,019	$ 2,128	**$ 1,095**

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

	Years of Credited Service									
	< 5	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	Total/ Average
Fiscal year ended June 30, 2018										
Normal and Early	4,491	18,293	26,168	21,619	21,551	25,664	47,527	36,395	8,352	**210,060**
	$ 83	$ 218	$ 380	$ 807	$ 1,388	$ 2,176	$ 3,210	$ 4,180	$ 4,572	**$ 1,890**
Disability	19	1,884	2,088	1,708	1,694	1,417	353	21	1	**9,185**
	$ 2,322	$ 784	$ 956	$ 1,631	$ 2,189	$ 3,032	$ 3,260	$ 3,562	$ 4,550	**$ 2,476**
Beneficiary and Survivor	826	519	1,113	1,055	1,096	1,088	1,885	1,825	682	**10,089**
	$ 945	$ 196	$ 308	$ 528	$ 806	$ 1,178	$ 1,636	$ 1,953	$ 2,047	**$ 1,066**
Fiscal year ended June 30, 2017										
Normal and Early	4,417	17,616	25,734	21,177	20,989	24,996	47,090	36,155	8,019	**206,193**
	$ 81	$ 222	$ 382	$ 793	$ 1,357	$ 2,145	$ 3,193	$ 4,161	$ 4,539	**$ 1,875**
Disability	18	1,831	2,001	1,634	1,639	1,381	346	6	1	**8,857**
	$ 2,449	$ 778	$ 948	$ 1,638	$ 2,208	$ 3,024	$ 3,240	$ 3,951	$ 4,550	**$ 2,532**
Beneficiary and Survivor	864	507	1,104	1,025	1,074	1,085	1,800	1,756	669	**9,884**
	$ 953	$ 195	$ 301	$ 505	$ 781	$ 114	$ 1,586	$ 1,880	$ 1,960	**$ 919**
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	**$ 1,905**
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	**$ 1,881**
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	**$ 851**
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	**$ 1,879**
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	**$ 1,883**
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	**$ 836**
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	$ 3,186	$ 4,181	**$ 1,701**
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	**$ 1,847**
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	**$ 821**

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, 2023									
Number of retired members	195	901	1,000	1,041	1,078	931	850	377	66
Final Average Salary	$ 22,183	$ 28,396	$ 39,643	$ 49,857	$ 59,972	$ 70,629	$ 84,743	$ 90,191	$ 80,547
Monthly Benefit	$ 119	$ 275	$ 688	$ 1,336	$ 2,068	$ 2,961	$ 4,207	$ 5,195	$ 5,399
Fiscal year ended June 30, 2022									
Number of retired members	199	896	963	906	871	630	576	253	73
Final Average Salary	$ 20,801	$ 29,994	$ 36,567	$ 45,363	$ 54,314	$ 68,144	$ 79,417	$ 81,632	$ 77,212
Monthly Benefit	$ 112	$ 290	$ 635	$ 1,177	$ 1,866	$ 2,872	$ 3,937	$ 4,685	$ 5,194
Fiscal year ended June 30, 2021									
Number of retired members	194	939	1,077	1,023	1,037	753	734	299	84
Final Average Salary	$ 18,606	$ 27,782	$ 37,252	$ 46,464	$ 54,096	$ 68,005	$ 78,032	$ 78,324	$ 75,778
Monthly Benefit	$ 105	$ 262	$ 654	$ 1,228	$ 1,875	$ 2,892	$ 3,887	$ 4,612	$ 5,192
Fiscal year ended June 30, 2020									
Number of retired members	172	850	821	711	641	471	405	181	70
Final Average Salary	$ 21,714	$ 30,682	$ 37,547	$ 46,199	$ 54,113	$ 64,876	$ 71,857	$ 76,131	$ 79,480
Monthly Benefit	$ 124	$ 291	$ 620	$ 1,202	$ 1,858	$ 2,721	$ 3,613	$ 4,438	$ 5,331
Fiscal year ended June 30, 2019									
Number of retired members	212	1,322	1,329	1,439	1,321	1,201	1,212	517	169
Final Average Salary	$ 19,164	$ 29,025	$ 36,844	$ 47,538	$ 57,936	$ 67,160	$ 79,421	$ 82,570	$ 82,190
Monthly Benefit	$ 104	$ 272	$ 648	$ 1,258	$ 2,017	$ 2,822	$ 3,967	$ 4,910	$ 5,510
Fiscal year ended June 30, 2018									
Number of retired members	263	1,482	1,494	1,582	1,412	1,405	1,336	665	208
Final Average Salary	$ 20,236	$ 31,055	$ 37,759	$ 46,933	$ 58,435	$ 67,357	$ 77,429	$ 82,396	$ 81,987
Monthly Benefit	$ 104	$ 275	$ 680	$ 1,230	$ 2,034	$ 2,849	$ 3,906	$ 4,944	$ 5,575
Fiscal year ended June 30, 2017									
Number of retired members	265	1,614	1,482	1,446	1,220	1,307	1,155	709	160
Final Average Salary	$ 18,974	$ 30,501	$ 37,885	$ 45,909	$ 56,379	$ 66,588	$ 77,070	$ 79,036	$ 84,568
Monthly Benefit	$ 111	$ 279	$ 651	$ 1,217	$ 2,000	$ 2,839	$ 3,929	$ 4,736	$ 5,806
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

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, 2023									
Number of retired members			2	163	253	277	285	136	42
Final Average Salary			$ 43,620	$ 57,414	$ 64,820	$ 72,333	$ 91,063	$ 92,998	$ 92,117
Monthly Benefit			$ 100	$ 99	$ 100	$ 100	$ 99	$ 99	$ 99
Fiscal year ended June 30, 2022									
Number of retired members		1	1	120	207	209	192	83	39
Final Average Salary		$ 43,256	$ 25,553	$ 50,295	$ 59,139	$ 67,466	$ 85,152	$ 82,408	$ 82,455
Monthly Benefit		$ 100	$ 100	$ 100	$ 100	$ 97	$ 99	$ 99	$ 100
Fiscal year ended June 30, 2021									
Number of retired members		1	—	186	270	278	261	107	43
Final Average Salary		$ 49,634	$ —	$ 52,262	$ 55,535	$ 69,202	$ 78,565	$ 80,486	$ 75,087
Monthly Benefit		$ 100	$ —	$ 100	$ 99	$ 99	$ 99	$ 100	$ 100
Fiscal year ended June 30, 2020									
Number of retired members		2	5	124	161	172	167	82	30
Final Average Salary		$ 34,396	$ 45,093	$ 48,660	$ 55,672	$ 67,434	$ 72,738	$ 79,472	$ 82,504
Monthly Benefit		$ 100	$ 100	$ 100	$ 99	$ 96	$ 99	$ 99	$ 100
Fiscal year ended June 30, 2019									
Number of retired members		3	7	323	457	578	618	283	100
Final Average Salary		$ 41,862	$ 59,557	$ 53,896	$ 63,581	$ 70,831	$ 80,662	$ 81,735	$ 80,136
Monthly Benefit		$ 100	$ 100	$ 100	$ 99	$ 99	$ 99	$ 99	$ 100
Fiscal year ended June 30, 2018									
Number of retired members		4	11	407	488	686	719	397	129
Final Average Salary		$ 50,976	$ 51,460	$ 54,563	$ 62,642	$ 69,894	$ 78,859	$ 82,780	$ 84,484
Monthly Benefit		$ 100	$ 100	$ 100	$ 99	$ 99	$ 99	$ 99	$ 99
Fiscal year ended June 30, 2017									
Number of retired members		8	11	407	478	691	697	428	111
Final Average Salary		$ 42,397	$ 44,435	$ 52,914	$ 62,343	$ 70,886	$ 77,638	$ 80,600	$ 88,119
Monthly Benefit		$ 98	$ 100	$ 99	$ 99	$ 99	$ 98	$ 98	$ 99
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

Ten Largest Employers
Current Year
(Based on number of reported members)

As of June 30, 2023

	Employer	Number of Reported Members	Percentage of Total
1.	Philadelphia City School District	18,412	7.34%
2.	Pittsburgh School District	3,771	1.50%
3.	Central Bucks School District	2,873	1.15%
4.	Allentown City School District	2,157	0.86%
5.	North Penn School District	2,125	0.85%
6.	Bethlehem Area School District	1,969	0.79%
7.	Reading School District	1,818	0.72%
8.	Downingtown Area School District	1,779	0.71%
9.	Lower Merion School District	1,761	0.70%
10.	Pennsbury School District	1,669	0.67%

As of June 30, 2014

	Employer	Number of Reported Members	Percentage of Total
1.	Philadelphia City School District	16,897	6.63%
2.	Pittsburgh School District	4,001	1.57%
3.	Central Bucks School District	2,626	1.03%
4.	Allentown City School District	2,089	0.82%
5.	North Penn School District	2,071	0.81%
6.	Bethlehem Area School District	1,875	0.74%
7.	Pennsbury School District	1,645	0.65%
8.	Lower Merion School District	1,581	0.62%
9.	Council Rock School District	1,576	0.62%
10.	Downingtown Area School District	1,558	0.61%

Schedule of Employers for FY 2023

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
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
Ferndale Area

Schedule of Employers (Continued)

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
Knoch
Kutztown Area

L

Lackawanna Trail
Lakeland
Lake-Lehman
Lakeview
Lampeter-Strasburg
Lancaster
Laurel
Laurel Highlands
Lebanon
Leechburg Area
Lehighton Area
Lewisburg 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
Midd-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

Schedule of Employers (Continued)

North Schuylkill
North Star
Northampton Area
Northeast Bradford
Northeastern York
Northern Bedford County
Northern Cambria
Northern Lebanon
Northern Lehigh
Northern Potter
Northern Tioga
Northern York County
Northgate
Northwest Area
Northwestern
Northwestern Lehigh
Norwin

O

Octorara Area
Oil City Area
Old Forge
Oley Valley
Oswayo Valley
Otto-Eldred
Owen J Roberts
Oxford Area

P

Palisades
Palmerton Area
Palmyra Area
Panther Valley S
Parkland
Pen Argyl Area
Penn Cambria
Penn Hills
Penn Manor
Penncrest
Penn-Delco
Pennridge
Penns Manor
Penns Valley Area
Pennsbury
Penn-Trafford
Pequea Valley
Perkiomen Valley
Peters Township
Philadelphia City
Philipsburg-Osceola Area
Phoenixville Area
Pine Grove Area
Pine-Richland
Pittsburgh
Pittston Area
Pleasant Valley
Plum Borough
Pocono Mountain
Port Allegany
Portage Area
Pottsgrove
Pottstown
Pottsville Area
Punxsutawney Area
Purchase Line

Q

Quaker Valley
Quakertown Community

R

Radnor Towship
Reading
Red Lion Area
Redbank Valley
Reynolds
Richland
Ridgway Area
Ridley
Ringgold
River Valley
Riverside
Riverside Beaver County
Riverview
Rochester Area
Rockwood Area
Rose Tree Media

S

Saint Clair Area
Saint Marys Area
Salisbury Township
Salisbury-Elk Lick
Saucon Valley
Sayre Area
Schuylkill Haven Area
Schuylkill Valley
Scranton
Selinsgrove Area
Seneca Valley
Shade Central City
Shaler Area
Shamokin Area
Shanksville-Stonycreek
Sharon City
Sharpsville Area
Shenandoah Valley
Shenango Area
Shikellamy
Shippensburg Area
Slippery Rock Area
Smethport Area
Solanco
Somerset Area
Souderton Area
South Allegheny
South Eastern
South Fayette Township
South Middleton
South Park
South Side Area
South Western
South Williamsport Area
Southeast Delco
Southeastern Greene
Southern Columbia Area
Southern Fulton
Southern Huntingdon County
Southern Lehigh
Southern Tioga
Southern York County
Southmoreland
Spring Cove
Spring Grove Area
Springfield
Springfield Township
Spring-Ford Area
State College Area
Steel Valley
Steelton-Highspire
Sto-Rox
Stroudsburg Area
Sullivan County
Susquehanna Community
Susquehanna Township
Susquenita

T

Tamaqua Area
Titusville Area
Towanda Area
Tredyffrin-Easttown
Trinity Area
Tri-Valley
Troy Area
Tulpehocken Area
Tunkhannock Area
Turkeyfoot Valley Area
Tuscarora

Schedule of Employers (Continued)

Tussey Mountain
Twin Valley
Tyrone Area

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

Colleges / Universities

State System of Higher Education
- Bloomsburg University
- California University
- Cheyney University
- Clarion University of Pennsylvania
- East Stroudsburg University
- Edinboro University
- Indiana University
- Kutztown University
- Lock Haven University
- Mansfield University
- Millersville University
- Shippensburg University
- Slippery Rock University
- West Chester University

Bucks County Community College
Butler County Community College
Community College of Allegheny County
Community College of Beaver County
Community College of Philadelphia
Delaware County Community College
Harrisburg Area Community College
Lehigh Carbon Community College
Luzerne County Community College
Montgomery County Community College
Northampton County Community College
Penn State University
Pennsylvania College of Technology
Pennsylvania Highlands Community College
Reading Area Community College
Thaddeus Stevens College of Technology
Westmoreland County Community College

Other

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

Charter Schools (C S)

21st Century Cyber C S
Achievement House C S
Ad Prima C S
Agora Cyber C S
Alliance For Progress C S
Antonia Pantoja C S
Arts Academy C S
Aspira Bilingual Cyber C S
Avon Grove C S
Baden Academy C S
Bear Creek Community C S
Belmont C S
Bluford Charter School
Boys’ Latin of Philadelphia C S
Bucks County Montessori C S
California Academy of Learning C S
Casa C S
Center for Student Learning Charter School at Pennsbury
Central Pennsylvania Digital Learning Foundation C S
Centre Learning Community C S
Chester County Family Academy C S
Christopher Columbus C S
Circle of Seasons C S
City Charter High School
Collegium CS
Commonwealth Charter Academy C S
Community Academy of Philadelphia C S
Crispus Attucks Youthbuild C S
Daroff Charter School
Discovery C S
Dr. Robert Ketterer C S
Environmental Charter School at Frick Park
Erie Rise Leadership Academy C S
Esperanza Academy C S
Esperanza Cyber C S
Eugenio Maria de Hostos Community Bilingual C S
Evergreen Community C S
Fell C S

First Philadelphia Charter School for Literacy
Folk Arts - Cultural Treasures C S
Franklin Towne Charter Elementary School
Franklin Towne Charter High School
Frederick Douglas Mastery C S
Freire C S
Gettysburg Montessori C S
Gillingham C S
Global Leadership Academy C S
Global Leadership Academy C S- Huey
Green Woods C S
Hardy Williams Academy C S
Hope for Hyndman C S
Howard Gardner Multiple Intelligence C S
IMHOTEP Institute C S
Independence C S
Infinity CS
Inquiry CS
Insight PA Cyber CS
John B Stetson C S
Keystone Academy C S
Keystone Education Center C S
Kipp Academy C S
La Academia: The Partnership C S
Laboratory C S
Lehigh Valley Academy Regional C S
Lehigh Valley Charter School for the Performing Arts
Lehigh Valley Dual Language C S
Lincoln C S
Lincoln Leadership Academy C S
Lincoln Park Performing Arts C S
Lindley Academy CS
Manchester Academic C S
Mariana Bracetti Academy C S
Maritime Academy C S
Mastery Charter High School
Mastery Charter School - Cleveland Elementary
Mastery Charter School - Clymer Elementary
Mastery Charter School - Francis D Pastorius Elementary
Mastery Charter School - Harrity Elementary
Mastery Charter School - John Wister Elementary
Mastery Charter School - Mann Elementary
Mastery Charter School - Pickett Campus
Mastery Charter School - Shoemaker Campus
Mastery Charter School - Simon Gratz
Mastery Charter School - Smedley Campus
Mastery Charter School - Thomas Campus
Mastery Charter School - Prep Elementary
Math Civics and Sciences C S
Mathematics, Science & Technology Community C S
Memphis Street Academy C S - J.P. Jones
Montessori Regional C S
Multi-Cultural Academy C S
New Day C S
New Foundations C S
Nittany Valley C S
Northwood Academy C S
Olney Charter High School
Pan American Academy C S
Passport Academy C S
Penn Hills C S for Entrepreneurship
Pennsylvania Cyber C S
Pennsylvania Distance Learning C S
Pennsylvania Leadership C S
Pennsylvania Steam Academy
Pennsylvania Virtual C S
People for People C S
Perseus House Charter School of Excellence
Philadelphia Academy C S
Philadelphia Charter School for Arts & Sciences at H.R. Edmunds
Philadelphia Electrical & Technology Charter High School
Philadelphia Harambee Institute of Science and Technology C S
Philadelphia Montessori C S
Philadelphia Performing Arts C S
Premier Arts & Science C S
Preparatory Charter School of Mathematics, Science, Technology & Careers
Propel Charter School - Braddock Hills
Propel Charter School - East C S
Propel Charter School - Hazelwood
Propel Charter School - Homestead
Propel Charter School - McKeesport
Propel Charter School - Montour
Propel Charter School- Northside
Propel Charter School - Pitcairn
Renaissance Academy - Edison C S
Richard Allen Preparatory C S
Robert Benjamin Wiley Community C S
Roberto Clemente C S
Russell Byers C S
Sankofa Freedom Academy C S
School Lane C S
Seven Generations C S
Souderton Charter School Collaborative
Spectrum C S
Stone Valley Community C S
Sugar Valley Rural C S
SusQ - Cyber C S
Sylvan Heights Science C S
Tacony Academy C S
Tidioute Community C S
Universal Alcorn C S
Universal Audenried C S
Universal Creighton C S
Universal Institute C S
Universal Vare C S
Urban Academy Greater Pittsburgh C S
Urban Pathways 6-12 C S
Urban Pathways K - 5 College C S
Vida C S
West Oak Lane C S
West Philadelphia Achievement Charter Elementary School
Wissahickon C S
York Academy Regional C S
Young Scholars C S
Young Scholars of Central Pennsylvania C S
Young Scholars of Western Pennsylvania C S