



# **2021 Annual Comprehensive Financial Report**

Pennsylvania Municipal Retirement System  
Commonwealth of Pennsylvania

*Fiscal years ended December 31, 2021 and 2020*



# 2021

## PENNSYLVANIA MUNICIPAL RETIREMENT SYSTEM ANNUAL COMPREHENSIVE FINANCIAL REPORT

Fiscal years ending December 31, 2021 and 2020

Barry L. Sherman, Chairman  
Pennsylvania Municipal Retirement Board

Cory S. Adams, Vice Chairman  
Pennsylvania Municipal Retirement Board

Timothy A. Reese, Chief Executive Officer  
Pennsylvania Municipal Retirement Board

*Report prepared by the Investment and Financial Management  
Division of the Pennsylvania Municipal Retirement System.*

1721 NORTH FRONT STREET



**pennsylvania**  
MUNICIPAL RETIREMENT SYSTEM



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# Introduction







April 18, 2023

Dear PMRS Members,

I am pleased to share the Pennsylvania Municipal Retirement System's (PMRS) Annual Comprehensive Financial Report for the years ended December 31, 2021, and 2020. This report details PMRS' ongoing operational transformation and continued robust financial performance even as we navigated the unprecedented circumstances of the COVID-19 pandemic.

For nearly 50 years, the PMRS board and staff have been committed to providing a dignified retirement for our members, all of whom serve the people of Pennsylvania in local communities across the commonwealth. In 2021, this involved administrating approximately 1050 plans and serving 17,950 active and retired members.

During the year, PMRS collected more than \$91 million in contributions from members and employers and paid nearly \$137 million in benefits. We began payments to 434 new retirees – who received average annual payments of \$21,600.

At the end of 2021, PMRS' net position was \$3.5 billion, an increase of \$362 million or 11.4 percent from 2020. Importantly, PMRS' remained one of the best funded public pensions with a total assets-to-liabilities ratio of 99.9 percent.

Spurred by new executive leadership, PMRS made significant progress in overcoming the operational issues related to our now completed technology modernization project. PMRS significantly increased the size of its client relations team and added key staff in our processing and accounting teams. Additionally, PMRS established a new project management office to prioritize projects and streamline workflow. These actions will significantly contribute to transforming PMRS into a pension plan that is operationally effective and efficient, and that provides our members and employers with a dramatically improved customer experience.

I appreciate the efforts and dedication of the PMRS staff to overcome both the operational challenges and the difficulties associated with the ongoing pandemic. Likewise, I want to thank my fellow board members, who all serve as volunteers, for generously sharing their time and wisdom during a turbulent time.

Finally, thank you to our members for their service to our commonwealth and their continued support for PMRS. We value your feedback and ask that you contact us with your questions and comments.

Respectfully submitted,

Barry L. Sherman



# PMRS RETIREMENT BOARD

As of December 31, 2021



**Barry Sherman, Chair**  
*Represents retired members enrolled in PMRS*



**Cory S. Adams, Vice Chair**  
*Represents PA State Association of Township Commissioners*



**Stacy Garrity**  
*State Treasurer (ex-officio)*



**Veronica Degraffenreid**  
*Secretary of Commonwealth of PA (ex-officio)*



**John Cappawana**  
*Represents Pennsylvania State Association of Boroughs*



**Tom Deitzler**  
*Represents Pennsylvania Municipal Authorities Association*



**Robert McCarron**  
*Represents active police officers enrolled in PMRS*



**Salvatore J. Panto Jr.**  
*Represents Pennsylvania Municipal League*



**Jeff Pisarcik**  
*Represents Pennsylvania State Association of County Commissioners*



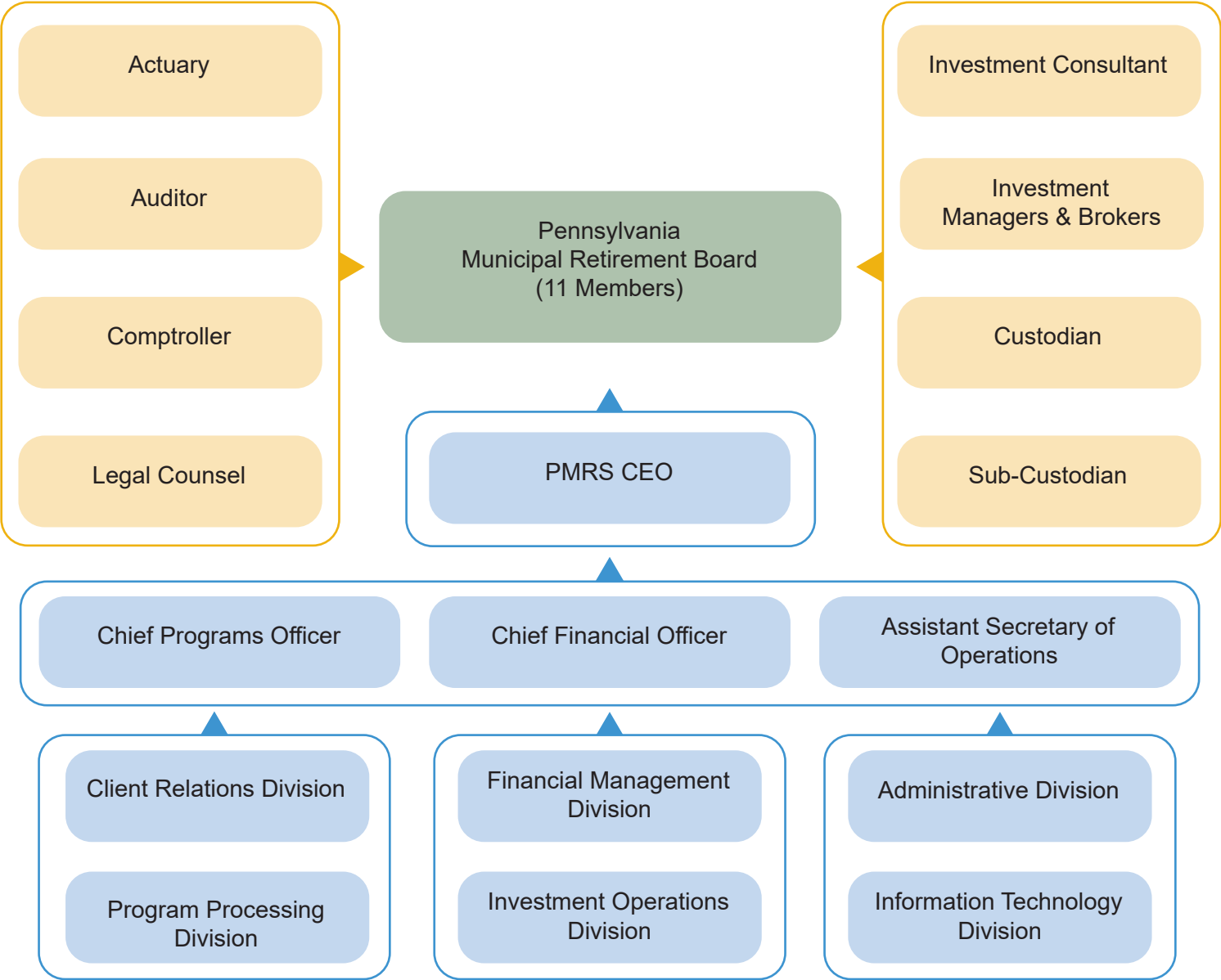
**Jody Rebarchak**  
*Represents Pennsylvania State Association of Township Commissioners*



**Mike Stender Jr.**  
*Represents active firefighters enrolled in PMRS*



# PMRS ORGANIZATION CHART





# PMRS VISION & MISSION

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## VISION

To be Pennsylvania local governments' pension administrator of choice.

## MISSION

The Pennsylvania Municipal Retirement System seeks to help Pennsylvania's local governments, regardless of size or resources, secure the future retirement of their employees by providing comprehensive, cost-efficient and professional pension administration services through a pension plan tailored to the participants' and sponsors' requirements.

# PMRS STAFF

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As of December 31, 2021

## EXECUTIVE STAFF

**Timothy A. Reese,**  
Chief Executive Officer

**Cynthia Cranmer,**  
Interim Chief Financial Officer

**Sean Christine,**  
Interim Chief Programs Officer

**Doug E. Baker,**  
Assistant Secretary of Operations

## PMRS

1721 North Front Street Harrisburg, Pennsylvania 17102-2315

Mailing Address

P.O. Box 1165 Harrisburg, Pennsylvania 17108-1165

[www.pMrs.state.pa.us](http://www.pMrs.state.pa.us)



## PROFESSIONAL CONSULTANTS

### Actuary

**Cheiron**, McLean, VA  
Kenneth Kent, FSA, FCA, MAAA, EA

### Auditor

**Zelenkofske Axelrod LLC**, Harrisburg, PA  
Cory Johnson, CPA, (Partner)

### Investment Consultant

**Dahab Associates, Inc.**, Bay Shore, NY  
Richard E. Dahab, CFA, Chairman

**Marquette**, Chicago, IL  
Lee Martin, PH.D., Managing Director

### Custodian - PA State Treasury office

**BNY Mellon**, Pittsburgh, PA  
Stephen Cordo, Relationship Manager

## INVESTMENT MANAGERS

**AMI Asset Management**, Los Angeles, CA  
Chris Sessing, CFA, Chief Investment Officer

**Copeland Capital Management**, Conshohocken, PA  
Mark Giovanniello, CFA Chief Investment Officer

**Eagle Capital Management**, New York, NY  
John Johnson, Managing Director

**Emerald Advisers**, Leola, PA  
Kenneth Mertz II, CFA, President/Chief Investment Officer

**Federated Investors**, Pittsburgh, PA  
Amy Michaliszyn, Senior Vice President

**Forest Investment Associates**, Atlanta, GA  
Michal L. Clutter, Vice President

**Hardman Johnston Global Advisors**, Stamford, CT  
James Pontone, Director and Portfolio Manager

**HGK Asset Management, Inc.**, Jersey City, NJ  
Matthew Kosara, CFA, Client Portfolio Manager

**LSV Asset Management**, Chicago, IL  
Keith W. Bruch, CFA, Director of Client Portfolio Services

**Nuveen Real Estate**, New York, NY  
Cindy Chen, Senior Director, Portfolio Manager

**Polen Capital Management**, Boca Raton, FL  
Jim Haymes, CFA, Director of Institutional Relations

**Prudential Financial, Inc.**, Madison, NJ  
Jackie Brady, Executive Director

**Smith, Graham & Co.**, New York, NY  
Lynda Leslie, Managing Director, Marketing & Client Services

**State Street Global Advisors**, Boston, MA  
Emiliano Rabinovich, Vice President

**William Blair**, Chicago, IL  
Cliff Kalish, CFA

Pennsylvania Municipal Retirement Board  
Pennsylvania Municipal Retirement System  
P.O. Box 1165  
Harrisburg, Pennsylvania 17108-1165

We are pleased to present the Pennsylvania Municipal Retirement System's (PMRS) Annual Comprehensive Financial Report (ACFR) for the years ended December 31, 2021 and 2020. This report is intended to provide financial, investment, actuarial, and statistical information in a single publication. The management of PMRS is solely responsible for the accuracy and completeness of this report. As required by the Pennsylvania Municipal Retirement Law, Act of 1974, P.L. 34, No. 15 (the Act) as amended, PMRS makes available the ACFR to our governing board, the members of the General Assembly of Pennsylvania, each participating municipal employer, and all other interested parties upon request. The ACFR is also published on the PMRS website ([www.pMrs.state.pa.us](http://www.pMrs.state.pa.us)).

## PMRS OVERVIEW

PMRS is an agent multiple-employer system, headquartered in Harrisburg, Pennsylvania. It is a state retirement agency created by an act of the Pennsylvania General Assembly in 1974. Responsibility for the organization and administration of PMRS is vested in the 11-member Pennsylvania Municipal Retirement Board (the board).

PMRS administers sound, cost-effective pension plans on a contracted basis for local government employees throughout the commonwealth. Our services include accounting services, actuarial valuations, employee consultation, record keeping, and asset management. Any Pennsylvania county, city, town, township, borough, municipal authority, or institution supported and maintained by a municipality may participate. The Statistical Section of this report lists all participating plans as of January 1, 2021.

PMRS offers two types of retirement plans: defined benefit (traditional pension) and cash balance; either plan can be used alone or in combination with the other. Plan sponsors determine key plan provisions allowable within federal guidelines and commonwealth law. These plan sponsor elections, combined with PMRS' standard plan provisions, determine each plan's unique design tailored to the plan sponsor's specific needs.

The plan design determines the type of plan and benefit options, the general level of plan funding requirements, the cost-sharing between the employee and employer along with the employer's administrative complexity. For example, a standard comparative measure of a plan's retirement benefit level is income replacement, which is the percentage of an employee's final average salary that will be replaced by a plan's annual retirement benefits. Income replacement in PMRS plans ranges from 15% to 80% for employees with 30 years of service. Another comparative measure is total plan costs as a percentage of the total salary of a plan's active employees. PMRS plan costs range from 2% to 30% of total salary. Finally, plan design determines the plan cost sharing, which is the percentage of total plan costs paid by employers versus those paid by employees. Plan cost sharing for employees ranges from 0% to 60% of the plan's total cost while employer costs range from 40% to 100% of the plan's total cost.

## ECONOMIC ENVIRONMENT

2021 was a unique year in economic history. Assisted by new COVID-19 vaccines, accommodative monetary policy, and trillions of fiscal stimulus, the U.S. economy continued to recover from the pandemic-driven recession. This strong economic growth was accompanied by rapid price growth, leading to both declining unemployment and rising inflation.

The first quarter of 2021 saw a continued economic recovery, the reopening of establishments, and continued government response related to the COVID-19 pandemic. The federal policy support included government assistance payments, such as direct economic impact payments, expanded unemployment benefits, and Paycheck Protection Program loans. These payments were distributed to households and businesses through the Coronavirus Response and Relief Supplemental Appropriations Act and the American Rescue Plan Act. The economy also saw rising commodity prices and a tight global supply chain resulting in rising costs for both manufacturing and service industries.

The U.S. Gross Domestic Product (GDP) increased at an annual rate of 6.3% in the first quarter of 2021. As the mandatory COVID restrictions were relaxed, the unemployment rate fell to 6%, led by gains in the leisure and hospitality, education, and construction sectors. Meanwhile, the Consumer Price Index (CPI) rose by 2.6% over the prior 12 months, driven by gasoline and natural gas hikes. The dollar gained slightly against the euro and the Federal Reserve maintained the federal fund's rates at 0.25%.



The domestic equities market continued to show strength, with all sectors making gains. The small cap value sector was the best-performing segment of the U.S. equity market with value stocks outperforming growth stocks. Global equities also continued to record gains but trailed U.S. equities. International developed markets outpaced emerging markets. The first quarter gross rate of return for the PMRS portfolio was 4.8%.

The U.S. economy maintained steady growth in the second quarter as GDP increased at an annual rate of 6.5%. The unemployment rate fell to 5.9% with gains in leisure and hospitality, education, professional and business services, retail trade, and other services sectors. CPI increased to 5.4% - the largest increase since August 2008 - driven primarily by upticks in used vehicles, food, and energy. The dollar fell slightly against the euro in the second quarter but remained higher than at the start of the year. The Federal Reserve maintained the interest rate at 0.25%.

U. S. equity markets continued to perform strongly in the second quarter with value stocks outpacing growth stocks again in the second quarter. Both growth and large cap stocks recovered from two consecutive quarters of relative under performance. Global equities rallied in the second quarter continuing their strong start in 2021. International developed market stocks outperformed emerging market equities again in the second quarter. The second quarter gross rate of return for the PMRS portfolio was 5.3%.

Economic activity decelerated sharply in the third quarter with GDP growth of 2%, led by a slowdown in private inventory investment, consumer spending, state and local government spending, and nonresidential fixed investment. The unemployment rate fell again in the third quarter to 4.8% driven by factors similar to the prior quarter. CPI rose by 5.4% with food and shelter contributing to more than half of the increase. The dollar gained against the euro and the federal funds rate remained unchanged.

The market remained resilient in the third quarter. Large cap stocks outperformed small cap stocks, while growth outperformed value. The International Monetary Fund reported that global economies slowed in developed markets due in part to supply disruptions aggravated by pandemic dynamics. Emerging markets dropped sharply in the third quarter. The third quarter gross rate of return for the PMRS portfolio was -0.3%.

Economic activity accelerated in the fourth quarter resulting in real GDP gains of 6.9% fueled by private inventory accumulation, consumer spending, exports, and nonresidential fixed investment. Unemployment fell to 3.9% attributable to the same factors cited in the second and third quarters. Annually, CPI increased 7%, driven by higher prices for shelter and used cars and trucks. The dollar continued to gain against the euro and the federal funds rate remained unchanged.

U.S. equities rallied in the fourth quarter, overcoming a late November sell-off in reaction to the global spread of the Omicron COVID-19 virus variant. Large cap stocks outperformed small cap stocks, while growth outperformed value. International developed market stocks continued to outperform emerging market stocks. The fourth quarter gross rate of return for the PMRS portfolio was 3.2%.

## FINANCIAL INFORMATION

PMRS' financial statements were prepared in accordance with generally accepted accounting principles in the U.S. The financial statements and the required supplementary information in the report have been prepared in accordance with governmental accounting standards. The independent auditor's report is in the Financial Section on page 18 and the Management's Discussion and Analysis commences on page 21.

The accrual basis of accounting is used to record all financial transactions including assets, liabilities, revenues, and expenses. Gains and losses on sales and exchanges of investments are recognized on the trade date. Significant accounting policies are detailed in the Financial Section under Notes to Financial Statements.

PMRS' net position was \$3.53 billion at December 31, 2021. PMRS' net position increased by \$361.9 million or 11.4% from \$3.17 billion at December 31, 2020. Net investment gain increased the net position by \$430.5 million. Contributions increased the net position by \$89 million. Transfers from other plans increased net position by \$1.9 million. Benefit payments, plan withdrawals, and administrative expenses reduced the net position by \$147 million. Additional information is detailed in the Financial Section ("Statement of Fiduciary Net Position" and "Statement of Changes in Fiduciary Net Position") located on pages 25 and 26.

PMRS has established internal control policies and procedures for the review and verification of all receipts and payments made to and from PMRS. PMRS staff prepares a yearly budget which must be adopted by the board. In addition, the budget is presented to and reviewed by the Local Government Committees of the Pennsylvania House and Senate at least two months before the beginning of the year. The committees can approve the budget, reject it, or take no action by

# LETTER OF TRANSMITTAL

the end of the year, in which case, the proposed budget becomes final. Budgetary controls include monthly reviews and presentations by management with quarterly board reviews. The 2021 administrative budget was adopted in September 2020 and set at \$9.5 million exclusive of investment fees. Administrative expenses (exclusive of investment fees) in 2021 amounted to \$8.7 million. More information on PMRS' expenses is included in the Financial Section of this report (Supplementary Schedule 1 – Administrative Expenses located on page 46).

## ADDITIONS FOR FIDUCIARY NET POSITION

PMRS was established by law to pay pension benefits when due. It accumulates sufficient funds to pay benefits through employer contributions, employee contributions, and investment income. The following schedule presents a summary of additions to fiduciary net position for the year ended December 31, 2021 and shows the amount and percentage of increases and decreases compared to the prior year ended December 31, 2020.

Municipal contributions are based on an actuarial valuation, using the Entry Age Normal Actuarial Cost Method, computed as a percentage of the total employee compensation of all active members during the period for which the amount is determined. Member contributions vary according to the type of pension plan.

Municipal and member contributions also include transfers from other plan administrators for new plans.

Contributions decreased by \$25.5 million or 21.9% from \$116.6 million in 2020 to \$91.1 million in 2021. The majority of the decrease is due to reduced transfers from other plan administrators.

### SUMMARY OF ADDITIONS TO FIDUCIARY NET POSITION

for the Years Ended December 31, 2021 and 2020

(Amounts in Thousands)

ADDITIONS TO FIDUCIARY NET POSITION	2021	PERCENTAGE OF TOTAL	2020	DOLLAR INCREASE (DECREASE)	PERCENTAGE INCREASE (DECREASE)
Contributions <sup>1</sup>	\$91,142	17.9%	\$116,633	\$(25,491)	-21.9%
Net Investment income (loss)	417,791	82.1%	390,643	27,148	6.9%
Total	\$508,933	100.0%	\$507,276	\$1,657	0.3%

<sup>1</sup>Contributions included additional municipal employer contributions towards unfunded liability of \$2.1 million in 2021 and \$2.1 million in 2020, transfer from other plan administrator of \$1.9 million in 2021 and \$31.9 million in 2020 and transfers in lieu of contributions of \$261 thousand in 2021 and \$460 thousand in 2020.

Each municipality is charged a \$20 assessment per member to help cover administrative expenses incurred by PMRS. Any fluctuation in assessment is caused by the number of members per municipality and can be affected by employee turnover or new plans being added or plans withdrawing from PMRS.

Net investment income (loss) is a combination of appreciation (depreciation) of fair value and earnings from equities, real estate, fixed income, and a short-term cash management fund, less investment expenses. The fair value of PMRS' investment portfolio increased from \$3.179 billion at December 31, 2020 to \$3.539 billion at December 31, 2021. Net investment income was \$417.8 million in 2021 compared to \$390.6 million in 2020. Investment income (loss) is primarily attributable to appreciation (depreciation) in fair values in the equity markets.

A breakdown of PMRS' additions to fiduciary net position, including 10-year historical trend information, is presented in Part I of the Statistical Section of this report.

## DEDUCTIONS FROM FIDUCIARY NET POSITION

PMRS' primary deductions from fiduciary net position represent the purpose for which it was created: payment of plan benefits. The schedule on page 13 presents a summary of PMRS' deductions from the fiduciary net position for the year ended December 31, 2021 and shows the amount and percentage of increases or decreases in relation to the prior year ended December 31, 2020. The major deductions for 2021 were annuity benefits and terminations. Transfers to other plan administrators decreased from \$1.7 million in 2020 to \$1.5 million in plan withdrawals in 2021.



## SUMMARY OF DEDUCTIONS FROM FIDUCIARY NET POSITION

for the Years Ended December 31, 2021 and 2020

(Amounts in Thousands)

DEDUCTIONS TO FIDUCIARY NET POSITION	2021	PERCENTAGE OF TOTAL	2020	DOLLAR INCREASE (DECREASE)	PERCENTAGE INCREASE (DECREASE)
Annuity benefits and terminations	\$136,781	93%	\$124,613	\$12,168	9.8%
Transfers to other plan administrators	1,523	1%	1,730	(207)	-12.0%
Administrative expenses	8,737	6%	6,302	2,435	38.6%
	\$147,041	100%	\$132,645	\$14,396	10.9%

A breakdown of PMRS' deductions from the fiduciary net position, including 10-year historical trend information, is presented in Part I of the Statistical Section of this report.

### INVESTMENT HIGHLIGHTS

For the year ended December 31, 2021, the net rate of return for the PMRS' total portfolio was 13.2%, ranking in the 58th percentile of the Investment Metrics (IM) Public DB Net Return Universe. For the five years that ended December 31, 2021, the net rate of return was 11.9%, ranking in the top 26th percentile. Since its inception in December 1985, the net rate of return for the PMRS' total portfolio was 9%.

The net rate of return by asset class for the year ended December 31, 2021 and the allocation of assets in the portfolio as of December 31, 2021 are as follows: large-cap equity returned 26.5% (24.6% of the portfolio); small-mid cap equity returned 19.2% (7.8%); non-U.S. equity returned 5.2% (25.4%); emerging markets equity returned -2.1% (2.4%); real assets returned 13.6% (15.6%); and fixed income returned -1.6% (23.3%). On December 31, 2021, the allocation of assets in the portfolio for cash equivalents was 1%.

### FUNDING

PMRS' level of funding is based on the actuarial reserve method. Funds are derived from the excess of revenues over expenses and are accumulated by PMRS to meet current and future benefit obligations to retirees and beneficiaries. As the funding level increases, the assets accumulate and strengthen the investment income potential. PMRS' net position increased by \$361.9 million or 11.4% from \$3.167 billion at December 31, 2020 to \$3.529 billion at December 31, 2021. The "Funded Status of Actuarial Liabilities" was calculated based on the most recent actuarial valuation dated January 1, 2021. The actuarial value of assets funded ratio decreased from 101.2% at January 1, 2020 to 99.9% as of the last valuation date of January 1, 2021. As a result, PMRS went from a \$30.4 million surplus as of January 1, 2020 to an unfunded actuarial liability of \$3.9 million as of January 1, 2021. The decrease in the funded ratio is primarily due to assumption changes related to the life expectancy of members. Additional information on PMRS' actuarial value, liabilities, and funding progress can be found in the Actuarial and Financial Sections of this report. As an agent multiple-employer public employee retirement system, PMRS reports to each of the plans it administers, providing the governing authority of plans with complete actuarial, accounting, and funding data. Detailed information on PMRS' aggregate plan funding can be found in the Actuarial Section of this report beginning on page 59.

### MAJOR INITIATIVES

#### Plan Administration Software Project

When this software enhancement began in early 2016, it was estimated to be an 18 to 24-month project. It has now become a seven-year project. The first phase in January 2020 started the use of the enhanced software for the daily administration of the PMRS retirement plan program.

The second phase occurred in 2021, improving the administrative functionality of the enhanced software. This phase included correcting conversion issues, expanding plans' provision options, improving calculation functions, creating a case management workflow, and developing automated communications for members.

Phase three will focus on the implementation of the plan sponsor portal and automating the transfer of financial data to the accounting system. This phase will start to on-board employers with online access and training to upload most information

## LETTER OF TRANSMITTAL

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currently submitted by paper. This includes employee salary, contributions, and employment status. Configuration is planned for 2023 and a pilot is expected to start in early 2024. Automation of financial data, expected to occur in late 2023, will improve the accuracy and timeliness and eliminate manual downloads and uploads between the systems data transfer and manipulation of the data.

The final phase will implement a member portal and is on the project schedule for 2025. This will enable members to change personal information, such as address, banking information, and beneficiaries online. Also included will be the ability to create on-demand retirement estimates.

### Accounting Software Project

The accounting software project was planned in two phases, implementation of Microsoft Dynamics 365 core accounting functions and implementation of additional modules such as procurement, budgeting, and fixed assets. Reconciliation issues between the pension administration system and the accounting system delayed phase two implementation, however, the core accounting functions, fixed assets, and procurement modules went live in 2021. The final phase of this project is planned to occur in late 2023, with the automated transfer of general ledger data between the pension administration system and the accounting system. Implementation of additional modules will be delayed until the automation is complete.

### Electronic Content Management (ECM)

The ECM system provides enhanced document search and retrieval for converted electronic files, online access to new and existing stored information by plan sponsors and plan members within the pension administration system, and secure integration of PMRS financial records with the Microsoft Dynamics 365 accounting system. The software was installed and configured for use with the pension administration system and the accounting system. The production environment was completed in early 2021 and the disaster recovery environment was completed in late 2021. In 2022, PMRS imported historical electronic files into the ECM and implemented workflows for enrollments, plan sponsor documents, and receipts.

### Disaster Recovery

As of the time PMRS started using the updated pension software and financial system in January 2020, PMRS had all critical technology systems hosted off-site, in a secure facility providing PMRS with expert database management. All PMRS staff have laptop devices enabling PMRS to operate from any internet-available location for an unlimited period.

## PROFESSIONAL SERVICES

Professional consultants are appointed by the board to perform services essential to the efficient operations of PMRS. An annual audit by an independent certified public accounting firm and an annual valuation by an actuarial consultant attests to the financial and actuarial soundness of PMRS. The investment performance of the portfolio is reviewed by an investment consultant every quarter. The consultants providing services to PMRS are listed in the Financial and Investment sections of this report.

## SYSTEM AWARDS

PMRS believes the current report continues to conform to the Government Finance Officers Association of the United States and Canada (GFOA) Certificate of Achievement program requirements. PMRS was awarded this prestigious national award for its Annual Comprehensive Financial Report for the year ending December 31, 2018. However, the extended software implementation issues exceeded the usefulness of GFOA input to improve the next report. As with the 2019 and 2020 reports, we will not be submitting this report to the GFOA for the 2021 award.



**ACKNOWLEDGMENTS**

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

Respectfully submitted,



Timothy A. Reese  
PMRS Chief Executive Officer



Richard M. Cardamone, CPA, CGMA  
PMRS Chief Financial Officer

# SUMMARY OF PLAN PROVISIONS

## INTRODUCTION

PMRS offers a variety of pension plan benefit structures. Municipalities may design their own benefit structures that meet the individual needs of the municipality and its employees.

## SUPERANNUATION AND EARLY ANNUITY ELIGIBILITY BENEFITS

Under an optional plan design, a municipality may choose any age or service requirement permitted under its particular municipal code. Early retirement under the optional plan may also be designed to meet the needs of the municipality. There are two approaches to accumulating retirement benefits.

Under the cash balance approach, the benefit accrues based on the level of contributions and the investment earnings credited to the fund. The defined benefit approach is a formula-based structure based on the years of service to the municipality, the benefit accrual rate and the final average salary of the employee.

## DISABILITY ANNUITY ELIGIBILITY BENEFITS

The majority of plans have a disability benefit that allows a member who is unable to work because of serious injury or illness to apply for a disability annuity. The application and required medical documentation will be reviewed by the board and PMRS medical examiners to determine whether the member is eligible for the disability benefit. A disability caused directly from a job-related activity is classified as a service-connected disability. A disability that is not caused by job activity is termed a nonservice disability. Conditions for disability benefits are defined in the municipality's contract. PMRS basic plans provide for (1) a service-connected disability annuity of 50% of the disabled individual's final average salary offset by worker's compensation, and (2) a non-service disability with a minimum of 10 years service and a 30% final average salary annuity.

## VESTING ANNUITY ELIGIBILITY BENEFITS

Conditions for vesting are defined in the municipality's plan document. A member who terminates service before retirement and is eligible to vest may elect to leave their accumulated contributions in PMRS and defer receipt of benefits until normal or early retirement age. Then, when the member receives the vested benefits, the payment will include the member contributions and the municipal contributions.

## BENEFIT PAYMENT OPTIONS

Depending on the municipality's contractual agreement, employees may elect to receive their monthly retirement allowance from a list of options.

Typical options are as follows:

- Single life annuity provides a continual income throughout the annuitant's lifetime with no beneficiary benefit
- Reduced lifetime benefit with remaining lump sum value of account to beneficiary
- Joint and 100% survivorship annuity
- Joint and 50% survivorship annuity
- 10-year certain single life annuity
- 20-year certain single life annuity
- Lump-sum payment of member contribution account

## DEATH BENEFIT ELIGIBILITY

A death benefit provides some continuation of payment or presentation of benefits to a beneficiary given certain eligibility requirements of the covered individual. If an active member or vestee who satisfies death benefit eligibility dies, the death benefit goes into effect provided the municipality has included this feature in its plan.

## TERMINATION OF SERVICE

A member always receives the accumulated deductions and interest earned at the regular interest rate which is currently 5.25%. Depending upon the municipality's benefit structure, the member might also receive excess investment monies upon withdrawal. If a member terminates employment and goes to work for another municipality which is a member of PMRS, the employee may transfer the service credits unimpaired to the new municipal employer.



# Financial



# INDEPENDENT AUDITOR'S REPORT



## *Zelenkofske Axelrod LLC*

CERTIFIED PUBLIC ACCOUNTANTS

EXPERIENCE | EXPERTISE | ACCOUNTABILITY

Pennsylvania Municipal Retirement Board  
Pennsylvania Municipal Retirement System  
Harrisburg, Pennsylvania

### INDEPENDENT AUDITOR'S REPORT

#### **Report on the Audit of the Financial Statements**

##### ***Opinion***

We have audited the financial statements of the Pennsylvania Municipal Retirement System (the "System"), as of and for the years ended December 31, 2021 and 2020, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the respective financial position of the System, as of December 31, 2021 and 2020, and the respective changes in financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

##### ***Basis for Opinion***

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

##### ***Responsibilities of Management for the Financial Statements***

The System's 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 control 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 the System's 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.

##### ***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 control. 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.

830 Sir Thomas Court, Suite 100, Harrisburg, PA 17109  
3800 McKnight East Drive, Suite 3805, Pittsburgh, PA 15237  
34745 Burbage Road, Frankford, DE 19945

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420 Chinquapin Round Road, Suite 2-i, Annapolis, MD 21401  
210 Tollgate Hill Road, Greensburg, PA 15601

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## *Zelenkofske Axerod LLC*

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Pennsylvania Municipal Retirement System  
Harrisburg, Pennsylvania

In performing an audit in accordance with GAAS, we:

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

### ***Adoption of Governmental Accounting Standards Board Pronouncements***

As described in Note 1 to the financial statements, in 2021 the System adopted the provisions of Governmental Accounting Standards Board's Statement No. 89, "Accounting for Interest Cost Incurred before the End of a Construction Period" and Statement No. 97, "Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans—an amendment of GASB Statements No. 14 and No. 84, and a supersession of GASB Statement No. 32". Our opinion is not modified with respect to these matters.

### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedules of investment returns, allocated share of the net pension liability, allocated share of the net OPEB liability, and pension and OPEB contributions, as listed in the table of contents, be presented to supplement the financial statements. Such information is the responsibility of management and, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### ***Supplementary Information***

Our audit was conducted for the purpose of forming an opinion on the System's financial statements. Schedule 1 – Administrative Expenses, Schedule 2 – Investment Expenses, and Schedule 3 – Payments to Consultants ("supplementary schedules") are presented for purposes of additional analysis and are not a required part of the financial statements.

# INDEPENDENT AUDITOR'S REPORT

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## *Zelenkofske Axlerod LLC*

CERTIFIED PUBLIC ACCOUNTANTS

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Pennsylvania Municipal Retirement Board  
Pennsylvania Municipal Retirement System  
Harrisburg, Pennsylvania

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

### ***Other Information***

Management is responsible for the other information in the annual comprehensive financial report. The other information comprises the introduction, investment, actuarial, and statistical sections, but does not include the financial statements and our auditor's report thereon. Our opinion on the financial statements does 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 financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the 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.

*Zelenkofske Axlerod LLC*

ZELENKOFKSKE AXELROD LLC

Harrisburg, Pennsylvania  
April 18, 2023

# MANAGEMENT'S DISCUSSION & ANALYSIS

This section presents management's discussion and analysis of PMRS' financial performance for the years ended December 31, 2021, 2020, and 2019. It is presented as required supplementary information to the financial statements.

## OVERVIEW OF FINANCIAL STATEMENTS

PMRS administers sound, cost-effective pension plans on a contracted basis for local governments. Our services include accounting, actuarial valuations, employee consultation and record keeping, and asset management. Any Pennsylvania county, city, town, township, borough, municipal authority, or institution supported and maintained by a municipality may participate. The Statistical Section of this report lists all participating plans as of January 1, 2021.

The Statement of Fiduciary Net Position provides a snapshot of the financial position of PMRS at December 31, 2021, including comparative amounts for the prior year. The Statement of Changes in Fiduciary Net Position summarizes PMRS' financial activities that occurred for the year ended December 31, 2021, including comparative amounts for the prior year.

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 financial statements.

The Required Supplementary Information following the Notes to the Financial Statements provides schedules of investment returns, pension liability, and net other post-employment benefits (OPEB) liability.

The remaining supplementary schedules provide additional detailed information concerning administrative expenses, investment expenses, and payments to consultants. Supplementary information is considered useful in understanding and evaluating the financial activities of PMRS.

## FINANCIAL HIGHLIGHTS

- PMRS' net position increased by \$361.9 million or by 11.4% from \$3.167 billion at December 31, 2020, to \$3.529 billion at December 31, 2021. PMRS' net position increased by \$374.6 million or by 13.4% from \$2.792 billion at December 31, 2019, to \$3.167 billion at December 31, 2020. Changes in fair value are recognized as part of the net appreciation/ (depreciation) in the fair value of investments.
- The actuarial value of assets funded ratio decreased from 101.2% on January 1, 2020, to 99.9% as of the last valuation date of January 1, 2021. PMRS went from a \$30.4 million surplus on an actuarial value of assets basis on January 1, 2020, to an unfunded actuarial liability of \$3.9 million on January 1, 2021.
- The market value of assets funded ratio increased from 107.3% on January 1, 2020, to 111.9% as of the last valuation date of January 1, 2021. The surplus increased from \$190.6 million on January 1, 2020, to a surplus of \$335.4 million as of January 1, 2021. This change was primarily due to equity market gains during 2021.
- The market value of assets exceeded the reserves as of January 1, 2020 by \$160.2 million. As of January 1, 2021, the surplus had grown by \$179.1 million with the market value of assets exceeding the reserves by \$339.3 million. Upon publication of the 2020 Annual Comprehensive Financial Report, the actuary presented to the board the calculations defined in Board Policy Statement 05-2 related to excess interest. The board declined the distribution of excess interest in 2020.
- The portfolio net rate of return for the year ended December 31, 2021 was 13.2% compared to 14.6% and 21.1% for the years ended December 31, 2020 and 2019, respectively.
- Contributions decreased by \$25.5 million or 21.9% from \$116.6 million in 2020 to \$91.1 million in 2021 representing a contraction from the prior year due to fewer transfers from other plan administrators. Contributions increased by \$30.9 million or 36.2% from \$85.6 million in 2019 to \$116.6 million in 2020 representing growth in the form of transfers from other plan administrators of \$31.9 million for the year.
- Annuity benefits and terminations increased \$12.2 million or 9.8% from \$124.6 million in 2020 to \$136.8 million in 2021. Annuity benefits and terminations increased \$6.2 million or 5.2% from \$118.4 million in 2019 to \$124.6 million in 2020. The fluctuations in annuity benefits and terminations from 2019 to 2020 and again in 2020 to 2021 were primarily due to an increased number of retirees and annuity benefits as well as annuity increases (cost-of-living adjustments) that may be applied each year.
- Transfers to other plan administrators decreased from \$1.7 million in 2020 to \$1.5 million in 2021 due to fewer plan withdrawals. Transfers from other plan administrators also decreased from \$31.9 million in 2020 to \$1.9 million in 2021. The large decrease is related to smaller new plan admissions.
- Administrative expenses increased by \$2.4 million or 38.1% in 2021 from \$6.3 million in 2020 to \$8.7 million in 2021 primarily due to increases in professional services in 2021. Administrative expenses increased by \$1.4 million or 28.6% in 2020 from \$4.9 million in 2019 to \$6.3 million in 2020 primarily due to an increase in personnel in 2020. Administrative expenses were within PMRS' budgeted amounts for all three years.



# MANAGEMENT'S DISCUSSION & ANALYSIS

## FUNDED STATUS

PMRS uses an actuarial reserve method of funding that is financed by member contributions, employer contributions and earnings from invested assets. Actuarial valuations are performed biennially for PMRS' member municipalities as prescribed by Act 205 (Act 293 for County Plans).

The January 1, 2021 actuarial liabilities are explicitly calculated for the municipal (i.e., non-county) benefit plans as of that date. The liabilities for the cash balance plans are based on the member and municipal account balances as of December 31, 2020, as provided by PMRS, as well as the explicit liabilities associated with retirees for these plans. The county plans are explicitly valued every even calendar year and are based on the January 1, 2020 actuarial liabilities. The liabilities for all participants in pay status are explicitly valued every year. In the off-valuation year, defined benefit plan liabilities are rolled forward using actual benefit payments and reflecting new retirements. These liabilities reflect any material changes that may have occurred since the prior actuarial valuation, such as new actuarial assumptions and material plan provision changes. The rolled forward active and deferred vested liabilities are proportionally adjusted based on the prior year liabilities net of in pay status liabilities.

As part of a valuation, the progress toward funding pension obligations of the retirement system is measured by comparing the actuarial value of assets to the actuarial accrued liability. This measurement is referred to as the funded ratio or funded status. The most recent actuarial valuation reports PMRS is 99.9% funded as of January 1, 2021.

## INVESTMENTS

PMRS is a long-term investor, and the board manages the assets with long-term objectives in mind. A primary element of PMRS' investment philosophy is that diversification among various asset classes is the best way to achieve its goals. PMRS makes estimates of future long-term market returns and establishes an asset allocation plan considering the risk associated with each asset class as well as the financial objectives of the Fund.

For the year ended December 31, 2021, the PMRS' net rate of return was 13.2%. The net rate of return over the past three and five years ended December 31, 2021 was 16% and 11.9%, respectively.

## SHORT TERM

Short-term investments decreased by \$46.8 million or 57.7% from \$81.1 million at December 31, 2020 to \$34.3 million at December 31, 2021. Short-term investments increased by \$37.5 million or 86.1% from \$43.6 million at December 31, 2019 to \$81.1 million at December 31, 2020. The annual fluctuations represent the normal cash flow

necessary to meet operating expenses.

## FIXED INCOME

Fixed income increased by \$425.2 million or 106.3% from \$399.9 million at December 31, 2020 to \$825.1 million at December 31, 2021. The increase is due to a change in asset allocations and rebalancing of the portfolio. Fixed income decreased by \$3.1 million or 0.8% from \$403.0 million at December 31, 2019 to \$399.9 million at December 31, 2020 primarily due to changes in fair value.

## COMMON AND PREFERRED STOCK

Common and preferred stock, including international stock, decreased by \$73 million or 3.4% from \$2.2 billion at December 31, 2020 to \$2.13 billion at December 31, 2021 primarily due to a change in asset allocations and rebalancing of the portfolio. Common and preferred stock including international stock increased by \$346 million or 18.3% from \$1.86 billion at December 31, 2019 to \$2.2 billion at December 31, 2020 primarily due to changes in fair value.

## REAL ESTATE

Real estate increased by \$54.5 million or 11% from \$496.1 million at December 31, 2020 to \$550.6 million at December 31, 2021 primarily due to changes in fair value. Real estate decreased by \$3.9 million or 0.8% from \$500.0 million at December 31, 2019 to \$496.1 million at December 31, 2020 primarily due to changes in fair value.

## CONTRIBUTIONS AND INVESTMENT INCOME

Total contributions decreased by \$25.5 million or 21.9% from \$116.6 million at December 31, 2020 to \$91.1 million at December 31, 2021. The majority of the decrease in total contributions is due to fewer transfers from other plan administrators. Total contributions increased by \$30.9 million or 36.2% from \$85.6 million at December 31, 2019 to \$116.6 million at December 31, 2020. The majority of the increase in total contributions comes from transfers from other plan administrators, which increased by \$31.4 million in 2020 from \$544 thousand at December 31, 2019 to \$31.9 million at December 31, 2020.

Municipal contributions increased in 2021 by \$3.2 million or 5.4%, reflecting increases in the minimum municipal contribution requirements for plans, from \$59.2 million at December 31, 2020 to \$62.4 million at December 31, 2021. Municipal contributions decreased in 2020 by \$1.2 million or 2%, reflecting decreasing municipal contributions toward unfunded liabilities, from \$60.4 million at December 31, 2019 to \$59.2 million at December 31, 2020.

Member contributions increased by \$1.4 million or 5.5% from \$25.2 million at December 31, 2020 to \$26.6 million at December 31, 2021. Additional contributions in 2021

## MANAGEMENT'S DISCUSSION & ANALYSIS

included transfers from other plan administrators of \$1.9 million. Member contributions increased by \$867 thousand or 3.7% from \$24.3 million at December 31, 2019 to \$25.2 million at December 31, 2020. Additional contributions in 2020 included transfers from other plan administrators of \$31.9 million.

Net investment income was \$417.8 million in 2021, compared to net investment income of \$390.6 million in 2020, compared to net investment income of \$480.3 million in 2019. Investment income (loss) is primarily attributable to appreciation (depreciation) in fair values in the equity markets.

Investment expenses increased by \$1 million or 8.5% from \$11.7 million in 2020 to \$12.7 million in 2021. Fluctuations in the fair market value of assets account for the annual differences in investment expenses. Investment expenses were \$12.32 million in 2019. The investment expenses are based on the fair value of the quarterly average balance of investments under management.

### PENSION PLAN BENEFITS AND EXPENSES

Annuity benefits and refunds were \$136.8 million in 2021 compared to \$124.6 million in 2020 and \$118.4 million in 2019. Annuity benefits and terminations increased in all three years primarily due to an increased number of retirees and annuity benefits as well as annuity increases (cost-of-living adjustments) that may be applied each year. Annuity benefits excluding death payments were \$119.5 million in 2021 compared to \$111.6 million in 2020 and \$105.6 million in 2019.

Transfers from other plan administrators decreased in 2021 to \$1.9 million compared to \$31.9 million in 2020 and \$544 thousand in 2019. The fluctuations were due to new plan admissions. Transfers to other plan administrators decreased in 2021 to \$1.5 million compared to \$1.7 million in 2020 and \$0 in 2019 due to fluctuations in plan

withdrawals.

Administrative expenses were \$8.7 million in 2021 compared to \$6.3 million in 2020 and \$4.9 million in 2019.

### FINANCIAL CONTACT

PMRS' financial statements are designed to present users with a general overview of PMRS' finances and to demonstrate the trustees' accountability. If there are questions about the report or additional information is required, contact the Chief Financial Officer, Pennsylvania Municipal Retirement System at P.O. Box 1165, Harrisburg, PA 17108-1165.



# FINANCIAL STATEMENTS

## INVESTMENT BALANCES BY ASSET CLASS

As of December 31, 2021, 2020, and 2019

(Amounts in Thousands)

Asset class	2021	Percentage of Portfolio	2020	Percentage of Portfolio	2019	Percentage of Portfolio
Short term and other investments	\$34,274	1.0%	\$81,079	2.6%	\$43,558	1.6%
Fixed income	825,101	23.3%	399,942	12.6%	403,053	14.4%
Equity index funds, common and preferred stocks	1,505,050	42.5%	1,367,622	43.0%	1,147,093	40.9%
International stock	623,701	17.6%	834,083	26.2%	708,911	25.3%
Real estate	550,591	15.6%	496,099	15.6%	500,027	17.8%
<b>Total investments</b>	<b>\$3,538,717</b>	<b>100.0%</b>	<b>\$3,178,825</b>	<b>100.0%</b>	<b>\$2,802,642</b>	<b>100.0%</b>

## SUMMARY OF FIDUCIARY NET POSITION

As of December 31, 2021, 2020 and 2019

(Amounts in Thousands)

Analysis of Fiduciary Net Position	2021	2020	2019
<b>Assets</b>			
Receivables	\$6,769	\$6,678	\$6,946
Investments	3,538,717	3,178,825	2,802,642
Capital assets	75	252	330
Prepaid Asset	73	70	58
<b>Total Assets</b>	<b>\$3,545,634</b>	<b>\$3,185,825</b>	<b>\$2,809,976</b>
Deferred outflows of resources	3,565	2,048	1,721
<b>Liabilities</b>	<b>17,076</b>	<b>17,966</b>	<b>15,822</b>
Deferred inflows of resources	3,531	3,208	3,806
<b>Fiduciary net position</b>	<b>\$3,528,592</b>	<b>\$3,166,699</b>	<b>\$2,792,069</b>

## SUMMARY OF CHANGES IN FIDUCIARY NET POSITION

As of December 31, 2021, 2020, and 2019

(Amounts in Thousands)

Analysis of Changes in Fiduciary Net Position	2021	2020	2019
<b>Additions</b>			
Contributions	\$91,142	\$116,633	\$85,683
Net investment income (loss)	417,790	390,647	480,263
Miscellaneous income	1	(4)	19
<b>Total additions</b>	<b>\$508,933</b>	<b>\$507,276</b>	<b>\$565,965</b>
<b>Deductions</b>			
Annuity benefits and terminations	136,781	124,613	118,409
Transfers to other plan administrators	1,523	1,730	-
Administrative expenses	8,737	6,302	4,867
<b>Total deductions</b>	<b>\$147,041</b>	<b>\$132,645</b>	<b>\$123,276</b>
<b>Changes in fiduciary net position</b>	<b>\$361,892</b>	<b>\$374,631</b>	<b>\$442,689</b>



# FINANCIAL STATEMENTS

## STATEMENT OF FIDUCIARY NET POSITION

As of December 31, 2021 and 2020

	2021	2020
<b>Assets</b>		
Receivables		
Plan members	\$2,585,102	\$2,200,548
Municipal employers	2,138,419	1,243,239
Accrued investment income	1,922,372	1,967,284
Investment sales receivable	106,502	1,250,106
Other receivables	16,720	16,720
<b>Total receivables</b>	<b>6,769,115</b>	<b>6,677,897</b>
Investments, at fair value		
Short-term and other investments	34,274,424	81,079,270
U.S. government fixed income pooled funds	578,643,072	281,958,821
Corporate bond pooled funds	246,457,558	117,982,769
Equity index funds, common and preferred stocks	1,505,050,486	1,367,622,266
Real estate	550,590,839	496,099,531
International equities	623,700,735	834,083,219
<b>Total investments</b>	<b>3,538,717,114</b>	<b>3,178,825,876</b>
Capital assets (net of accumulated depreciation of \$129,215 and \$319,010 at 2021 and 2020 respectively)	75,450	252,257
Prepaid assets	72,680	70,849
<b>Total assets</b>	<b>3,545,634,359</b>	<b>3,185,826,879</b>
Deferred outflows of resources	3,565,112	2,047,620
<b>Liabilities</b>		
Accounts payable and accrued expenses	7,424,447	8,204,897
Net pension liability	5,230,891	4,500,579
Net other post employment benefit obligation liability	3,866,000	4,055,000
Investment purchases payable	554,364	1,205,949
<b>Total liabilities</b>	<b>17,075,702</b>	<b>17,966,425</b>
Deferred inflows of resources	3,531,838	3,208,355
<b>Net position restricted for pensions</b>	<b>\$3,528,591,931</b>	<b>\$3,166,699,719</b>

# FINANCIAL STATEMENTS

## STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

for the Years Ended December 31, 2021 and 2020

<b>Additions</b>	<b>2021</b>	<b>2020</b>
Contributions		
Municipal Employers	\$62,402,530	\$59,259,272
Plan Members	26,573,783	25,199,715
Transfers from other plan administrators	1,913,932	31,924,791
Assessments	251,945	248,889
<b>Total Contributions</b>	<b>91,142,190</b>	<b>116,632,667</b>
Investment income		
From investing activities:		
Net appreciation (depreciation) in fair value of investments	387,430,358	368,975,048
Short-term and other investments	44,981	315,920
Equity index funds, common and preferred stocks	12,759,261	11,441,467
Real estate	22,506,647	18,780,054
International equities	7,773,643	2,860,446
<b>Total investment income (loss)</b>	<b>430,514,890</b>	<b>402,372,935</b>
Investment expenses	(12,724,633)	(11,725,970)
<b>Total net investment income (loss)</b>	<b>417,790,257</b>	<b>390,646,965</b>
Miscellaneous income	1,157	(3,734)
<b>Total additions</b>	<b>508,933,604</b>	<b>507,275,898</b>
<b>Deductions</b>		
Annuity benefits and terminations	136,780,814	124,613,259
Transfers to other plan administrators	1,523,515	1,730,317
Administrative expenses	8,737,063	6,301,742
<b>Total deductions</b>	<b>147,041,392</b>	<b>132,645,318</b>
<b>Net increase (decrease)</b>	<b>361,892,211</b>	<b>374,630,582</b>
<b>Net position restricted for pensions</b>		
<b>Balance, beginning of year</b>	<b>3,166,699,719</b>	<b>2,792,069,139</b>
<b>Balance, end of year</b>	<b>\$3,528,591,931</b>	<b>\$3,166,699,719</b>

# NOTES TO FINANCIAL STATEMENTS

## (1) ORGANIZATION AND DESCRIPTION OF PMRS

### ORGANIZATION

The Pennsylvania Municipal Retirement System (PMRS) was created by the Pennsylvania General Assembly in 1974 with the passage of the Pennsylvania Municipal Retirement Law, Act of 1974, P.L. 34, No. 16 (the Act). PMRS acts as an agent multiple-employer system, and its designated purpose is to administer sound, cost-effective pensions for local government employees. Responsibility for the organization and administration of PMRS is vested in the 11-member Pennsylvania Municipal Retirement Board. Under the Act, each municipality has the authority to establish or amend its respective benefits and employee contribution rates, subject to PMRS' board approval. Employer contributions are actuarially determined by PMRS' actuary.

Membership in PMRS is optional for Pennsylvania's local governments. When a municipality joins PMRS, its full-time employees contractually become members. Part-time, seasonal, and temporary employees, as well as elected officials, may also become members through a contractual agreement. The following tables reflect municipal membership and individual membership as of January 1, 2021 and 2020.

INDIVIDUAL MEMBERSHIP		
	2021	2020
<b>ACTIVE MEMBERS</b>		
Defined Benefit Plans		
Municipal	6,829	6,994
Police	898	849
Firefighters	133	127
<b>TOTAL</b>	<b>7,860</b>	<b>7,970</b>
Cash Balance Plans		
Municipal	1,446	1,469
Police	26	20
Firefighters	14	13
<b>TOTAL</b>	<b>1,486</b>	<b>1,502</b>
<b>Total Active Members</b>	<b>9,346</b>	<b>9,472</b>
<b>RETIREES AND BENEFICIARIES</b>		
Retirees	6,050	5,781
Beneficiaries	694	654
<b>Total Retirees and Beneficiaries</b>	<b>6,744</b>	<b>6,435</b>
<b>INACTIVE PARTICIPANTS WITH RIGHTS TO DEFERRED PENSION (VESTED)</b>		
Defined Benefit	933	882
Cash Balance	351	323
<b>Total Vested</b>	<b>1,284</b>	<b>1,205</b>
Defined Benefit	29	27
Cash Balance	18	20
<b>Total Non-Vested</b>	<b>47</b>	<b>47</b>
<b>Total Individual Memberships</b>	<b>17,421</b>	<b>17,159</b>

## PARTICIPATING LOCAL GOVERNMENT EMPLOYERS

As of January 1, 2021

Employer Type	2021		2020	
	Defined Benefit	Cash Balance	Defined Benefit	Cash Balance
County	4	1	4	0
City	18	0	18	0
Borough	146	64	145	63
Township of the first class	19	4	19	4
Township of the second class	167	158	166	157
Authority and other units	168	80	168	81
Police	192	18	192	18
Firefighters	10	2	10	2
<b>Total</b>	<b>724</b>	<b>327</b>	<b>722</b>	<b>325</b>



# NOTES TO FINANCIAL STATEMENTS

## PENSION BENEFITS

PMRS has the broad authority to allow a municipality to design its retirement benefit structure. Alternatively, PMRS has two basic benefit structures: one for municipal employees (Article II of the Act) and one for uniformed employees – police and firefighters (Article III of the Act). Certain elected officials are not permitted to become PMRS members, as outlined in individual municipal ordinances. Under these two structures, members are eligible for monthly retirement benefits upon reaching the age of 65 and 55, under Articles II and III, respectively, or upon accumulating 24 years of service. Under Articles II and III of the Act, vesting occurs after 12 years of service. Such benefits under Articles II and III are generally equal to (a) the actuarial value of the members' contributions and (b) the municipal annuity that is based on a percentage of a member's salary or compensation. The benefit structures also provide death, disability, and early retirement benefits. These benefit provisions and all other requirements are established under Articles II and III of the Act. Under Article IV of the Act, municipalities may provide benefits different from those available under Articles II and III. Vesting provisions, if any, under Article IV may vary.

Automatic post-retirement benefit increases are optional in plan contracts. Some member municipalities include the automatic increase; others occasionally grant an ad hoc cost-of-living (COLA) increase. A post-retirement benefit increase may also be granted through PMRS' excess interest award (see Note 3 for an explanation of excess interest).

Member municipalities wishing to amend benefits contact PMRS' staff to discuss desired amendments and to obtain an actuarial cost study. Amendments are drafted by PMRS' staff, reviewed by the chief counsel's office, adopted by the municipality, and submitted to PMRS' board for formal approval.

## (2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### BASIS OF ACCOUNTING

PMRS' financial statements are prepared on the accrual basis of accounting. Employee and employer contributions are recognized in the period in which the contributions are due. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan. Expenses are recorded when the corresponding liabilities are incurred.

### USE OF ESTIMATES IN PREPARING FINANCIAL STATEMENTS

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates and assumptions

that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of additions and deductions during the reported period. Actual results could differ from those estimates.

## INVESTMENTS

Investments are reported at fair value. Fair value is the amount that a plan 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. Short-term investments are reported at amortized cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Equity index funds are valued at the net asset value of units held based on the value of the underlying investments as determined by quoted market prices. Fixed-income index funds are valued at the net asset value of units held based on yields currently available on comparable securities of issuers with similar credit ratings of the underlying investments. Real estate investments are valued at the net asset value. Purchases and sales of investments are recorded on a trade-date basis. Interest income is recorded on an accrual basis and dividends are recorded on the ex-dividend date.

## CAPITAL ASSETS

Capital assets consist of office furniture and equipment, software, and leasehold improvements. All assets with a purchased cost exceeding \$5,000 and an estimated useful life of more than one year are capitalized. Normal repair and maintenance expenses are not capitalized because they neither add value to the property nor materially prolong its useful life. Capital assets are recorded at cost and depreciated using the straight-line method over the following useful lives:

	<b>Useful Life in Years</b>
Office Furniture	7
Office Equipment	4
Software	3
Leasehold Improvements	10

## PENSIONS FOR EMPLOYEES OF PMRS

Employees of PMRS are members of the Pennsylvania State Employees' Retirement System (SERS).

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 SERS and additions to/deductions from SERS' fiduciary net position have been determined on the same basis as they are reported by SERS (see Note 6 for additional information regarding SERS). PMRS'

# NOTES TO FINANCIAL STATEMENTS

net pension liability, deferred outflows of resources, and deferred inflows of resources are reported on the Statement of Fiduciary Net Position. The pension expense is reported in administrative expenses on the Statement of Changes in Fiduciary Net Position and is detailed on the Schedule of Administrative Expenses Supplementary Schedule.

## POST-EMPLOYMENT BENEFITS OTHER THAN PENSIONS

PMRS participates in the commonwealth's Retired Employee Health Program. For purposes of measuring the Other Post-Employment Benefits (OPEB) liability, deferred outflows of resources, deferred inflows of resources, and OPEB expense, information about the fiduciary net position of the commonwealth and additions to/deductions from the commonwealth's fiduciary net position have been determined on the same basis as they are reported by the commonwealth (see Note 7 for additional information). PMRS' net OPEB liability, deferred outflows of resources, and deferred inflows of resources are reported on the Statement of Fiduciary Net Position. The OPEB expense is reported in administrative expenses on the Statement of Changes in Fiduciary Net Position and is detailed on the Schedule of Administrative Expenses Supplementary Schedule in the Retiree Health Benefits account.

## COMPENSATED ABSENCES

PMRS uses the accrual basis of accounting for measuring vacation leave, sick leave, and other compensated absence liabilities. Employees of PMRS are paid for accumulated vacation leave upon termination or retirement. Retiring employees of PMRS that meet service, age, or disability requirements are paid between 30% and 50% of sick days available at retirement, up to 161 maximum days paid. As of December 31, 2021 and 2020, \$472,688 and \$452,333, respectively, were accrued for unused vacation and sick leave for PMRS' employees and included in accounts payable and accrued expenses on the Statement of Fiduciary Net Position.

## FEDERAL INCOME TAXES

PMRS is a qualified trust fund under Section 401(a) of the Internal Revenue Code (IRC). As a result of the qualified status, the trust fund is entitled to an exemption, under Section 501 (a) of the IRC, from federal income taxation on its investment earnings. Additionally, the trust fund and any benefits accruing to the members of PMRS are exempt from Pennsylvania state and municipal taxes.

It should be noted that the Internal Revenue Service (IRS) announced and initiated a renewed focus on the tax qualification of public pension funds in 2008. In response to that action, PMRS has implemented a six-year continuous review cycle of all plans to proactively address this IRS initiative.

## NEW ACCOUNTING ADOPTED PRONOUNCEMENTS

The General Accounting Standards Board (GASB) issued GASB Statement No. 89, *Accounting for Interest Cost Incurred before the end of a Construction Period*, in June 2018 with an effective for reporting periods after December 15, 2020. The Statement establishes accounting requirements for interest cost incurred before the end of a construction period. Such interest cost includes all interest that previously was accounted for in accordance with the requirements of paragraphs 5 -22 of Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, which are superseded by this Statement. After evaluating the statement, it was determined that it does not impact PMRS during the reporting period.

The General Accounting Standards Board (GASB) issued GASB Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans - An amendment of GASB Statements No. 14 and No. 84, and a Suppression of GASB Statement No. 32*, in June 2020 with an effective reporting date for fiscal years beginning after June 15, 2021. The primary objectives of this Statement are to (1) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform. After evaluating the statement, it was determined that the statement is not applicable to PMRS.

## NEW ACCOUNTING PRONOUNCEMENTS

During the year ended December 31, 2020, PMRS adopted GASB Statement No. 98, *The Annual Comprehensive Financial Report*.

The GASB issued Statement No. 87, *Leases*, in June 2017. This statement establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources. The requirements of this statement as amended by GASB No. 95 are effective for financial statements for fiscal years beginning after June 15, 2021 and all reporting periods thereafter.

PMRS plans to implement the statement in the December 31, 2022 ACFR.

# NOTES TO FINANCIAL STATEMENTS

After evaluating GASB Statement No. 90, it has been determined that PMRS operates as a fiduciary trust and is presenting information in accordance with the requirements.

The GASB issued Statement No. 92, *Omnibus 2020*, in January 2020. The objective of this statement is to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature. This statement establishes accounting and financial report requirements for specific issues related to leases, intra-equity transfers of assets, post-employment benefits, government acquisitions, risk financing and insurance-related activities of public entity risk pools, fair value measurements, and derivative instruments. The requirements of this statement as amended by GASB Statement No. 95 are effective for reporting periods beginning after June 15, 2021.

After evaluating GASB Statement No. 92, it has been determined that PMRS is presenting information in accordance with the requirements.

The GASB issued Statement No. 96, *Subscription-Based Information Technology Arrangements*, in May 2020. Under this statement, a government generally should recognize a right-to-use subscription asset—an intangible asset—and a corresponding subscription liability. A government should recognize the subscription liability at the commencement of the subscription term, which is when the subscription asset is placed into service. The requirements of this statement are effective for fiscal years beginning after June 15, 2022, and all reporting periods thereafter.

PMRS plans to implement the statement in the December 31, 2022 ACFR.

## (3) CONTRIBUTIONS AND RESERVES

### CONTRIBUTIONS

Contributions to PMRS are made by members and municipalities. Under Articles II and III of the Act, members are required to contribute 3% to 8% of their salaries. The amount a member contributed under Article IV of the Act is based upon a contracted plan provision and is principally expressed as a percent of compensation or salary. The contributions required of municipalities are based upon an actuarial valuation, using the Entry Age Normal Actuarial Cost Method, computed as a percentage of the total compensation of all active members during the period for

which the amount is determined. The required contributions from municipalities for the years ended December 31, 2021 and 2020 consisted of the following:

	2021	2020
Municipality normal cost <sup>1</sup>	\$62,637,483	\$59,494,681
Amortization of unfunded actuarial accrued liability	(7,511,184)	(7,169,315)
<b>Total<sup>2</sup></b>	<b>\$55,126,299</b>	<b>\$52,325,366</b>

<sup>1</sup>Municipality normal cost includes additional municipal employer contributions towards unfunded liability of \$2.1 million and \$2.1 million in 2021 and 2020 respectively.

<sup>2</sup>Total does not include \$20 per member assessment fee to municipalities.

The actual contributions were 113.6% of the required contributions in 2021 and 113.7% of the required contributions in 2020.

The total contributions to PMRS in 2021 were \$91.1 million of which \$62.4 million and \$26.6 million were made by municipal employers and plan members, respectively. Included in the total contributions are \$1.9 million in transfers from other plan administrators and \$252 thousand from assessments. Total contributions to PMRS in 2020 were \$116.6 million of which \$59.3 million and \$25.2 million were made by municipal employers and plan members, respectively. Included in the total contributions are \$31.9 million in transfers from other plan administrators and \$249 thousand from assessments.

The difference between the municipalities' required and actual contributions is generally due to various factors including additional contributions towards unfunded liability, plan takeovers, and the municipalities transferring state aid money to PMRS as required under the Municipal Pension Plan Funding Standard and Recovery Act of 1984 (Act 205).

Each municipality is also charged a \$20 assessment fee per member to help cover administrative expenses incurred by PMRS. The remaining costs of administering the plan are financed by investment income.

### CONTRIBUTIONS REQUIRED AND CONTRIBUTIONS MADE

PMRS' funding policy mandates actuarially determined required annual contributions of PMRS member municipalities at rates that accumulate sufficient assets to pay benefits when due. PMRS' actuary used the Entry Age Normal Cost Actuarial Method to determine plan liabilities and normal cost. Under this method, a normal cost is calculated that would fund each employee's benefits during the employee's career as a level percentage of pay.

At each valuation date, the unfunded actuarial accrued liability is calculated as the present value of all plan



## NOTES TO FINANCIAL STATEMENTS

benefits, less the present value of future normal cost accruals, less current assets (actuarial value).

The normal cost rate is applied to the projected payroll, and projected employee contributions are deducted. Actuarial gains (or losses) are reflected by decreases (or increases) in the unfunded actuarial accrued liability. Under Act 205, and amended under Act 44<sup>1</sup>, the unfunded accrued liability is amortized as a level dollar amount over the lesser of:

1. a. 30 years with respect to the initial liability as of 1/1/1985 (or first valuation);
- b. 20 years with respect to actuarial gains and losses;
- c. 15 years with respect to changes due to actuarial assumptions;
- d. 20 years with respect to changes due to plan provisions (if state mandated);
- e. 10 years with respect to changes in benefits for currently active members, and one year of retired members (if local benefit changes), or,
2. the average assumed working lifetime of active employees as of the date the liability was established. If there are no active employees, the unfunded liability is amortized one year after the liability was established.

Significant actuarial assumptions used to compute the actuarially determined contribution requirement include (a) an investment rate of return of 5.25% per year (net of investment expenses and certain administrative expenses) compounded annually, (b) projected salary increases ranging from 2.2% to 6.22%, including 2.2% per year compounded annually for inflation, with an additional age-based component to reflect merit/seniority, (c) post-retirement cost-of-living increases of 2.2% per year until the maximum is reached (optional in contracts), (d) pre-retirement mortality based on PUB-2010 General Employees male table for males and PUB-2010 General Employees female table for females, (e) healthy post-retirement mortality based on RP-2006 annuitant male table for males and RP-2006 annuitant female table for females, and (f) disabled post-retirement mortality based on the RP-2006 disabled annuitant male table for males and RP-2006 disabled annuitant female table for females.

**Mortality Improvement:** All base mortality are projected from the applicable base year to 2023 using Mortality Improvement Scale MP-2018.

The actuarial assumptions used have been adopted by the system's board based on the most recent review of the system's experience for the period January 1, 2014 through December 31, 2018 and completed in 2020. Effective January 1, 2021 the board updated the

<sup>1</sup> Act 44 of 2009 made amendments to Act 205 which changes certain amortization periods. These changes affect the cost calculations for PMRS' plans as of January 1, 2011.

demographic actuarial assumptions as noted above. The January 1, 2017, 2018 and 2019 valuation results are based on actuarial assumptions used for the January 1, 2016 valuation and the updated investment rate of return assumption. The January 1, 2016, valuation results reflect a 5.5% interest rate of return assumption, while the January 1, 2017, 2018, 2019, 2020, and 2021 valuation results reflect the 5.25% interest rate of return assumption adopted by the PMRS board in November 2016.

The amortization method uses level dollar for plan bases and average for aggregate gain/loss, 10% of surplus is credited against aggregate cost where applicable, based on an open amortization period. The remaining amortization period at December 31, 2021 and 2020 was 10-30 years.

### RESERVE ACCOUNTS

As of December 31, 2021 and 2020, the reserve account balances were as follows:

	2021	2020
Members' Reserve Account	\$508,436,602	\$494,275,157
Municipal Reserve Account	981,652,095	974,897,043
Retired Members' Reserve Account	1,430,130,716	1,282,886,644
DROP Participant Reserve Account	1,038,909	728,956
Disability Reserve Account	201,015	738,929
Undistributed Earnings Reserve Account	607,132,594	413,172,990
<b>Total</b>	<b>\$3,528,591,931</b>	<b>\$3,166,699,719</b>

The Act defines the following funds to be maintained by PMRS:

#### *Members' Reserve Account*

The Members' Reserve Account is credited with all contributions made by active members of PMRS. Interest is credited to each member's account at an annual rate determined by the board. PMRS' regular interest rate for the years ended December 31, 2021 and 2020 was 5.25%. In addition to regular interest, PMRS may also award excess interest. PMRS did not award excess interest for 2019 or 2020.

Upon retirement or disability of an active member, the member's accumulated contributions plus interest are transferred to the Retired Members' Reserve for subsequent benefit payments. Withdrawals of the

# NOTES TO FINANCIAL STATEMENTS

contributions of members not eligible for benefits are paid from this reserve. The account is fully funded as of December 31, 2021.

## *Municipal Reserve Accounts*

Separate municipal accounts are maintained for each municipality. The Municipal Reserve Account is credited with each municipality's contributions toward the superannuation retirement and death benefits of its members. Interest is credited to each separate municipal account at an annual rate determined by the board. PMRS' regular interest rate for the years ended December 31, 2021 and 2020 was 5.25%. In addition to regular interest, PMRS may also award excess interest. PMRS did not award excess interest for 2019 or 2020. The account is fully funded as of December 31, 2021.

## *Retired Members' Reserve Account*

The Retired Members' Reserve Account represents the amounts transferred from the Members' Reserve Account, the Municipal Reserve Accounts, and the Disability Reserve Account. All retirement benefits and retirees' death benefits are paid from this reserve. Interest is credited to the Retired Members' Account at an annual rate determined by the board. PMRS' regular interest for the years ended December 31, 2021 and 2020 was 5.25%. In addition to regular interest, PMRS may also award excess interest. PMRS did not award excess interest for 2019 or 2020. However, PMRS allocated \$67.8 million of undistributed earnings reserve to the retiree reserve to ensure it was fully funded as of December 31, 2021.

## *DROP Participant Reserve Account*

Deferred Retirement Option Program (DROP) is an optional form of payment upon a member's retirement. The DROP Participant Reserve Account is credited with all monthly annuity payments payable to a DROP participant. The monthly DROP interest is dependent on the monthly rate of return credited to the Liquid Asset Pool as determined by the State Treasurer. The DROP interest credited each month shall not be less than 0% nor more than 0.367% per month and shall not exceed the statutory limit of 4.5% annually. The average monthly yield for 2021 ranged from 0.40% to 1.3% with 0.72% as the average for the 12 months. The average monthly yield for 2020 ranged from 0.14% to 1.77% with 0.81% as the average for the 12-month period. The first DROP participant enrolled on July 31, 2012. The account is fully funded as of December 31, 2021.

## *Disability Reserve Account*

The Disability Reserve Account is credited with the contributions made by municipalities toward the disability retirement of member employees. The disability reserves are limited to 150% of the largest value of transfers to the Retired Members' Reserve Account over the most recent

three years. Interest is credited to the disability account at an annual rate determined by the board. PMRS' regular interest rate for the years ended December 31, 2021 and 2020 was 5.25%. The account is fully funded as of December 31, 2021.

## *Undistributed Earnings Reserve Account*

In addition to regular interest, PMRS may also award excess interest. Excess interest is investment earnings on PMRS' assets in excess of that required for allocation to regular interest and administrative expenses. Excess interest awards are determined annually by the board with advice from PMRS' actuary and in accordance with board policy statement rule number 05-2. The excess interest is distributed to the Members' Reserve Accounts, the Municipal Reserve Accounts, and the Retired Members' Reserve Accounts as directed by the municipalities. The PMRS board decided not to award excess interest for 2019 or 2020.

## (4) INVESTMENTS

Members of the board are trustees of PMRS' assets. They have exclusive responsibility for the management of such assets and have full power to invest PMRS' assets, subject to the terms, conditions, limitations, and restrictions imposed by the commonwealth law upon fiduciaries. The board is governed by the "prudent investor" rule in establishing investment policy. The "prudent investor" rule requires the exercise of that degree of judgment, skill, and care under the circumstances then prevailing which investors 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 funds, considering the probable income to be derived therefrom, as well as safety of their capital.

The board has adopted its Statement of Investment Policy to formally document investment objectives and responsibilities. This policy, as well as applicable state law, establishes guidelines for permissible investments of PMRS. The pension plan's policy regarding the allocation of invested plan assets is established and may be amended by the board. The board established its allocation goals as follows:

Domestic equities	32.5%
Fixed Income	29.0%
International & Global equities	22.5%
Real Estate	10.0%
Timber	5.0%
Cash and cash equivalents	1.0%

The board prohibits (1) purchasing of collectibles, letter stock and other unregistered securities, commodities or commodity contracts where the funds are a counterparty,

# NOTES TO FINANCIAL STATEMENTS

mineral rights except those mineral rights that come with the purchase of timberland, and warrants except those previously authorized, (2) short selling and the purchasing of securities on margin, and (3) selling or buying derivatives, options, futures contracts, or any other investment for the sole purpose of direct portfolio leveraging. Unleveraged derivatives used to dampen risk, execute an unleveraged strategy, or reallocate assets within a portfolio quickly may be used by a manager provided the exposure to derivatives does not exceed 5% of the manager's portfolio at market value. Leveraged derivatives of any nature or the use of derivatives to create leverage are strictly prohibited. Notwithstanding the above, warrants received in corporate restructuring may be retained at the manager's discretion.

The board achieves day-to-day management of the investment portfolio through investment managers. Restrictions concerning diversification within each manager and among managers are provided by the adopted investment policy.

## MONEY-WEIGHTED RATE OF RETURN

For the years ended December 31, 2021 and 2020, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 13.3% and 13.8%, respectively. The money-weighted return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

## FAIR VALUE OF INVESTMENTS

PMRS 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 the fair value in that particular market.
- Level 2 inputs: The categorization of an asset/liability as Level 1 requires that it be traded in an active market. If an instrument is not traded in an active market, it may fall to Level 2. Level 2 inputs are inputs that are observable, either directly or indirectly, but do not qualify as Level 1.
- Level 3 inputs: Reporting entities may use unobservable inputs to measure fair value if relevant observable inputs are not available, thereby allowing for situations in which there is little if any market activity for the asset or liability at the measurement date. These unobservable inputs are considered Level 3.

Equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

Investments valued at the net asset value (NAV) per share (or its equivalent) include investments considered to be Alternative Investments defined by the American Institute of Certified Public Accountants (AICPA). The definition includes investments for which a readily determinable fair value does not exist (that is, investments not listed on national exchanges or over-the-counter markets, or for which quoted market prices are not available from sources such as financial publications, exchanges, or NASDAQ). These types of investments include real estate and commingled index funds and can be held within any of the asset classes used by PMRS based on underlying portfolio holdings and analysis of risk and return relationships. The commingled index funds are open-ended funds and may be used in equity or fixed-income asset classes. They are funds made up of underlying securities that have readily available fair values (publicly traded stocks and bonds). PMRS owns units of these funds rather than individual securities. Contributions or withdrawals from these funds can be made as needed, generally with daily or monthly liquidity, with a notice period of one to fifteen days.

PMRS has short-term and other investments that are not measured at fair value or NAV. PMRS invests in the commonwealth's Treasury Department Pool 924 short-term investment pool. The pool consists exclusively of fixed-





## NOTES TO FINANCIAL STATEMENTS

income securities, primarily of short duration, which are held either directly or through the Consolidated Cash Pool, an investment instrument used to invest short-term monies. PMRS' portion is valued at cost plus accrued interest, which approximates fair value.

On December 31, 2021 and 2020, PMRS had the following investments.

INVESTMENTS				
As of December 31, 2021				
INVESTMENTS BY FAIR VALUE LEVEL	Amount	LEVEL 1	LEVEL 2	LEVEL 3
Common and preferred stock	\$721,586,945	\$721,586,945	\$ -	\$ -
<b>Total investments by Fair Value Level</b>	<b>721,586,945</b>	<b>721,586,945</b>	-	-
Investments Measured at Net Asset Value (NAV)		UNFUNDED COMMITMENTS	REDEMPTION FREQUENCY	REDEMPTION NOTICE PERIOD
Commingled funds - debt	825,100,630	-	Daily, monthly	1-15 days
Commingled funds - equity	1,407,164,276	-	Daily, monthly	1-15 days
Real estate	550,590,839	-	Not eligible	Not eligible
<b>Total investments measured at NAV</b>	<b>2,782,855,745</b>	-		
INVESTMENTS AT OTHER THAN FAIR VALUE				
Short-term and other investments	34,274,424	-		
<b>Total investments at other than Fair Value</b>	<b>34,274,424</b>	-		
<b>Total investments</b>	<b>\$3,538,717,114</b>	-	<b>\$ -</b>	<b>\$ -</b>

INVESTMENTS				
As of December 31, 2020				
INVESTMENTS BY FAIR VALUE LEVEL	Amount	LEVEL 1	LEVEL 2	LEVEL 3
Common and preferred stock	\$1,365,389,361	\$1,365,389,361	\$ -	\$ -
<b>Total investments by Fair Value Level</b>	<b>1,365,389,361</b>	<b>1,365,389,361</b>	-	-
Investments Measured at Net Asset Value (NAV)		UNFUNDED COMMITMENTS	REDEMPTION FREQUENCY	REDEMPTION NOTICE PERIOD
Commingled funds - debt	399,941,590	-	Daily, monthly	1-15 days
Commingled funds - equity	836,316,124	-	Daily, monthly	1-15 days
Real estate	496,099,531	-	Not eligible	Not eligible
<b>Total investments measured at NAV</b>	<b>1,732,357,245</b>	-		
INVESTMENTS AT OTHER THAN FAIR VALUE				
Short-term and other investments	81,079,270	-		
<b>Total investments at other than Fair Value</b>	<b>81,079,270</b>	-		
<b>Total investments</b>	<b>\$3,178,825,876</b>	-	<b>\$ -</b>	<b>\$ -</b>

# NOTES TO FINANCIAL STATEMENTS

## DEPOSIT AND INVESTMENT RISKS

PMRS' deposits and 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. 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 Statement of Fiduciary Net Position.

## CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss attributed to the magnitude of PMRS' investments in a single issuer. As of December 31, 2021 and 2020, PMRS 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.

## CUSTODIAL CREDIT RISK – DEPOSITS

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

## CUSTODIAL CREDIT RISK – INVESTMENTS

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, PMRS would not be able to recover the value of investments 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 PMRS' name. Those investments are defined as insured or registered investments for which the securities are held by PMRS 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 commingled funds, which include real estate.

## 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 Moody's Investors Service (Moody's), Standard and Poor's (S&P), and Fitch Ratings (Fitch).

Only those bonds issued by the federal government and its agencies or foreign government bonds denominated in U.S. dollars rated "AA" or higher, and only those corporate bonds which are rated, and which ratings are no lower than the "A" or better by at least two of the three NRSRO listed above shall be purchased in accordance with PMRS' investment guidelines. Should any bond drop below investment quality ("BA" or lower), the manager shall divest the holding or report in writing to PMRS within thirty (30) days from the day the security's rating has fallen below the acceptable rating as to why the security remains a safe investment for the portfolio. When an index fund is used to meet PMRS' commitment to the fixed-income allocation, the underlying securities of the index shall not have to comply with the specific requirements of this paragraph.

For securities exposed to credit risk in the fixed-income portfolio, the following table discloses aggregate fair value by credit quality rating category on December 31, 2021 and 2020.

CREDIT RISK		
	2021	2020
Quality Rating	Fair Value	Fair Value
Aaa1 <sup>1</sup>	\$593,659,904	\$279,399,195
Aa1 <sup>1</sup>	25,083,059	12,798,131
A1 <sup>1</sup>	90,761,069	47,473,067
Baa1 <sup>1</sup>	115,514,088	60,191,209
Below Baa1 <sup>1</sup>	82,510	39,994
NR2 <sup>2</sup>	34,274,424	81,119,264
<b>Total</b>	<b>\$859,375,054</b>	<b>\$481,020,860</b>

<sup>1</sup> The fixed-income portfolio is currently 100% passive. The Fair Value distributed among the credit ratings is calculated based on percentages reported by the index fund provider.

<sup>2</sup> Not Rated securities include short-term and other investments.

## 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. PMRS measures interest rate risk using duration. Duration is a measure of the sensitivity of the price (the value of principal) of a fixed-income investment to a change in



## NOTES TO FINANCIAL STATEMENTS

interest rates and is expressed as a number of years. The higher the duration, the greater the changes in fair value when interest rates change.

On December 31, 2021 and 2020, PMRS' fixed-income portfolio had the following effective duration:

INTEREST RATE RISK		
2021		
Investment Type	Fair Value	Effective Duration
Commingled funds - debt	\$825,100,630	6.78
Short-term and other investments	34,274,424	0.1
	<b>\$859,375,054</b>	
2020		
Investment Type	Fair Value	Effective Duration
Commingled funds - debt	\$399,941,590	6.23
Short-term and other investments	81,079,270	0.1
	<b>\$481,020,860</b>	

### FOREIGN CURRENCY RISK

Foreign currency risk is the risk that fluctuations in the exchange rates will adversely affect the fair value of an investment. As part of PMRS' program to manage risk and enhance returns, PMRS invests in non-U.S. markets.



On December 31, 2021 and 2020, PMRS had the following non-U.S. currency exposure:

FOREIGN CURRENCY RISK			
2021			
Currency Name	Equity	Short Term	Total
Total	\$-	\$-	\$-
2020			
Currency Name	Equity	Short Term	Total
Euro	\$84,905,333	\$-	\$84,905,333
Japanese Yen	61,628,252	-	61,628,252
Hong Kong Dollar	38,999,735	-	38,999,735
Pound Sterling	18,027,061	-	18,027,061
Swedish Krona	13,335,785	-	13,335,785
Australian Dollar	9,714,626	-	9,714,626
S. Korean Won	9,106,004	-	9,106,004
Canadian Dollar	8,560,469	-	8,560,469
Norwegian Krone	8,094,672	-	8,094,672
Danish Krone	7,498,111	-	7,498,111
Total	<b>\$259,870,048</b>	<b>\$-</b>	<b>\$259,870,048</b>

### (5) SECURITIES LENDING

In accordance with a contract between the commonwealth's Treasury Department and its custodian, PMRS may participate in a securities lending program. Under this program, the custodian, acting as the lending agent, lends securities (equities, fixed income, and money market instruments) to independent brokers, dealers, and banks, acting as borrowers in exchange for collateral. Collateral is required at 102% of the fair value of the securities lent except for equity securities of non-U.S. corporations, for which collateral of 105% is required. Collateral is marked-to-market daily. If the fair value of 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 commonwealth's Treasury Department. The lending agency cannot pledge or sell collateral securities received unless the borrower defaults.

As of December 31, 2021 and 2020, PMRS had no credit risk exposure to borrowers because participation in the securities lending program has not been active since 2008.

### (6) PENSION PLAN FOR EMPLOYEES OF PMRS

#### SERS' PLAN DESCRIPTION

PMRS contributes to the State Employees' Retirement System (SERS), a cost-sharing multiple-employer defined benefit pension plan established by the commonwealth



## NOTES TO FINANCIAL STATEMENTS

to provide pension benefits for employees of the 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. Article II of the commonwealth's constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly.

### SERS' BENEFITS PROVIDED TO EMPLOYEES OF PMRS

SERS provides pension plans, including retirement, death, and disability benefits, for employees of state government and certain independent agencies. SERS member retirement benefits may consist of defined-benefit and/or defined-contribution plans. The member's benefits are mainly derived from their class of service, which is generally determined at the original date of hire. For defined-benefit plans, the benefits are determined by taking years of credited service, multiplied by final average salary, multiplied by 2%, multiplied by the class of service multiplier.

Alternatively, SERS provides a hybrid plan which is a mix of defined-benefit pension plan and defined-contribution investment plan. The defined-benefit plan provides member benefits based on years of service and salary. The defined-contribution plan allows the member to pick the investment vehicle and assume the associated risk. The amount of retirement depends on the accumulated contributions and investment returns.

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

### CONTRIBUTIONS TO SERS

Section 5507 of the SERC (71 Pa C.S. §5507) requires the commonwealth and other employers whose employees are SERS members to make contributions to the fund on behalf of all active members and annuitants necessary to fund the liabilities and provide the annuity reserves required to pay benefits. SERS funding policy, as set by the board, provides for periodic active member contributions at statutory rates. The SERS funding policy also provides for periodic employer contributions at actuarially determined rates based on SERS funding valuation, expressed as a percentage of annual retirement covered payroll, such that they, along with employee contributions and an actuarially determined rate of investment return are adequate to accumulate assets to pay benefits.

### SERS' PENSION PLAN INVESTMENTS

The long-term expected real rate of return on pension plan investments is determined using a building-block method in which best-estimate ranges of expected future real rates of

return (expected returns, net of manager fees 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 adjusting for expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in SERS current and target asset allocation as of December 31, 2020 and 2019 are summarized in the following tables:

LONG-TERM EXPECTED REAL RATE OF RETURN		
2020		
Asset class	Target allocation	Long-term real rate of return
Private equity	14.00%	6.25%
Private credit	4.00	4.25
Real estate	8.00	5.60
U.S. equity	25.00	4.90
International developed markets equity	13.00	4.75
Emerging markets equity	4.00	5.00
Fixed income - core	22.00	1.50
Fixed income - opportunistic	4.00	3.00
Inflation protection (TIPS)	4.00	1.50
Cash	2.00	0.25
<b>Total</b>	<b>100%</b>	

2019		
Asset class	Target allocation	Long-term real rate of return
Private equity	16.00%	7.25%
Global public equity	48.00	5.15
Real estate	12.00	5.26
Multi-strategy	10.00	4.44
Fixed income	11.00	1.26
Cash	3.00	-
<b>Total</b>	<b>100%</b>	

### PROPORTIONATE SHARE OF SERS' NET PENSION LIABILITY, PENSION EXPENSE, DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

PMRS' proportion of the net pension liability was calculated using a projected-contribution method. PMRS' proportionate share of the SERS' net pension liability was measured as of December 31, 2020 and 2019, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation at

# NOTES TO FINANCIAL STATEMENTS

December 31, 2020 and 2019.

The following methods and assumptions were used in the actuarial valuation at December 31, 2020 and 2019:

## ACTUARIAL METHODS AND ASSUMPTIONS

Investment rate of return	7.0% and 7.125% net of manager fees including inflation, respectively in 2020 and 2019
Projected salary increases	Average of 4.60% with range of 3.30%-6.95% including inflation
Inflation	2.50%
Mortality rate	Projected PubG-2010 and PubNS-2010 Mortality Tables adjusted for actual plan experience and future improvement
Cost-of-living adjustments	None (ad hoc)
Asset valuation method	Fair (market) value

The 19th Investigation of Actuarial Experience covering the period 2015-2019 was released and approved by the SERS Board in July 2020. The study can be viewed at [www.SERS.pa.gov](http://www.SERS.pa.gov).

On December 31, 2021 PMRS reported a net pension liability of \$5.2 million and \$4.5 million at December 31, 2020 for its proportionate share of the net pension liability for the SERS plan on the Statement of Fiduciary Net Position. The net pension liability was measured as of December 31, 2020 and 2019, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that measurement date. On December 31, 2020, PMRS' proportion was 0.02858965% and 0.02475839% at December 31, 2019.

For the years ended December 31, 2021 and 2020, PMRS recognized pension expenses of \$653,618 and \$637,383, respectively, in administrative expenses on the Statement of Changes in Fiduciary Net Position. On December 31,



2021 and 2020, PMRS reported deferred outflows of resources and deferred inflows of resources from the following sources:

## SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS

2021

	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	\$49,110	\$5,867
Changes of assumptions	581,654	-
Differences between projected and actual investment earnings on pension plan investments	-	669,264
Difference between employer contributions and proportionate share of contributions	3,231	26,717
Changes in proportion	795,250	32,990
Contributions subsequent to measurement date	670,627	-
<b>Total</b>	<b>\$2,099,872</b>	<b>\$734,838</b>

2020

	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	\$56,114	\$30,484
Changes of assumptions	173,430	-
Differences between projected and actual investment earnings on pension plan investments	-	320,977
Difference between employer contributions and proportionate share of contributions	5,921	5,827
Changes in proportion	287,296	124,067
Contributions subsequent to measurement date	576,308	-
<b>Total</b>	<b>\$1,099,069</b>	<b>\$481,355</b>

The amount reported as deferred outflows of resources at December 31, 2021 and 2020 includes contributions subsequent to the measurement date of \$670,627 and \$576,308, respectively, which are recognized as a reduction of the net pension liability in the years ended December 31, 2022 and 2021. The amounts reported as deferred outflows of resources and deferred inflows of

# NOTES TO FINANCIAL STATEMENTS

resources on December 31, 2021 will be recognized in pension expense as follows:

Year Ended December 31	Deferred
2022	\$133,191
2023	273,158
2024	61,507
2025	177,285
2026	49,266
Thereafter	-
<b>Total</b>	<b>\$694,407</b>

## SENSITIVITY OF PMRS' PROPORTIONATE OF SERS' NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following presents PMRS' proportionate share of the SERS' net pension liability as well as what PMRS' proportional share of the SERS' net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current discount rate:

SENSITIVITY OF PMRS' PROPORTIONATE SHARE OF SERS' NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE			
2021			
	1% Decrease to 6.0%	Discount rate of 7.0%	1% Increase to 8.0%
Net Pension Liability	\$6,945,743	\$5,230,891	\$3,781,216
2020			
	1% Decrease to 6.125%	Discount rate of 7.125%	1% Increase to 8.125%
Net Pension Liability	\$5,718,722	\$4,500,579	\$3,457,704

## SERS' PENSION PLAN FIDUCIARY NET POSITION

Detailed information about SERS' fiduciary net position is available in the SERS' Annual Comprehensive Financial Report which can be found on the SERS' website at [www.SERS.pa.gov](http://www.SERS.pa.gov).

## (7) POST-EMPLOYMENT HEALTHCARE PLAN FOR EMPLOYEES OF PMRS

PMRS participates in the commonwealth's Retired Employees Health Program (REHP). The REHP is a single employer defined benefit OPEB plan that includes

commonwealth agencies and some component units. The REHP is established as a trust equivalent arrangement. The REHP is administered by the Pennsylvania Employees Benefit Trust Fund (PEBTF), which acts as a third-party administrator under an administrative agreement with the commonwealth. The REHP is provided as part of collective bargaining agreements with most commonwealth labor unions. All policy decisions and types and levels of benefits for the REHP fall under the purview of the commonwealth's Executive Board, and the Secretary of Administration. The REHP does not have a governing board.

## BENEFITS PROVIDED

The commonwealth sponsors the REHP for eligible retirees and their dependents to receive subsidized health coverage for the retiree's lifetime.

## CONTRIBUTIONS TO COMMONWEALTH

REHP employer contribution requirements are established by the commonwealth's Office of Administration and the Office of the Budget. All employing agencies and certain plan members contributed \$120 per bi-weekly pay period for each current REHP eligible active employee during the fiscal year ended June 30, 2021 and \$230 per bi-weekly pay period for each current REHP eligible active employee during the fiscal year ended June 30, 2020. Plan members who retired after June 30, 2005 contribute to the plan based on a percentage of their final gross base salary at the time of retirement. Plan member contribution rates vary based on their REHP enrollment date.

## COMMONWEALTH'S REHP INVESTMENTS

The assets of the REHP are managed by the commonwealth's Treasury Department in an investment pool. The REHP investments are made based upon an interagency agreement, dated June 17, 2008, and the "prudent investor" standard set forth in the Commonwealth of Pennsylvania's fiscal code 72P.S. §30.1, amendment to the fiscal code, the principles of Prudent Investors Standards.

The long-term expected rate of return on REHP plan investments is determined using a risk premium review. This review compares the current relationship between fixed income and equity and their relationship over long periods of time to come up with an expected rate of return. Other variables considered in the expected rates of return are a reversion to the mean for each asset class. Best estimates of arithmetic real rates of return for each asset class included in the target asset allocation as of June 30,



# NOTES TO FINANCIAL STATEMENTS

2021 and 2020 are summarized in the following table:

## LONG-TERM EXPECTED REAL RATE OF RETURN

2021

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
US equity	40.0%	5.8%
International equity	27.00	6.30
Fixed income	23.00	2.10
Real estate	8.00	5.10
Cash and cash equivalents	1.50	0.40
Private Equity	0.50	9.30
<b>Total</b>	<b>100%</b>	

2020

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
US equity	40.0%	5.6%
International equity	27.00	5.80
Fixed income	23.00	1.70
Real estate	8.00	4.60
Cash and cash equivalents	1.50	0.90
Private Equity	0.50	10.40
<b>Total</b>	<b>100%</b>	

At December 31, 2021, PMRS reported a net OPEB liability of \$3.9 million for its proportionate share of the net OPEB liability on the Statement of Fiduciary Net Position and \$4.1 million at December 31, 2020. The net OPEB liability was measured as of June 30, 2021 and 2020, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of that measurement date. At June 30, 2021, PMRS proportion of the net OPEB liability was 0.037786% and 0.032919% at June 30, 2020.

### CHANGE OF ASSUMPTION

- The discount rate changed from 2.21% as of June 30, 2020 to 3.63% as of June 30, 2021.
- The long-term expected rate of return was increased from 5.00% to 6.75%.
- Per capita claims costs were updated based on changes in the underlying claims and benefit provisions.
- The aging factors used to age grade Medicare per capita claims costs were updated to be reflect the expected future costs by medical service cost category.

- The trend rates were updated based on the SOA-Getzen trend rate model version 2021\_b. The short-term trend assumptions were based on a review of the commonwealth's historical trend rates during the years 2017 through 2019 and emerging experience, along with industry surveys, separately for non-Medicare and Medicare benefits. The trend rates reflect the negotiated \$0 premium through 2024 for the REHP Aetna Medicare Advantage Plan.
- The withdrawal, disability incidence, early retirement, and normal retirement rate assumptions were updated based on the assumptions from the commonwealth SERS 2015-2019 experience study and adopted by the board in July 2020.
- The salary scale, inflation rate (decreased from 2.60% to 2.50%), and payroll growth rate (decreased from 2.90% to 2.80%) assumptions were updated based on the assumptions from the commonwealth SERS 2015-2019 experience study and adopted by the Board in July 2020.
- The mortality assumptions for annuitants, survivors, and disabled participants were updated based on the assumptions from the commonwealth SERS 2015-2019 experience study and adopted by the board in July 2020, with the exception of using the Headcount-Weighted instead of the Amount-Weighted Mortality Tables, and Scale MP-2020 to project for mortality improvements rather than Scale MP-2019.
- The mortality assumption for active employees was updated to Pub-2010 General Employees Headcount-Weighted Mortality Tables, and adjusted for mortality improvements using projection scale MP-2020.

### PROPORTIONATE SHARE OF COMMONWEALTH'S NET OPEB LIABILITY, OPEB EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

PMRS' proportionate share of the commonwealth's net OPEB liability was measured as of June 30, 2021 and 2020, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation dated September 2021 and September 2020, respectively.



## NOTES TO FINANCIAL STATEMENTS

The total OPEB liability in the June 30, 2021 and 2020 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

REHP RATES		
Assumptions	June 30, 2021	June 30, 2020
Discount rate	3.63%	2.21%
Investment rate of return	6.75%	5.00%
Inflation	2.50%	2.60%
Initial medical trend rate	6.9% / 6.7%	6.6% / 6.1%
Ultimate medical trend rate	4.00%	4.10%
Year ultimate trend rate reached	2075	2075

- The mortality assumptions for annuitants, survivors, and disabled participants were updated based on the assumptions from the commonwealth SERS 2015-2019 experience study and adopted by the board in July 2020, with the exception of using the Headcount-Weighted instead of the Amount-Weighted Mortality Tables, and Scale MP-2020 to project for mortality improvements rather than Scale MP-2019.
- The mortality assumption for active employees was updated to Pub-2010 General Employees Headcount-Weighted Mortality Tables, and adjusted for mortality improvements using projection scale MP-2020.

For the years ended December 31, 2021 and 2020, PMRS recognized OPEB expenses of (\$564,966) and (\$377,755),



respectively, in administrative expenses on the Statement of Changes in Fiduciary Net Position. At December 31, 2021 and 2020, PMRS reported deferred outflows of resources and deferred inflows of resources from the following sources:

SCHEDULE OF DEFERRED OUTFLOWS AND INFLOWS		
2021		
	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	\$3,000	\$1,876,000
Changes of assumptions	471,000	542,000
Differences between projected and actual earnings on plan investments	-	37,000
Change in proportionate share and differences between actual and proportionate share of employer contributions	937,000	342,000
Contributions subsequent to measurement date	54,240	-
<b>Total</b>	<b>\$1,465,240</b>	<b>\$2,797,000</b>

2020		
	Deferred outflows of resources	Deferred inflows of resources
Differences between expected and actual experience	\$4,000	\$1,946,000
Changes of assumptions	526,000	314,000
Differences between projected and actual earnings on plan investments	1,000	-
Change in proportionate share and differences between actual and proportionate share of employer contributions	325,000	467,000
Contributions subsequent to measurement date	92,551	-
<b>Total</b>	<b>\$948,551</b>	<b>\$2,727,000</b>

The amount reported as deferred outflows of resources at December 31, 2021 and 2020 includes contributions subsequent to the measurement date of \$54,240 and \$92,551, respectively, which are recognized as a reduction of the net OPEB liability in the years ended December 31, 2022 and 2021. The amounts reported as deferred outflows of resources at December 31, 2021 will be recognized in

# NOTES TO FINANCIAL STATEMENTS

OPEB expense as follows:

Year Ended June 30	Deferred
2022	\$(738,000)
2023	(548,000)
2024	(190,000)
2025	91,000
2026	(1,000)
Thereafter	-
<b>Total</b>	<b>\$(1,386,000)</b>

## SENSITIVITY OF PMRS' PROPORTIONATE SHARE OF THE COMMONWEALTH'S NET OPEB LIABILITY TO CHANGE IN THE DISCOUNT RATE AND HEALTHCARE COST TREND RATES

The following presents PMRS' proportionate share of the commonwealth's net OPEB liability as well as what PMRS' proportionate share of the commonwealth's net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current discount rate:

The following presents PMRS' proportionate share of the commonwealth's net OPEB liability as well as what PMRS' proportionate share of the commonwealth's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is a one percentage point lower or one percentage point higher than the current healthcare cost trend rate:

## SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGE IN THE HEALTHCARE COST TREND RATE

	2021		
	1% Decrease to (5.9% / 5.7% decreasing to 3.0%)	Healthcare Cost Trend Rates (6.9% / 6.7% decreasing to 4.0%)	1% Increase to (7.9% / 7.7% increasing to 5.0%)
Net OPEB liability	\$3,288,000	\$3,866,000	\$4,588,000

## 2020

	1% Decrease to (5.6% / 5.1% decreasing to 3.1%)	Healthcare Cost Trend Rates (6.6% / 6.1% decreasing to 4.1%)	1% Increase to (7.6% / 7.1% decreasing to 5.1%)
Net OPEB liability	\$3,447,000	\$4,055,000	\$4,816,000

## SENSITIVITY OF PMRS' PROPORTIONATE SHARE OF THE NET OPEB LIABILITY TO CHANGES IN THE DISCOUNT RATE

	2021		
	1% Decrease to 2.63%	Discount rate of 3.63%	1% Increase to 4.63%
Net OPEB liability	\$4,430,000	\$3,866,000	\$3,397,000

## 2020

	1% Decrease to 1.21%	Discount rate of 2.21%	1% Increase to 3.21%
Net OPEB liability	\$4,627,000	\$4,055,000	\$3,579,000



## COMMONWEALTH'S ANNUAL COMPREHENSIVE FINANCIAL REPORT (ACFR)

The REHP is reported in the commonwealth's Annual Comprehensive Report (ACFR) as a Pension (and Other Employee Benefit) Trust. The REHP is reported using the economic resources measurement focus and the accrual basis of accounting. The ACFR is an audited financial statement and is available at [www.budget.pa.us](http://www.budget.pa.us).

## (8) RELATIONSHIPS WITH OTHER COMMONWEALTH AGENCIES

Responsibility for the organization and administration of PMRS is vested in the 11-member Pennsylvania Municipal Retirement Board. The State Treasurer and the Secretary of the Commonwealth serve on the board by virtue of statute. Eight Board members are also appointed by the Governor after being nominated by their respective organizations.

One member each represents the Pennsylvania Municipal League, Pennsylvania Municipal Authorities Association, Pennsylvania State Association of Boroughs, Pennsylvania State Association of County Commissioners, Pennsylvania



# NOTES TO FINANCIAL STATEMENTS

State Association of Township Commissioners, Pennsylvania State Association of Township Supervisors, the Active Police Officers, and the Active Firefighters. In addition, one board position is filled by a retired member of PMRS. Interested individuals apply, and the Governor makes an appointment from the list of applicants.

PMRS is not included as a component unit of the commonwealth for financial reporting purposes because PMRS is not financially accountable to the commonwealth as there is no imposition of will, no financial benefit/burden, nor fiscal dependency associated with PMRS toward the commonwealth.

## (9) PLAN TERMINATION

Member municipalities may withdraw from PMRS if the conditions for withdrawal under the act have been met. Requirements include a minimum of five years of membership, approval of a minimum of 75% of the plan's active, vested, and retired members, and approval of PMRS' board. In the event of withdrawal, a municipality is entitled to receive a net refund of the amount then standing to the credit of the municipality in the municipal account, the member employees' account, and the retired members' reserve account. In no event shall the municipality refund exceed the pro-rata interest of the withdrawing municipality in the net position of the entire fund based on the fair value of the fund investments as of the date of receipt of the application for permission to withdraw. Liability for any continuation of retirement or disability benefits being paid from PMRS shall attach to the withdrawing municipality.

## (10) RISK MANAGEMENT

Exposure of PMRS through board or staff activity is covered by various means. PMRS acts under the cover of sovereign immunity, participation in the Employee Liability Self-Insurance Program of the Commonwealth of Pennsylvania, the commonwealth's fidelity bond, and the State Insurance Fund. The board also adopted a self-insurance indemnification policy in 2004. There have been no significant reductions in insurance coverage from the

prior year. Settlements did not exceed insurance coverage for the past three years.

## (11) LITIGATION AND CONTINGENCIES

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

## (12) COMMITMENTS

At December 31, 2021, PMRS had no commitments for the future purchase of investments in real estate. At the July 16, 2020 meeting, the board passed a motion to cancel a \$40 million pending commitment for real estate assets.

PMRS entered an operating lease for a new office building effective July 1, 2017 and expiring June 30, 2027 with two five-year renewal options. Annual rent for the first year (including parking) was \$290,718 with annual increases up to a maximum of 5%. Office space rental expense for the years ended December 31, 2021 and 2020 was \$317,745 and \$317,094, respectively.

## (13) RISK AND UNCERTAINTIES

Investments are exposed to various risks such as interest rates, market, and credit risks. Due to the level of risk associated with certain investments, changes in the values of investment securities may occur in the near term and such changes could materially affect the amounts reported in the financial statements.

PMRS' investment policy is to allow contracted external managers to decide what action to take regarding their respective portfolio's foreign currency exposures. PMRS has no specific policies for interest rate risk and foreign currency risk.

As the effects of the COVID-19 pandemic continue to evolve and are dependent upon future developments, the impact of the coronavirus on PMRS' operations and financial results are uncertain at this time.

## (14) SUBSEQUENT EVENTS

PMRS has evaluated subsequent events through April 18, 2023, the date the financial statements were available to be issued. No material events were identified by PMRS.



# REQUIRED SUPPLEMENTARY SCHEDULE

## SCHEDULE 1

Schedule of Investment Returns Annual Money-Weighted Rate of Return, Net of Investment Expense

Year Ended December 31	Annual Rate
2021	13.34%
2020	13.80
2019	20.90
2018	-4.57
2017	17.84
2016	8.23
2015	-0.27
2014	5.20

Note: Money-weighted results for the required 10-year timeframe will be added as available.

## SCHEDULE 2

Schedule of Allocated Share of Net Pension Liability

Measurement Year Ended	Allocation Percentage	Allocated Share of Net Pension Liability	Covered Payroll	Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of Total Pension Liability
12/31/2020	0.029%	\$5,230,891	\$2,123,782	246.30%	67.0%
12/31/2019	0.025%	\$4,500,579	\$1,735,081	259.39%	63.1%
12/31/2018	0.023%	4,781,405	1,535,688	311.35%	56.4%
12/31/2017	0.023%	3,937,967	1,507,109	261.30%	63.0%
12/31/2016	0.023%	4,475,356	1,479,180	302.60%	57.8%
12/31/2015	0.026%	4,692,967	1,651,026	284.20%	58.9%
12/31/2014	0.025%	3,777,141	1,566,464	241.10%	64.8%
12/31/2013	0.025%	3,454,742	Not available	Not available	66.7%

Note: Allocated share of net pension liability results for the required 10-year timeframe will be added as available.

## SCHEDULE 3

Schedule of Allocated Share of Net OPEB Liability

Measurement Year Ended	Allocation Percentage	Allocated Share of Net OPEB Liability	Covered Payroll	Net OPEB Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of Total OPEB Liability
6/30/2021	0.038%	\$3,866,000	\$1,567,000	246.70%	6.1%
6/30/2020	0.033%	4,055,000	1,650,000	245.80%	3.7%
6/30/2019	0.033%	3,332,000	1,432,000	232.70%	3.8%
6/30/2018	0.035%	5,197,000	1,438,000	361.40%	2.2%
6/30/2017	0.034%	6,768,000	1,428,000	473.90%	1.4%
6/30/2016	0.034%	7,327,000	Not available	Not available	Not available

Note: Allocated share of net pension liability results for the required 10-year timeframe will be added as available

# REQUIRED SUPPLEMENTARY SCHEDULE

## SCHEDULE 4

### Schedule of Pension Contributions

	2014	2015	2016	2017	2018	2019	2020	2021
Contractually determined contribution	\$282,345	\$343,460	\$371,833	\$452,537	\$476,919	\$514,987	\$576,308	\$670,627
Contributions in relation to the contractually determined contribution	282,345	343,460	371,833	452,537	476,919	514,987	576,308	670,627
<b>Contribution deficiency (excess)</b>	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Covered payroll	\$1,566,464	\$1,651,026	\$1,479,180	\$1,507,109	\$1,535,688	\$1,735,081	\$2,123,782	\$2,234,683
Contributions as a percentage of covered payroll	18.0%	20.80%	25.14%	30.03%	31.06%	29.68%	30.82%	30.01%

In accordance with GASB Statement No. 68, this schedule will accumulate each year until sufficient information to present a ten-year trend is available.

Changes of assumptions: The SERS board approved a reduction in the annual investment return assumption from 7.125% to 7.000% as well as numerous other actuarial assumption changes implemented with the December 31, 2020 actuarial valuation. The discount rate changed to 7.125% in 2020 from 7.25% in 2019.

## SCHEDULE 5

### Schedule of Other Post-Employment Benefit Contributions

	2017	2018	2019	2020	2021
Contractually determined contribution	\$228,982	\$164,355	\$172,698	\$165,415	\$70,723
Contributions in relation to the contractually determined contribution	228,982	164,355	172,698	165,415	70,723
<b>Contribution deficiency (excess)</b>	\$-	\$-	\$-	\$-	\$-
Covered payroll	\$1,507,109	\$1,535,688	\$1,735,081	\$2,123,782	\$2,234,683
Contributions as a percentage of covered payroll	15.19%	10.70%	9.95%	8.85%	3.16%

In accordance with GASB Statement No. 68, this schedule will accumulate each year until sufficient information to present a ten-year trend is available.

Change of assumptions. The discount rate changed from 2.21% as of 6/30/20 to 3.63% as of 6/30/21. The discount rate was updated to 2.21% as of 06/30/2020 from 3.5% as of 6/30/19 to reflect the plan experience for 2017 to 2019 and medical trends.



# SUPPLEMENTARY SCHEDULES

## SCHEDULE 1 - ADMINISTRATIVE EXPENSES

Comparative Two-Year Schedule

for the Years Ended December 31, 2021 and 2020

	2021	2020
<b>Personnel Expenses</b>		
Salaries and wages	\$2,405,015	\$2,116,129
Social security contributions	178,365	147,980
Pension expense	653,618	637,383
OPEB expense	(564,966)	(377,755)
Insurance expenses	474,701	379,864
Other employee benefits	24,017	8,152
<b>Total personnel expenses</b>	<b>3,170,750</b>	<b>2,911,753</b>
<b>Professional Services</b>		
IT consultants	1,364,334	611,452
Actuarial	1,422,409	920,818
Audit	23,812	128,040
Legal	18,253	(5,217)
Contracted personnel	485,567	36,812
Miscellaneous professional	222,814	100,028
Data processing	51,368	39,252
<b>Total professional expenses</b>	<b>3,588,557</b>	<b>1,831,185</b>
<b>Communication</b>		
Telephone	36,660	50,024
Travel and conferences	6,503	2,239
Printing and postage	35,282	21,766
Advertising	5,736	5,496
<b>Total communication expenses</b>	<b>84,181</b>	<b>79,525</b>
<b>Other Services and Charges</b>		
Contracted EDP services	1,249,614	1,010,405
Office space rental	317,745	317,094
Equipment leasing	41,094	31,415
Dues and subscriptions	15,130	15,390
Supplies	172,742	3,673
Maintenance	2,361	82
Bonding and insurance, net	27,203	23,457
<b>Total other services</b>	<b>1,825,889</b>	<b>1,401,516</b>
<b>Depreciation</b>	<b>67,686</b>	<b>77,763</b>
<b>Total administrative expenses</b>	<b>\$8,737,063</b>	<b>\$6,301,742</b>

## SCHEDULE 2 - INVESTMENT EXPENSES

Comparative Two-Year Schedule

for the Years Ended December 31, 2021 and 2020

	2021	2020
Investment management fees	\$12,300,225	\$11,454,910
Investment consultants	285,000	224,731
Custodial fees	121,862	98,110
Divestiture services	(628)	(69,477)
Proxy voting services	18,174	17,696
<b>Total investment expenses</b>	<b>\$12,724,633</b>	<b>\$11,725,970</b>

## SUPPLEMENTARY SCHEDULES

### SCHEDULE 3 - PAYMENTS TO CONSULTANTS

Comparative Two-Year Schedule  
for the Years Ended December 31, 2021 and 2020

Firm Name	Nature of Service	2021	2020
Cheiron	Actuary	\$1,422,409	\$920,818
Enterprise Iron	IT consultants	540,800	-
Linea Solutions	IT consultants	340,998	131,000
OST, Inc.	IT consultants	328,826	269,170
Marquette Associates	Investment consultant	285,000	45,692
CPAS Systems	IT consultants	118,273	83,202
Bravo Group	Communication & public relations services	70,075	7,188
Ernst & Young	Consulting services	44,396	-
Keymark IMR	IT consultants	35,438	79,338
Zelenkofske Axelrod LLC	Auditor	23,812	128,040
ISS	Proxy voting services	18,173	17,696
Keystone Digital Imaging Inc.	Records management services	3,573	3,556
Dehab Associated, Inc.	Investment consultant	-	179,038
Dell	IT consultants	-	45,000
Unysis	IT consultants	-	3,742
<b>Total</b>		<b>\$3,231,773</b>	<b>\$1,913,480</b>



# Investments



## BASIS OF PRESENTATION

The data presented in the Investments Section was prepared by PMRS' independent investment consultant and has been prepared by using a time-weighted rate of return methodology based on fair values. The Investments Section includes only those investments under the management of advisors which are under contract with PMRS. These investments are valued in a manner consistent with information presented in the Financial Section, except for the recognition of accrued income and pending sales and purchases. The difference between the investment balance of \$3,538,717,114 presented in the Financial Section and the balance of \$3,536,148,177 reported in this section as of December 31, 2021 results in a difference in the net investment gain of \$430,514,890 presented in the Financial Section and the investment gain of \$428,230,067 reported in this section for the year ended December 31, 2021.

Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. The fair value of real estate investments is based on independent appraisals every three years. In years for which an appraisal is not performed, real estate investments and investments that do not have an established market value are reported at estimated fair values. Purchases and sales of investments are recorded on a trade-date basis.

Returns for active and passive funds presented throughout the Investments Section are gross of external manager fees.

### INVESTMENT RETURN

As of December 31, 2021, the board's investment portfolio was valued at \$3,536,148,177 which was an increase of

\$360,337,181 from December 31, 2020 ending value of \$3,175,810,996. For the year ended December 31, 2021, the fund had net withdrawals of \$67,892,886 and an investment gain of \$428,230,067.

For the five years that ended December 31, 2021, PMRS had net withdrawals of \$178,362,739 and an investment return of \$1,561,578,932. PMRS' investment portfolio increased from \$2,152,931,984 as of December 31, 2016 to \$3,536,148,177 as of December 31, 2021. Since its inception in December 1985, PMRS had net withdrawals of \$460,965,885 and an investment return of \$3,834,718,631. PMRS' investment portfolio increased from \$162,395,431 as of December 31, 1985, to \$3,536,148,177 as of December 31, 2021. If PMRS had earned an annualized compound rate of 5.25% since December 31, 2010, the portfolio would have been worth \$2,215,012,658 or \$1,321,135,519 less than the actual value as of December 31, 2021.



# INVESTMENT GUIDELINES

## INTRODUCTION

The following represents highlights from the board's investment guidelines. These guidelines, which set forth the board's expectations, restrictions, and policy decisions, were developed to assist PMRS' staff and consultants in the daily management of PMRS' assets.

## BACKGROUND

PMRS is currently experiencing a positive cash flow and expects this trend to gradually increase in the future. PMRS currently meets routine benefit payments from incoming revenue as opposed to any depletion of invested assets.

## PHILOSOPHY

The board considers itself a conservative fiduciary, placing the greatest emphasis on the quality of investments and consistency in returns. Despite this conservative posture, the board still believes that the five-year rate of return on investments should exceed the recognized market indices for the various asset vehicles. The board established its allocation goals as follows:

	<u>Target %</u>
<b>Equities</b>	<b>55.0</b>
Domestic	32.5
International & Global	22.5
<b>Real Estate</b>	<b>10.0</b>
<b>Timber</b>	<b>5.0</b>
<b>Fixed-Income</b>	<b>30.0</b>
Investment Grade	24.0
Opportunistic Credit	5.0
Cash	1.0

## OBJECTIVE

The board's investment objective is to benefit PMRS' member municipalities by adding value to their assets. Recognizing that inflation can erode value, the board's goal is to have PMRS earn at least 2% more annually than the average inflation rate over a long period of time. While this is the overall goal, individual investment managers' performance measures rely on other characteristics that are included in the individual contractual service agreement.

## PORTFOLIO CONSTRUCTION

### Short-Term Considerations

The board desires to remain as fully invested as possible. Therefore, any manager in a cash or cash equivalent position must invest in vehicles authorized by PMRS. The manager must use PMRS' depository relationship

with the State Treasurer who, as custodian of PMRS' investments, will invest all cash daily in a short-term fund. No management fee will be paid by PMRS for the portion of a manager's average assets in excess of 5% remaining in cash equivalents at the Pennsylvania Treasury after the end of any quarter.

### Fixed-Income Considerations

The board seeks to bring income and stability to the overall portfolio through fixed-income vehicles. The bond portfolio must be invested in quality vehicles and is expected to be diversified from a geographic and industrial standpoint. Except for U. S. Treasury bonds, no single holding of an investment manager is to account for more than 5% of the fair value of their bond portfolio. PMRS shall not hold assets more than 10% of any one bond issue, nor more than 5% of any single issuing agent. Corporate bonds of any given industry are not to account for more than 25% of the fair value of the bond portfolio. When an index fund is used to meet PMRS' commitment to the fixed income allocation, the underlying securities of the index shall not have to comply with the specific requirements of this paragraph.

## EQUITY INVESTMENT POLICY

PMRS' equity portfolio reflects the board's desire to include growth through market appreciation. The board requires an equity portfolio with diversification, quality issuance, and underlying value. Active investment managers are limited to no single equity holding accounting for more than 7.5% of the fair value of their assigned portfolio. Generally, no single sector should account for more than 20% of the value of an individual manager's portfolio. The cumulative holdings of a manager for all clients shall account for no more than 10% of the outstanding voting common stock of a corporation.

## REAL ESTATE POLICY

The board believes that diversification in investment vehicles should enhance the potential return on investments without significantly altering the overall risk of the portfolio. Investment decisions regarding the real estate portfolio shall be guided by the objective to preserve capital, maximize cash distributions and income, achieve a total return competitive with other asset classes, and maintain a broad diversification of assets and managers. Real estate vehicles may be in direct equity participation in commingled funds that involve equity participation, Real Estate Investment Trusts (REITs), or closed-end private real estate commingled funds with consideration given to types of properties and geographic location. The investment process and specific limitations shall be detailed in each real estate manager's contract.

## PROHIBITED TRANSACTIONS

The board prohibits (1) purchasing of commodities, mineral rights, and warrants except those previously authorized; (2) short selling and the purchasing of securities on margin; and (3) selling or buying options or futures contracts on either fixed income or equity instruments. Leveraged derivatives of any nature or the use of derivatives to create leverage are strictly prohibited.

## EXECUTION AND OPERATION

PMRS uses the State Treasurer as custodian and the Bank of New York Mellon as the sub-custodian.

Investment managers are directed to execute orders on the best net execution/price basis. Transactional costs and the rate of turnover are monitored. Active equity managers are expected to execute trades on the auction market at a rate close to the execution-only cost.

The investment managers may enter into agreements with certain brokerage houses to participate in a recapture program whereby a designated percentage of PMRS' trades handled by these brokerage firms will be returned as cash to PMRS and treated as new income for the benefit of the membership. It is expected that under such an arrangement, the average execution cost of all trades will approximate the execution-only price.

The board assumes full responsibility for exercising the voting privilege contained in proxy solicitations generated by companies domiciled in the U. S. and has adopted specific guidelines for staff guidance. These guidelines as adopted and hereafter amended are an integral part of PMRS' investment guidelines. Proxy solicitations by non-U.S. domiciled companies are handled by the investment manager that holds the security of that company in their portfolio.

## COMMUNICATIONS

The board expects an open and constant line of communication between PMRS' staff and investment managers. Reports required of investment managers to the board and staff include a timely confirmation of all transactions, a quarterly statement of asset values at cost and fair value, any explanation of contemplated major shifts in investment strategy or manager style before implementation, and an explanation of major changes in organization or the personnel associated with PMRS' account. Active equity managers are required to report quarterly, the average commission price per share traded during the quarter. In addition to the written reports, the investment managers are obligated to appear before the board periodically as specifically spelled out in the investment manager's contract.

Investment managers' fees are based on the fair value of the firm's quarterly average balance in PMRS' portfolio. For the years ended December 31, 2021 and 2020, the total investment managers' fees based upon the average monthly net asset values of the PMRS' total investment portfolio were 27 basis points and 42 basis points, respectively.

## MONITORING

PMRS monitors the performance of its investment managers through the direct involvement of the board, PMRS staff, and any consultant hired for this purpose by the board.

## REPORT ON INVESTMENT ACTIVITY

### RELATIVE PERFORMANCE

#### Total Fund

For the year ended December 31, 2021, the net rate of return for PMRS' total portfolio was 13.2%, which was 1.3% less than the policy index<sup>1</sup> return of 14.5% and ranked in the 58th percentile of the Investment Metrics (IM) Public DB universe. For the five years that ended December 31, 2021, the net rate of return for PMRS' total portfolio was 11.9%, which was 0.8% more than the policy index returns of 11.1%, and ranked in the 26th percentile. Since inception, the net rate of return for PMRS' total portfolio was 9%, compared to the policy index return of 9.5%.

#### Large Cap Equity

For the year ended December 31, 2021, the net rate of return for the large cap equity portfolio was 26.5%, which was 2.2% less than the S&P 500 Index return of 28.7% and ranked in the 48th percentile. For the five years ended December 31, 2021, the net rate of return for the large cap equity portfolio was 20.1%, which was 1.6% more than the S&P 500 Index return of 18.5% and ranked in the 27th percentile.

#### Small Cap Equity

For the year ended December 31, 2021, the net rate of return for the small-cap equity portfolio was 19.2%, which was 4.4% more than the Russell 2000 Index return of 14.8% and ranked in the 78th percentile. For the five years ended December 31, 2021, the net rate of return for the small cap equity portfolio was 12.2%, which was 0.2% percent more than the Russell 2000 Index return of 12% and ranked in the 64th percentile.

#### Non-U.S. Equity

For the year ended December 31, 2021, the net rate of

<sup>1</sup> The policy index is a customized index created by PMRS' investment consultant. It is constructed at the asset class level with corresponding benchmark allocations matching the portfolio.



# INVESTMENT ACTIVITY

return for the non-U.S. equity portfolio was 5.2%, which was 3.3% less than the MSCI ACWI ex-USA Index return of 8.5% and ranked in the 88th percentile. For the five years that ended December 31, 2021, the net rate of return for the non-U.S. equity portfolio was 12%, which was 2.2% more than the MSCI ACWI ex-USA Index return of 9.8% and ranked in the 10th percentile.

## Emerging Markets Equity

For the year ended December 31, 2021, the net rate of return for the emerging market equity portfolio was -2.1%, which was 0.4% more than the MSCI Emerging Markets Index return of -2.5% and ranked in the 65th percentile. For the five years ended December 31, 2021, the net rate of return for the emerging market equity portfolio was 9.9%, which was equal to the MSCI Emerging Markets Index return and ranked in the 55th percentile.

## Real Estate

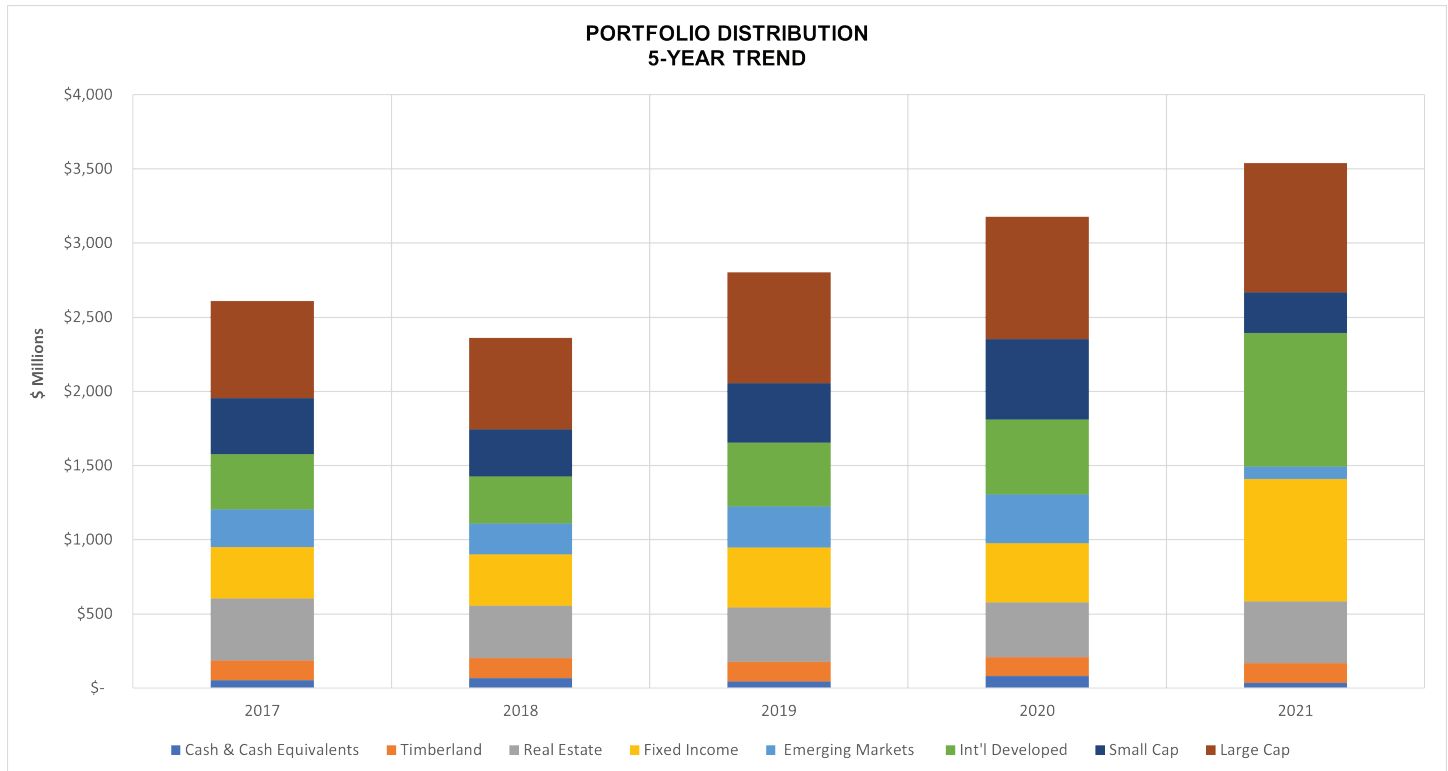
For the year ended December 31, 2021, the net rate of return for the real estate portfolio was 13.6%, which was 7.5% percent less than the Real Assets Policy Index of 21.1%. For the five years that ended December 31, 2021, the net rate of return for the real estate portfolio was 6.3%,

which was 1.4% less than the Real Assets Policy Index return of 7.7%.

## Fixed Income

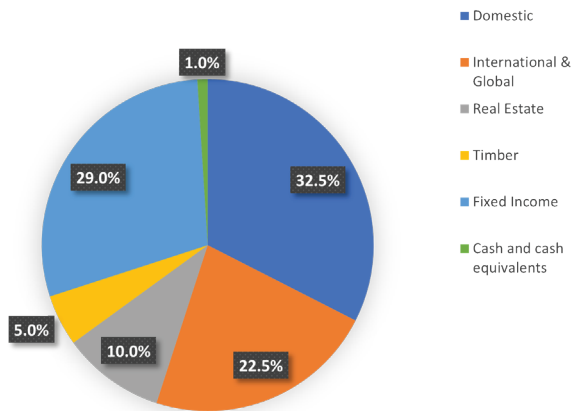
For the year ended December 31, 2021, the net rate of return for fixed-income portfolio was -1.6%, which was .01 percent less than the Bloomberg US Aggregate TR Index return of -1.5% and ranked in the 72nd percentile. For the five years ended December 31, 2021, the net rate of return for the fixed-income portfolio was 3.6%, which was the same as the Bloomberg US Aggregate TR Index return of 3.6% and ranked in the 39th percentile.

The following graph shows PMRS' five-year trend of investments on fair value as of December 31, 2021.

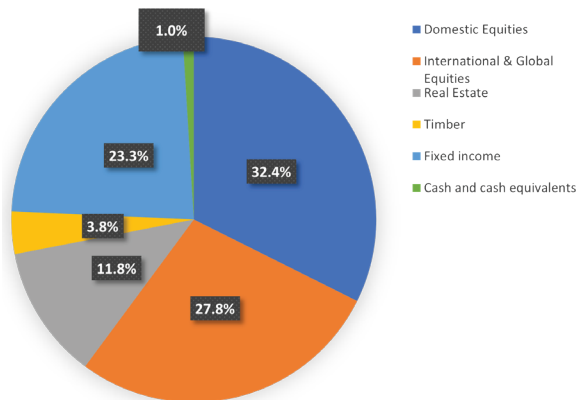


# ASSET ALLOCATION

The board established its allocation goals as follows:



PMRS' portfolio allocation on December 31, 2021 was as follows:



PMRS' actual asset allocation on December 31, 2021 was \$1,145 million committed to domestic equities (\$870 million to large cap and \$275 million to small cap), \$984 million to international and global equities (\$900 million to developed and global markets and \$84 million to emerging markets), \$825 million to fixed-income instruments, \$418 million to

real estate, \$133 million to timber, and \$34 million to cash and cash equivalents.

The following table shows the allocation of assets on December 31, 2021.

Asset Allocation		
As of December 31, 2021		
(Amounts in Thousands)		
Type	Percentage of Portfolio	Amount
Large Cap Equity	24.6%	\$869,672
Small cap equity	7.8%	275,309
<b>Total domestic equity</b>	<b>32.4%</b>	<b>1,144,981</b>
International Developed & Global Markets	25.4%	899,849
International Emerging Markets	2.4%	83,921
<b>Total international &amp; global equity</b>	<b>27.8%</b>	<b>983,770</b>
<b>Total equities</b>	<b>60.2%</b>	<b>2,128,751</b>
Real Estate	11.8%	417,636
Timber	3.8%	132,955
Fixed income	23.3%	825,101
Cash and cash equivalents <sup>1</sup>	1.0%	34,274
<b>Total portfolio</b>	<b>100.0%</b>	<b>\$3,538,717</b>

<sup>1</sup>Cash and cash equivalents include funds held by the Pennsylvania Treasury Department

The following table shows the actual allocation of assets compared to the board-established allocation on December 31, 2021.

ASSET ALLOCATION VARIANCE						
As of December 31, 2021						
(Amounts in Thousands)						
Sector	Target Percentage Allocation	Target Dollar Allocation	Percentage of Portfolio	Current Dollar Allocation	Dollar Variance	Percentage Variance
Domestic Equities	32.5%	\$1,150,083	32.4%	\$1,144,981	\$(5,102)	-0.1%
International & Global Equities	22.5%	796,211	27.8%	983,770	187,559	5.3%
<b>Total equities</b>	<b>55.0%</b>	<b>1,946,294</b>	<b>60.2%</b>	<b>2,128,751</b>	<b>182,457</b>	<b>5.2%</b>
Real Estate	10.0%	353,872	11.8%	417,636	63,764	1.8%
Timber	5.0%	176,936	3.8%	132,955	(43,981)	-1.2%
Fixed income	29.0%	1,026,228	23.3%	825,101	(201,127)	-5.7%
Cash and cash equivalents	1.0%	35,387	1.0%	34,274	(1,113)	-0.0%
<b>Total portfolio</b>	<b>100.0%</b>	<b>\$3,538,717</b>	<b>100.0%</b>	<b>\$3,538,717</b>	<b>\$-</b>	<b>0.0%</b>

# INVESTMENT SUMMARY

## PORTFOLIO RATES OF RETURN<sup>1</sup>

The following table compares the gross rates of return for PMRS' total investment portfolio as of December 31, 2021 with standard indexes for one year, three years, five years, ten years, and since inception. The calculations of yields were prepared using a time-weighted rate of return methodology based on fair values. PMRS' returns have been competitive with other professionally managed funds.



## PERFORMANCE SUMMARY

	1 Year	3 Year	5 Year	10 Year	Since Inception	Inception Date
<b>Total Portfolio</b>	13.2%	16.0%	11.9%	10.3%	9.0%	Jan-86
InvMetrics Public DB Net Rank	58	41	26	22	32	
Policy Index	14.5%	15.3%	11.1%	10.1%	9.5%	
<b>Large Cap U.S. Equity Composite</b>	26.5%	27.1%	20.1%	17.2%	11.7%	Jan-86
eV US Large Cap Equity Net Rank	48	30	27	24	72	
S&P 500	28.7%	26.1%	18.5%	16.6%	11.5%	
<b>Small-Mid Cap U.S. Equity Composite</b>	19.2%	21.2%	12.2%	13.3%	11.0%	Jan-93
eV US Small Cape Core Equity Net Rank	78	56	64	65	78	
Russell 2000	14.8%	20.0%	12.0%	13.2%	9.8%	
<b>Global Equity Composite</b>	-	-	-	-	-	Dec-21
InvMetrics Public DB Gbl Eq Net Rank	-	-	-	-	-	
<b>Non-U.S. Equity Composite</b>	5.2%	15.2%	12.0%	-	8.8%	May-12
InvMetrics Public DB ex-US Eq Net Rank	88	31	10	-	35	
MSCI ACWI ex USA IMI	8.5%	13.6%	9.8%	-	8.2%	
<b>Emerging Markets Composite</b>	-2.1%	11.0%	9.9%	5.4%	8.5%	Jan-09
eV Emg Mkts Equity Net Rank	65	68	55	74	71	
MSCI Emerging Markets	-2.5%	10.9%	9.9%	5.5%	8.7%	
<b>Real Assets Composite</b>	13.6%	6.2%	6.3%	7.7%	7.7%	Apr-93
Real Assets Policy Index	21.1%	8.2%	7.7%	9.4%	7.8%	
<b>Total Fixed Income Composite</b>	-1.6%	4.8%	3.6%	2.9%	6.2%	Jan-86
InvMetrics Public DB US Fix Inc Net Rank	72	39	39	43	-	
Bloomberg US Aggregate TR	-1.5%	4.8%	3.6%	2.9%	6.2%	

\*Global Equity funded in December 2021



# INVESTMENT SUMMARY

## Summary of Investment Expenses

For the Years Ended December 31, 2021 and 2020

Firm Name	2021	2020
<b>Large Cap Domestic Managers</b>		
Eagle Capital Management	\$1,551,426	\$1,182,863
Polen Capital Management	1,071,777	967,060
William Blair	320,465	171,524
Federated Investors	-	200,579
LSV Asset Management	(35,726)	576,140
	<u>2,907,942</u>	<u>3,098,166</u>
<b>Small Cap Domestic Managers</b>		
Emerald Advisers	467,605	378,725
Smith, Graham & Co.	660,081	490,405
LSV Asset Management	365,572	359,913
AMI Asset Management	373,437	300,166
Copeland Capital Management	295,100	214,742
	<u>2,161,795</u>	<u>1,743,951</u>
<b>Passive Manager</b>		
State Street Global Advisors	447,855	383,462
Northern Trust	1,239	-
Xponance	2,794	-
Rhumblin	-	-
	<u>451,888</u>	<u>383,462</u>
<b>International Managers</b>		
HGK Asset Management, Inc.	1,042,301	847,163
Hardman Johnston Global Advisors	1,057,671	825,254
Jarislowsky, Fraser Limited	-	-
	<u>2,099,972</u>	<u>1,672,417</u>
<b>Real Estate</b>		
Nuveen Real Estate	1,926,120	1,925,100
Prudential Financial, Inc.	1,751,206	1,657,120
Forest Investment Associates	1,001,302	974,694
	<u>4,678,628</u>	<u>4,556,914</u>
<b>Total Investment Management Fees</b>	<b>12,300,225</b>	<b>11,454,910</b>
Investment Consultant - Marquette	285,000	224,731
Custodial Fees - BNY Mellon	121,862	98,110
Divestiture services	(628)	(69,477)
Proxy Voting Services - ISS	18,174	17,696
<b>Total Investment Expenses</b>	<b>\$12,724,633</b>	<b>\$11,725,970</b>

# INVESTMENT SUMMARY

## TEN LARGEST COMMON STOCK HOLDINGS

As of December 31, 2021

Stock	Shares	Fair Value	Percentage Of Portfolio
Microsoft Corp	77,541	\$26,078,589	0.76%
Apple INC	110,055	19,542,466	0.57%
Amazon.com INC	5,601	18,675,638	0.54%
Meta platforms INC	43,523	14,638,961	0.43%
Alphabet INC CL C	3,808	11,018,791	0.32%
Alphabet INC CL A	3,480	10,081,699	0.29%
Abbott Laboratories	69,411	9,768,904	0.28%
Mastercard INC	26,430	9,496,828	0.28%
Adobe INC	15,639	8,868,251	0.26%
Salesforce INC	33,709	8,566,468	0.25%

## PORTFOLIO SUMMARY

As of December 31, 2021

(Amounts in Thousands)

Type of Investment	Cost	Fair Value	Percentage of Total Fair Value
<b>Corporate and government bonds</b>			
U.S. Government bonds	\$505,174	\$578,643	16%
Corporate bonds	215,165	246,458	7%
<b>Total</b>	<b>720,339</b>	<b>825,101</b>	<b>23%</b>
<b>Common stock</b>			
Domestic	973,426	1,144,981	32%
International & Global	881,272	983,770	28%
<b>Total</b>	<b>1,854,698</b>	<b>2,128,751</b>	<b>60%</b>
<b>Other investments</b>			
Real Estate	386,619	550,591	16%
Cash and cash equivalents <sup>1</sup>	34,274	34,274	1%
<b>Total</b>	<b>420,893</b>	<b>584,865</b>	<b>17%</b>
<b>Total portfolio</b>	<b>\$2,995,930</b>	<b>\$3,538,717</b>	<b>100%</b>

# SUMMARY OF COMMISSIONS

## SUMMARY OF COMMISSIONS PAID TO BROKERS

For the Fiscal Year Ended December 31, 2021

Broker Name	Commissions Paid	Broker Name	Commissions Paid
Abel Noser, New York	\$373	Intl Trading Inc, Winter Park	\$592
Apex Clearing Corporation, Dallas	2,095	Investment Tech Group Inc, New York	289
Baird, Robert W & Co Inc, Milwaukee	1,964	Isi Group Inc, New York	2,543
Banque Paribas, Paris	53	J P Morgan Secs LTD, London	7,547
Barclays Capital Le, New York	1,267	J.P Morgan Securities Inc, New York	6,885
Barclays Capital, London	238	J.P. Morgan Securities LLC, New York	923
Berenberg Gossler & Cie, Hamburg	9,096	J.P. Morgan Securities, Hong Kong	2,493
Bernstein Sanford C & Co, New York	18,756	Jefferies & Co Inc, New York	19,249
BMO Capital Markets Corp, New York	722	Jefferies & Co LTD, London	2,463
BNY Convergenx Execution Sol, New York	6,781	Jonestrading Inst Svcs LLC, New York	1,211
BNY Convergenx, New York	292	Keefe Bruyette + Woods Inc, New York	572
Boenning & Scattergood, W Conshohocken	729	Keybanc Capital Markets Inc, New York	116
Bofa Securities, Inc, New York	202	Knight Equity Markets LP, New York	83
Btig LLC, New York	161	Leerink Swann And Company, New York	30
Carnegie Secs LTD, Helsinki	435	Liberum Capital Limited, London	2,051
Citigroup Gbl Mkts/Salomon, New York	6,988	Liquidnet Inc, New York	3,805
Citigroup Global Markets LTD, London	1,041	Loop Capital Markets, Jersey City	2,519
Citigroup Global Markets, Inc., New York	12,691	Luminex Trading And Analytics, Boston	258
Clsa Americas, New York	1,852	Maxim Group, Jersey City	913
Cowen And Co LLC, New York	9,703	Merrill Lynch Intl London Equities	15,318
Cowen And Company LLC, New York	82	Merrill Lynch Pierce Fenner Smith Inc NY	23,172
Cowen And Company, LLC, Jersey City	5,144	Mirae Asset Sec USA, New York	177
Credit Lyonnais Secs (Asia), Hong Kong	2,282	Mizuho Securities USA, Inc., New York	473
Credit Lyonnais Secs, Singapore	4,990	Mkm Partners LLC, Greenwich	59
Credit Suisse, New York (CSUS)	12,855	Morgan Stanley & Co Inc, NY	11,433
D Carnegie Ab, Stockholm	1,557	Morgan Stanley & Co, London	1,820
Daiwa Sec Smbc Europe LTD, London	2,127	National Fin Svcs Corp, New York	113,152
Daiwa Secs Amer Inc, New York	166	Needham And Co LLC, New York	1,108
Davidson(D A) & Co Inc, New York	367	Nordea Bk Plc, Helsinki	637
Den Danske Bank, Copenhagen	1,527	North South Capital LLC, Jersey City	79
Den Norske Creditbank, Oslo	313	Northern Tr Secs, Chicago	40
Dnb Nor Markets Custody, Oslo	359	Oppenheimer & Co Inc, New York	728
Exane, Paris	3,787	Pareto Fonds As, Oslo	1,916
Fidelity Capital Markets, New York	339	Penserra Securities, New York	404
Fokus Bank, Trondheim	341	Pershing LLC, Jersey City	917
Goldman Sachs & Co, New York	33,001	Piper Jaffray & Co., Jersey City	2,619
Goldman Sachs Intl, London	1,853	Raymond James & Assoc Inc, St Petersburg	7,579
Instinet Australia Clearing Serv, Sydney	338	RBC Capital Markets LLC, New York	11,121
Instinet Clearing Ser Inc, New York	11,756	Redburn Partners LLP, London	2,114
Instinet Europe Limited, London	11,800	Sg Americas Securities LLC, New York	302
Instinet Pacific LTD, Hong Kong	5,675	Sidoti And Company LLC, New York	302



## SUMMARY OF COMMISSIONS

### SUMMARY OF COMMISSIONS PAID TO BROKERS

For the Fiscal Year Ended December 31, 2021

Broker Name	Commissions Paid	Broker Name	Commissions Paid
Stifel Nicolaus	5,736	Union Bank Of Switzerland, Zurich	1,808
Strategas Securities LLC, New York	53	Virtu Americas LLC, New York	380
Sturdivant And Co Inc, New York	486	Wells Fargo Securities, LLC, New York	5,778
Suntrust Capital Markets Inc, New York	325	William Blair & Co, Chicago	2,020
Ubs Ag London Branch, London	2,499		
Ubs Equities, London	2,675		
Ubs Securities LLC, Stamford	3,821		
Ubs Warburg Asia LTD, Hong Kong	11,014	<b>Total Brokerage Commissions Paid</b>	<b>\$462,705</b>



# Actuarial





*Via Electronic Mail*

March 17, 2023

Pennsylvania Municipal Retirement Board of the  
Pennsylvania Municipal Retirement System  
c/o Timothy A. Reese, Chief Executive Officer  
P.O. Box 1165  
Harrisburg, Pennsylvania 17108-1165

Dear Board Members:

The following tables from the annual Actuarial Valuation Report of the Pennsylvania Municipal Retirement System (the System) as of January 1, 2021 will be published in the end-of-year Annual Comprehensive Financial Report (ACFR). These tables were determined based on the results of the valuation as outlined in our actuarial valuation report. The figures and data disclosed in these tables, as presented in the actuarial valuation report, were provided by Cheiron.

1. Required Supplemental Information (detailed as “Note to Required Supplementary Information” in Section V of Actuarial Valuation Report)
2. Solvency Test which shows the portion of the Actuarial Liability covered by Assets
3. Funded Status of Actuarial Liabilities
4. Schedule of Retirees and Beneficiaries
5. Schedule of Total Membership by Status
6. Schedule of Total Membership and Salary
7. Schedule of Active Member Valuation Data (components of which are contained in Section V of Actuarial Valuation Report)
8. Actuarial Methods and Significant Assumptions (noted in the Actuarial Valuation Report Appendix B)

As provided in the Funded Status of Actuarial Liabilities table, the System, as of January 1, 2021, is 99.9% funded on an actuarial asset value basis. The funded ratio on a market value basis is 111.9%.

In addition, while Cheiron did not explicitly provide the exhibit outlining the required employer contributions provided in the ACFR, it is our understanding that this schedule was determined based on information Cheiron provides in the annual valuation reports. This includes the Normal Cost percentage and the employers’ anticipated payroll for each participating plan. It also includes the amortization payment calculated by the actuary or the over-funding credit required under Pennsylvania State Law, Act 205 of 1984. The composite figure is assembled by the agency’s staff and has not been reviewed by Cheiron.

Pennsylvania Municipal Retirement Board of the  
Pennsylvania Municipal Retirement System  
March 17, 2023  
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The Pennsylvania Municipal Retirement System is defined as an agent multiple-employer retirement system for participating municipalities and counties under Governmental Accounting Standards Board Statements No. 67 and 68. Assets and liabilities are separately accounted for and reported to the Department of the Auditor General of the Commonwealth of Pennsylvania. The table excerpts provided for the ACFR reflect aggregate valuation results for the System and provide statistics on employer contribution levels for the defined benefit portion of the municipal plans participating in the system as of the valuation date.

Updated actuarial assumptions used in preparing the individual municipal valuation results were reflected in the January 1, 2021 actuarial valuation based on the assumptions reviewed and adopted by the Board from the experience study issued by Cheiron in September 2020. This experience study was based on data covering the period from January 1, 2014 through December 31, 2018. The actuarial assumptions reflect the Board's understanding of the likely future experience of the System. The assumptions, both individually and in aggregate, represent the best estimate for the future experience of the System as of January 1, 2021. The investment return assumption for the 2021 actuarial valuation was based on the Board's adopted procedure to annually review and set the interest rate assumption.

These assumptions were analyzed in accordance with the Actuarial Standards of Practice No. 27 (Selection of Economic Assumptions for Measuring Pension Obligations) and No. 35 (Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations) to perform actuarial valuations for retirement systems. To the extent the laws of the Commonwealth of Pennsylvania and/or the administrative practices of the System differ from Actuarial Standards of Practice, we have identified such deviations within the Actuarial Assumptions and Methods Appendix of the actuarial valuation report.

No new methods were effective as of January 1, 2021 actuarial valuation. The actuarial methods were adopted effective January 1, 1985 unless otherwise indicated. The funding method applied provides for an annual normal cost as a level percent of pay and amortization of unfunded and/or surplus over a fixed period in accordance with provisions of Act 205.

The January 1, 2021 actuarial valuation report contains required disclosures for the entire System. Additional details required under the Governmental Accounting Standards Board Statement No. 67 have also been provided to the System. For the December 31, 2021 GASB 68 reports, there are no new assumption and method changes.

In preparing our report, we relied on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data by plan for all the traditional defined benefit plans and in aggregate for the cash balance plans for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23 (Data Quality).





# ACTUARY'S CERTIFICATION LETTER

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Pennsylvania Municipal Retirement Board of the  
Pennsylvania Municipal Retirement System  
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The results of our report are dependent on future experience conforming to these assumptions. To the extent that plan experience differs from that anticipated by the assumptions, there are changes in assumptions or plan provisions, or changes to applicable law, the true cost for each of the plans could vary from our results. Future valuation reports may differ significantly from the current results presented in this document due to such factors as: plan experience differing from that anticipated by the assumptions, changes in assumptions, and changes in plan provisions or applicable law.

Our report and its contents were prepared for PMRS for the purposes of the ACFR herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of our report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

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

Should you have any questions, please do not hesitate to contact us.

Sincerely,  
Cheiron



Karen Zangara, FSA, EA, MAAA  
Principal Consulting Actuary



Anthony Bucci, FCA, EA, MAAA  
Consulting Actuary



Bonnie Rightnour, FSA, EA, MAAA  
Principal Consulting Actuary

cc: Richard Cardamone, CPA  
Jonathan B. Chipko, Cheiron



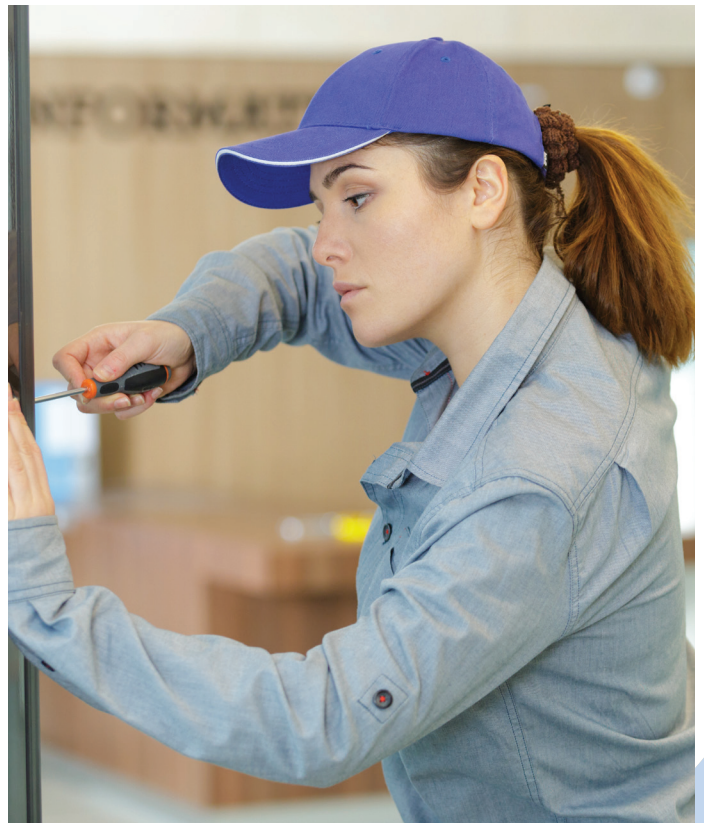
# ACTUARIAL SUPPLEMENTAL INFORMATION

## NOTE SUPPLEMENTARY INFORMATION

The information presented in the supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	January 1, 2020 – County Plans and Cash Balance (CB) Plans January 1, 2021 – Plans that are neither County nor CB plans
Measurement date	January 1, 2021
Actuarial cost method	Entry age normal
Amortization method	Level dollar for Plan Bases and average for Aggregate Gain/Loss, 10% of surplus is credited against aggregate cost where applicable
Actuarial assumption:	
Investment rate of return (*)	5.25%
Projected salary increases (*)	2.2% - 6.22%
(*) Includes inflation at	2.20%
Cost of living adjustments	Ad hoc

The actuarial assumptions used have been reviewed by the actuary and adopted by the PMRS' board based on the most recent review of PMRS' experience study for the period January 1, 2009 through December 31, 2013 completed in 2015 and the updated investment rate of return assumption of 5.25% as of January 1, 2017 based on the board's review of this assumption during 2015. In September 2020 an experience study was completed, and the board adopted new demographic and economic assumptions, excluding the interest rate assumption, effective with the January 1, 2021 valuation. The rate of employer contributions to PMRS is composed of the normal cost, amortization of the unfunded actuarial liability, and an allowance for administrative expenses. The normal cost is a level percent of payroll cost which, along with member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial liability (or surplus if funds exceed the liabilities). The allowance for administrative expenses is based on PMRS' actual administrative expenses.



# ACTUARIAL SUPPLEMENTAL INFORMATION

## SOLVENCY TEST

### Aggregate Accrued Liabilities

Valuation Date January 1,	Active Member Contributions <sup>1</sup>	Retirees, Beneficiaries & Vested Terminations	Active Member Employer Financed Contributions	Actuarial Value Of Assets <sup>2</sup>	Portion Of Accrued Liabilities Covered By Reported Assets		
					(1)	(2)	(3)
2021	\$494,275,157	\$1,495,048,974	\$841,964,053	\$2,827,402,985	100%	100%	100%
2020	485,374,472	1,315,859,327	800,247,415	2,631,849,434	100%	100%	104%
2019	474,930,885	1,258,545,895	786,667,534	2,528,939,742	100%	100%	101%
2018	460,805,568	1,175,715,217	764,391,135	2,404,498,404	100%	100%	100%
2017	451,613,188	1,114,835,472	754,316,724	2,270,278,691	100%	100%	93%
2016	435,834,498	999,866,637	715,640,331	2,153,625,821	100%	100%	100%

<sup>1</sup>This includes the sum of the active member employee contribution balances, the member separate annuity account balances, the municipal for member separate annuity account balances, and the excess interest allocations.

<sup>2</sup>The Actuarial Value of Assets (AVA) were determined based on the methodology outlined in PMRS Policy Statement 05-2. The 1/1/21 AVA was based on the reserves published by PMRS in the ACFR for the years ended December 31, 2020 and 2019, adjusted for \$67.8 million and \$6.5 million, respectively, that transferred from the Undistributed Earnings Reserve Account to the Retired Members' Account to fully fund the retiree reserve as required by opinion of legal counsel.

## FUNDED STATUS OF ACTUARIAL LIABILITIES

Valuation Date January 1,	Actuarial Value Of Assets <sup>1</sup>	Actuarial Liability (AL) Entry Age	Unfunded AL (Surplus)	Funded Ratio	Discount Rate
2021	\$2,827,402,985	\$2,831,288,184	\$3,885,199	99.90%	5.25%
2020	2,631,849,434	2,601,481,214	(30,368,220)	101.20%	5.25%
2019	2,528,939,742	2,520,144,314	(8,795,428)	100.40%	5.25%
2018	2,404,498,404	2,400,911,920	(3,586,484)	100.10%	5.25%
2017	2,270,278,691	2,320,765,384	50,486,693	97.80%	5.25%
2016	2,153,625,821	2,151,341,466	(2,284,355)	100.10%	5.50%

<sup>1</sup>The Actuarial Value of Assets (AVA) were determined based on the methodology outlined in PMRS Policy Statement 05-2. The 1/1/21 AVA was based on the reserves published by PMRS in the ACFR for the years ended December 31, 2020 and 2019, adjusted for \$67.8 million and \$6.5 million, respectively, that transferred from the Undistributed Earnings Reserve Account to the Retired Members' Account to fully fund the retiree reserve as required by opinion of legal counsel.

The actuarial assumptions as of January 1, 2021, are shown in the assumptions and methods section. The above information was derived from the following membership data and number of pension plans, as provided by PMRS regarding:

## VALUATION OF LIABILITIES

### Number of Plans

Valuation Date January 1,	Complete Valuation	Roll Forward	Cash Balance Plans
2021	720	4	327
2020	4	724	328
2019	719	4	323
2018	4	726	314
2017	718	4	311
2016	4	718	294

# ACTUARIAL SUPPLEMENTAL INFORMATION

## SCHEDULE OF RETIREES AND BENEFICIARIES

Added to and Removed from Rolls in Last Six Years

Valuation Date January 1,	Added To Roll	Average Annual Annuities Added	Average Annual Benefit Increase	Deleted From Roll	Average Annual Annuities Removed	Number On Roll	Annual Annuities	Percentage Increase In Annuities	Average Annual Annuities	Percentage Increase In Average Annual Annuities
2021	434	\$21,588	\$375	125	\$10,350	6,744	\$115,697,265	7.6%	\$17,156	2.7%
2020	381	19,656	528	135	11,392	6,435	107,504,808	6.0%	16,706	2.0%
2019	429	19,572	419	146	8,147	6,189	101,399,088	7.8%	16,384	2.9%
2018	383	18,912	575	176	9,325	5,906	94,073,168	6.5%	15,928	2.7%
2017	447	18,744	490	108	8,174	5,699	88,360,677	9.5%	15,505	2.9%
2016	339	18,888	161	87	18,915	5,360	80,729,221	6.3%	15,061	1.3%

## SCHEDULE OF TOTAL MEMBERSHIP BY STATUS

Six-Year Trend

Valuation date January 1,	Active members:				Deferred pension	Inactive members*	Total
	Defined Benefit	Cash Balance	Retirees	Beneficiaries			
2021	7,860	1,486	6,050	694	1,284	47	17,421
2020	7,970	1,502	5,781	654	1,205	47	17,159
2019	7,949	1,446	5,550	639	1,168	40	16,792
2018	7,868	1,387	5,307	599	1,090	35	16,286
2017	7,728	1,303	5,099	600	1,150	28	15,908
2016	7,698	1,274	4,784	576	1,173	7	15,512

\*Inactive members represent inactive non-vested participants with employee contribution account balances.



# ACTUARIAL SUPPLEMENTAL INFORMATION

## SCHEDULE OF TOTAL MEMBERSHIP AND SALARY<sup>1</sup>

As of January 1,

	2021	2020	2019	2018	2017	2016
a. Retirees currently receiving benefits	6,050	5,781	5,550	5,307	5,099	4,784
b. Beneficiaries currently receiving benefits	694	654	639	599	600	576
c. Terminated vested employees entitled to future benefits from Defined Benefit Plans	933	882	853	797	834	872
d. Terminated non-vested employees entitled to contribution refunds from Defined Benefit Plan	47	47	40	35	28	7
e. Active employees in defined benefit plans	7,860	7,970	7,949	7,868	7,728	7,698
i. Aggregate Salary <sup>2</sup>	\$476,970,336	\$465,906,342	\$455,352,355	\$434,554,380	\$422,621,214	\$394,133,120
ii. Vested <sup>3</sup>	4,281	4,388	4,470	4,553	4,573	4,676
iii. Non-vested	3,579	3,582	3,479	3,315	3,156	3,022
f. Non-Retired Participants in cash balance plans	1,837	1,825	1,761	1,680	1,619	1,575
i. Aggregate Salary	\$71,553,094	\$69,134,048	\$63,302,730	\$60,013,152	\$53,998,354	\$51,642,049
ii. Active	1,486	1,502	1,446	1,387	1,303	1,274
iii. Inactive	351	323	315	293	316	301

<sup>1</sup>Represents entire system

<sup>2</sup>Annualized salary paid during the prior plan year for traditional Defined Benefit plan participants and actual salary for active cash balance participants.

<sup>3</sup>Count of vested participants estimated based on service as of the valuation date.

# ACTUARIAL SUPPLEMENTAL INFORMATION

## SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Last Six Years

### DEFINED BENEFIT PLANS

Valuation Date January 1,	Number of Active Members	Percentage Change in Membership	Number of Participating Employers	Percentage Increase/ (Decrease) in Number of Participating Employers	Total Annual Payroll	Percentage Increase/ (Decrease) in Payroll	Average Annual Salary	Percentage Increase/ (Decrease) in Average Annual Salary
2021	7,860	-1.4%	724	-0.6%	\$476,970,336	2.4%	\$60,683	3.8%
2020	7,970	0.3%	728	0.7%	465,906,342	2.3%	58,458	2.0%
2019	7,949	1.0%	723	-1.0%	455,352,355	4.8%	57,285	3.7%
2018	7,868	1.8%	730	1.1%	434,554,380	2.8%	55,231	1.0%
2017	7,728	0.4%	722	0.0%	422,621,214	7.2%	54,687	6.8%
2016	7,698	1.5%	722	0.1%	394,133,120	2.6%	51,199	1.0%

### CASH BALANCE PLANS

Valuation Date January 1,	Number of Active Members	Percentage Change in Membership	Number of Participating Employers	Percentage Increase/ (Decrease) in Number of Participating Employers	Total Annual Payroll	Percentage Increase/ (Decrease) in Payroll	Average Annual Salary	Percentage Increase/ (Decrease) in Average Annual Salary
2021	1,486	-1.1%	328	0.0%	\$71,553,094	3.5%	\$48,151	4.6%
2020	1,502	3.9%	328	1.5%	69,134,048	9.2%	46,028	5.1%
2019	1,446	4.3%	323	2.9%	63,302,730	5.5%	43,778	1.2%
2018	1,387	6.4%	314	1.0%	60,013,152	11.1%	43,268	4.4%
2017	1,303	2.3%	311	5.8%	53,998,354	4.6%	41,442	2.2%
2016	1,274	4.9%	294	2.8%	51,642,049	8.6%	40,535	3.5%

## ACTUARIAL ASSUMPTIONS AND METHODS

The PMRS demographic actuarial assumptions were revised by the board effective January 1, 2021. The Regular Interest Rate (investment return assumption) was approved by the board effective November 21, 2019. The assumptions are as follows:

### A. Healthy Life Mortality Rates:

The mortality assumption, inclusive of the projected mortality improvements, was selected as a reasonable representation of the ultimate projected payout of benefits from the plan using nationally available mortality tables as well as data provided by PMRS.

#### Rates of Pre-Retirement Mortality

Males: PUB-2010 General Employees male table

Females: PUB-2010 General Employees female table

Type of Death:

(a) 20% of pre-retirement deaths are assumed to be service related for municipal plans, and

(b) 70% of pre-retirement deaths are assumed to be service related for uniform plans.

#### Rates of Post-Retirement Mortality

Males: RP-2006 annuitant male table

Females: RP-2006 annuitant female table

#### Disabled Life Mortality Rates

Males: RP-2006 disabled annuitant male table

Females: RP-2006 disabled annuitant female table

#### Mortality Improvement

All base mortality tables described above are projected from the applicable table's base year

# ACTUARIAL SUPPLEMENTAL INFORMATION

to 2023 using Mortality Improvement Scale MP-2018

## B. Termination Rates Before Retirement

Rates based on the number of active members in the pension plan, years of service, and the type of plan participants (non-uniform or uniform).

TERMINATION RATES BEFORE RETIREMENT				
MUNICIPAL PARTICIPANTS (NON-UNIFORM)			UNIFORMED PARTICIPANTS	
Years of Service	Number of Active Members in Plan		Years of Service	Rate
	<25	25+		
LESS THAN 1	11.0%	12.0%		
1	11.0%	12.0%		
2	10.0%	11.0%		
3	9.0%	10.0%		
			LESS THAN 4	10.0%
4	8.0%	9.0%	5	5.0%
5	7.0%	7.5%	6	4.0%
6	8.0%	7.5%	7	4.0%
7	6.0%	7.0%	8	4.0%
8	5.0%	6.0%	9	3.0%
9	4.0%	5.0%	10+	3.0%
10+	3.0%	3.5%		

## C. Disability Incident Rates

50% of the 2017 CalPERS Public Miscellaneous Group disability rates for males. Sample rates are:

DISABILITY INCIDENCE RATES	
Age	Rate
25	0.0085%
35	0.0245%
45	0.0955%
55	0.1105%
65	0.1050%

Type of Disability:

(a) 20% of disablements are assumed to be service related for municipal plans, and

(b) 70% of disablements are assumed to be service related for uniform plans.

## D. Workers Compensation

Service-related disability benefits payable from municipal plans are offset by 25% of final average salary.

## E. Salary Scale

Six-year select and ultimate rates include 2.2% inflation and age-related scale for merit/seniority based on sample rates as shown below. For 2021 and 2022, merit-based increases are assumed to be 0%.

SALARY RATES	
Age	Total Rate <sup>1</sup> (Including Inflation)
25	6.22%
30	5.16%
35	4.49%
40	4.14%
45	3.82%
50	3.55%
55	3.28%
60	3.11%
65	2.79%

<sup>1</sup>Add 3% for each of the first two years of service, 2% for years three and four, and 1% for years five and six

## F. Rates of Retirement

Members are assumed to retire over a range of ages. No early retirement is assumed. Specific assumptions



# ACTUARIAL SUPPLEMENTAL INFORMATION

regarding retirement age are:

## 1) Municipal Members:

a. Members are assumed to retire over a range of ages as shown below.

RETIREMENT RATES FOR MUNICIPAL MEMBERS (NON-UNIFORM)	
Age	Current Rate Of Normal Retirement <sup>1</sup>
<55	33%
55	30%
56-57	12%
58-59	14%
60	18%
61	10%
62	20%
63	18%
64	15%
65-67	25%
68-70	20%
71-73	22%
74	20%
75	100%

<sup>1</sup>Rates indicated are adjusted by adding 10% for ages 61-63 and 5% for ages 64-70 for the year in which the member is first eligible for normal retirement.

## 2) Uniformed Members:

a. Retirement rates are reflected in the chart below.

RETIREMENT RATES FOR UNIFORMED MEMBERS	
Age	Current Rate Of Normal Retirement
<49	0%
50	25%
51-53	10%
54-55	15%
56-58	17%
59-60	15%
61	20%
62	28%
63	22%
64	25%
65	35%
66	30%
67+	100%

For any members participating in a Deferred Retirement Option Program (DROP), the participant's date of entry into the DROP is considered the retirement date.

## G. Deferred Retirement Option Program (DROP) or In-Service Distribution Plan:

For plans with these options, at Participant's Normal Retirement Age, retirement rate multiplied by the following factors:

- (a) Uniform: 130%
- (b) Non-uniform: 115%

## H. Marital State and Spouse's Age<sup>1</sup>:

85%/65% of active male/female members are assumed to be married at time of retirement with the 50% Joint and Survivor form of payment. Male spouses are assumed to be three years older than female spouses.

## I. Social Security Projections<sup>1</sup>:

- 1) The Social Security Taxable Wage Base will increase by 2.7% compounded annually;
- 2) The Consumer Price Index will increase by 2.2% compounded annually;
- 3) The Average Total Wages of All Workers will increase by 2.7% compounded annually.

## J. Post-Retirement Cost-of-Living Increases<sup>1</sup>:

Cost-of-living increases are assumed to be 2.2% per year, subject to plan limitations.

## K. Investment Return Assumption:

Investment returns are assumed to be 5.25% compounded annually (net of investment and certain administrative expenses) for funding purposes.

## L. Administrative Expenses

**System wide Actuarial Value of Assets:** The expense assumption is based on the previous year's actual expenses.

**Municipalities:** The expense assumption is based on the expected expenses for the current year, as reported on the Act 205 forms.

**Rationale for Assumptions:** An experience study is completed every five years for PMRS. The assumptions outlined above were reviewed and adopted by the board based on the most recent experience study for the period covering January 1, 2014 – December 31, 2018 and the board's review of the regular interest rate in 2019.

<sup>1</sup> If applicable.



# ACTUARIAL SUPPLEMENTAL INFORMATION

## ACTUARIAL METHODS

Contribution requirements are individually determined for each participating municipality, on an actuarial basis as described below in the Funding of the Unfunded Actuarial Liability section, at least biennially. The frequency of the actuarial valuation is determined by applicable commonwealth statute (Act 205 of 1984 and Act 293 of 1972). The following actuarial methods were adopted effective January 1, 1985, unless indicated otherwise.

## ACTUARIAL VALUE OF ASSETS<sup>2</sup>

PMRS' Actuarial Value of Assets equal the sum of all audited reserve accounts as of the valuation date, including Member, Municipal, Retired, Disability, and DROP Reserves, and a one-year administration expense reserve, plus the portion of any additional investment income to be distributed as "excess interest," based on the PMRS Policy Statement 05-2.

The actuarial value can never be less than 90% of fair market value.

Each year, municipalities may receive an excess interest allocation derived as a portion of new surplus created during the prior year based on the current financial standing of PMRS. "Surplus" refers to the excess of fair market value over the actuarial value of assets. Once the preliminary actuarial value of assets has been determined, a formula is used to allocate the new surplus. Generally, depending on the relative size of surplus to fair market value, between 10% and 90% of the new surplus may become excess interest.

The Actuarial Value of Assets are set equal to reserves under PMRS based on the unique legislative structure of PMRS, which are increased annually at a rate agreed on by the board named "Regular Interest" as defined under the Pennsylvania Municipal Retirement Law. Therefore, these assets do not necessarily relate directly or indirectly with the current market value of assets as required under Actuarial Standard of Practice Statement No. 44 which states under Section 3.3:

*"...the actuary should select an asset valuation method that is designed to produce actuarial values of assets that bear a reasonable relationship to the corresponding market values. The qualities of such an asset valuation method include the following:*

*a. The asset valuation method is likely to produce actuarial values of assets that are sometimes greater than and sometimes less than the corresponding market values.*

*b. The asset valuation method is likely to produce*

*actuarial values of assets that, in the actuary's professional judgment, satisfy both of the following:*

*1. The asset values fall within a reasonable range around the corresponding market values. For example, there might be a corridor centered at market value, outside of which the actuarial value of assets may not fall, in order to assure that the difference from market value is not greater than the actuary deems reasonable.*

*2. Any differences between the actuarial value of assets and the market value are recognized within a reasonable period of time. For example, the actuary might use a method where the actuarial value of assets converges toward market value at a pace that the actuary deems reasonable, if the investment return assumption is realized in future periods.*

*In lieu of satisfying both (1) and (2) above, an asset valuation method could satisfy section 3.3(b) if, in the actuary's professional judgment, the asset valuation method either (i) produces values within a sufficiently narrow range around market value or (ii) recognizes differences from market value in a sufficiently short period."*

The administrative rules adopted by the board in conjunction with the Pennsylvania Municipal Retirement Law, which are not subject to comply with Actuarial Standards of Practice (ASOP), when defining the Actuarial Value of Assets, does not necessarily meet the requirement of ASOP 44 Selection and Use of Asset Valuation Methods for Pension Valuations. The Actuarial Value of Assets provided within this report follow the Pennsylvania Municipal Retirement System Law and PMRS policy statement.

## ACTUARIAL COST METHOD

The Entry Age Normal Actuarial Cost Method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of hire and assumed retirement. Entry age is defined as attained age less credited service. The normal cost is based on taking the value, as of entry age into the plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future salary producing a normal cost rate as a percent of salary. The normal cost rate is multiplied by current salary to determine each member's normal cost. If a plan provides for a Separate Member Annuity through required member contributions, this contribution rate is then added to the total normal cost rate to determine the final total normal cost rate. Within the Minimum Municipal

<sup>2</sup> The Actuarial Value of Assets (AVA) were determined based on the methodology outlined in PMRS Policy Statement 05-2. The 1/1/21 AVA was based on the reserves published by PMRS in the ACFR for the years ended December 31, 2020 and 2019, adjusted for \$67.8 million and \$6.5 million, respectively, that transferred from the Undistributed Earnings Reserve Account to the Retired Members' Account to fully fund the retiree reserve as required by opinion of legal counsel.

## ACTUARIAL SUPPLEMENTAL INFORMATION

Obligation calculation, the normal cost is reduced by the member contribution to produce the employer normal cost to be paid.

The actuarial liability is the difference between the present value of future benefits and the present value of future normal cost. The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets.

### FUNDING OF THE UNFUNDED ACTUARIAL LIABILITY

Actuarial gains (or losses), including the effect of contributions greater or lesser than the previously determined actuarial level, are reflected by decreases (or increases) in the unfunded actuarial liability. Under Act 205 of 1984, and updated by Act 44, the unfunded actuarial liability for each plan is amortized as a level dollar amount over the lesser of:

- 1) (i) 30 years, with respect to the initial liability as of 1/1/85 (or first valuation);
  - (ii) 20 years, with respect to actuarial gains and losses;
  - (iii) 15 years, with respect to changes due to actuarial assumptions;
  - (iv) 20 years, with respect to changes due to plan provisions (if state mandated);
  - (v) 10 years, with respect to changes in benefits for currently active members and 1 year for retired members (if local benefit changes); or
- 2) The average assumed working lifetime of active employees as of the date the liability was established. If there are no active employees, the unfunded liability is amortized one year after the liability was established.

With the two exceptions that follow, the funding method is applied individually with respect to each municipality:

- 1) Retired and disabled members are paid monthly benefits from PMRS' Retired Reserve account, which at the time of retirement receives a transfer from the municipal and member accounts in an amount actuarially determined to be sufficient to pay all future benefits for the member (and, if applicable, a surviving beneficiary). Thus, post-retirement experience is pooled with PMRS.
- 2) A disabled member's pension is met in part from the amount that can be provided by the value of that portion of the member's accrued benefit attributable to municipal contributions, with the balance of the pension being provided by the appropriate transfer from the Disability Reserve Account. The amount of annual transfer from the accumulated municipal contributions to the Disability Reserve Account is determined on the one-year term cost

basis, i.e., the expected cost of disabilities in the coming year.

If a plan is in a surplus position, then 10% of the surplus is credited against the aggregate cost of the plan.

### METHOD TO ESTIMATE ROLL FORWARD LIABILITIES

The non-county defined benefit pension plans are explicitly valued every odd calendar year. The county defined benefit pension plans are valued explicitly every even calendar year. Cash balance plans are valued every year. The liabilities for all participants in pay status are explicitly valued every year.

In the off-valuation year, defined benefit plan liabilities are rolled forward using actual benefit payments and reflecting new retirements. These liabilities reflect any material changes that may have occurred since the prior actuarial valuation, such as new actuarial assumptions and material plan provision changes. The rolled forward active and deferred vested liabilities are proportionally adjusted based on the prior year liabilities net of in pay status liabilities.

### CHANGES IN ACTUARIAL ASSUMPTIONS AND METHODS

Total Pension Liabilities reported in the December 31, 2021 GASB 68 reports are based on the following:

- 1) Municipal plans (non-county) and cash balance plans will be based on the liabilities determined as of the January 1, 2021 actuarial valuation date rolled forward to the measurement date (December 31, 2021).
- 2) County plans will be based on the liabilities determined as of the January 1, 2022 actuarial valuation date.





**Statistical**



The objectives of the statistical section are to provide additional historical perspective, context, and relevant details to assist readers in using the information in the financial statements, notes to the financial statements, and required supplementary information to understand and assess PMRS' overall financial condition. GASB Statement No. 44, *Economic Condition Reporting*:

The Statistical Section establishes standardized reporting requirements relative to the supplementary information provided in this section.

The graphs and schedules beginning on page 74 provide information relative to financial trends. The graphs and schedules provide detailed information about PMRS' net position and how it has changed over time.

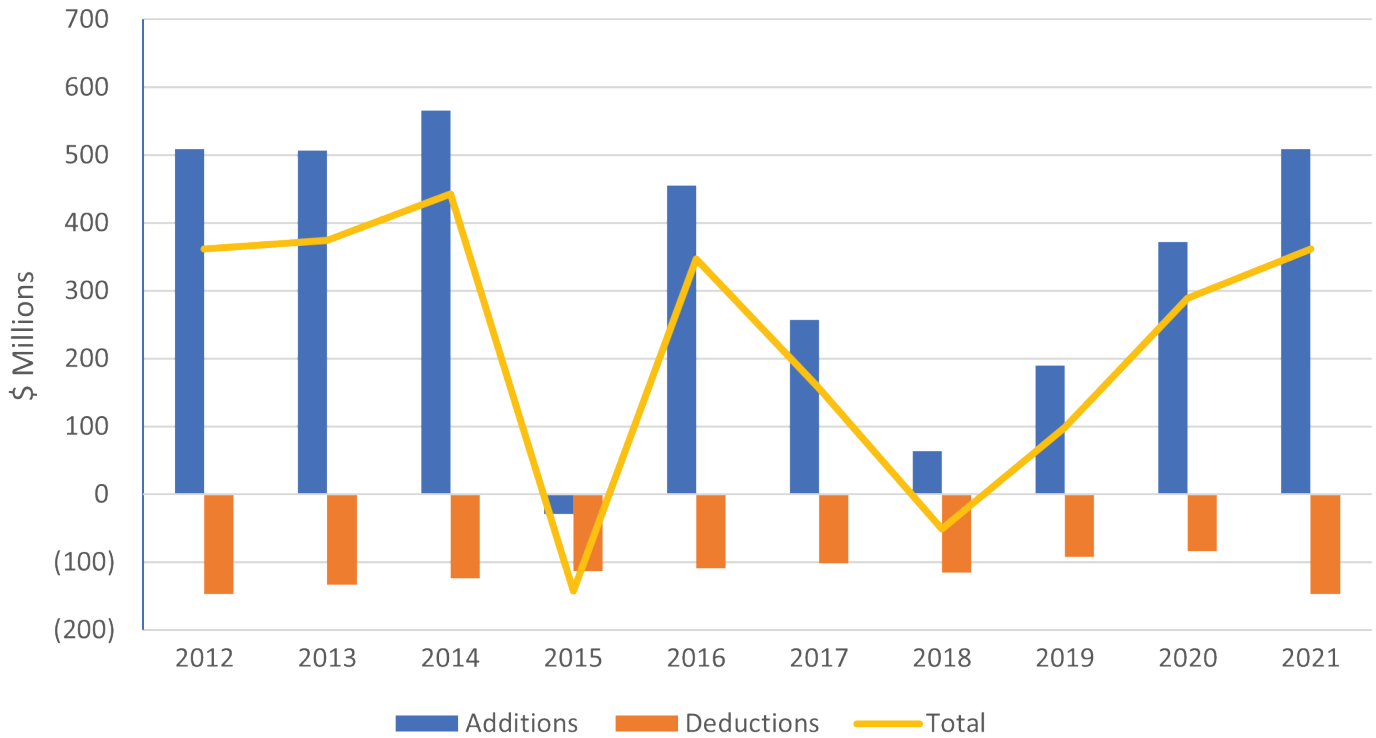
The graphs and schedules beginning on page 78 provide information relative to membership. The graphs and schedules reflect changes in active and retired members of PMRS. The information is intended to provide contextual information about PMRS' membership and framework for the ratio of funding versus obligations. The schedules beginning on page 84 provide information relative to pension payments and pensions awarded. The information is intended to provide contextual information about the payment trends of PMRS.



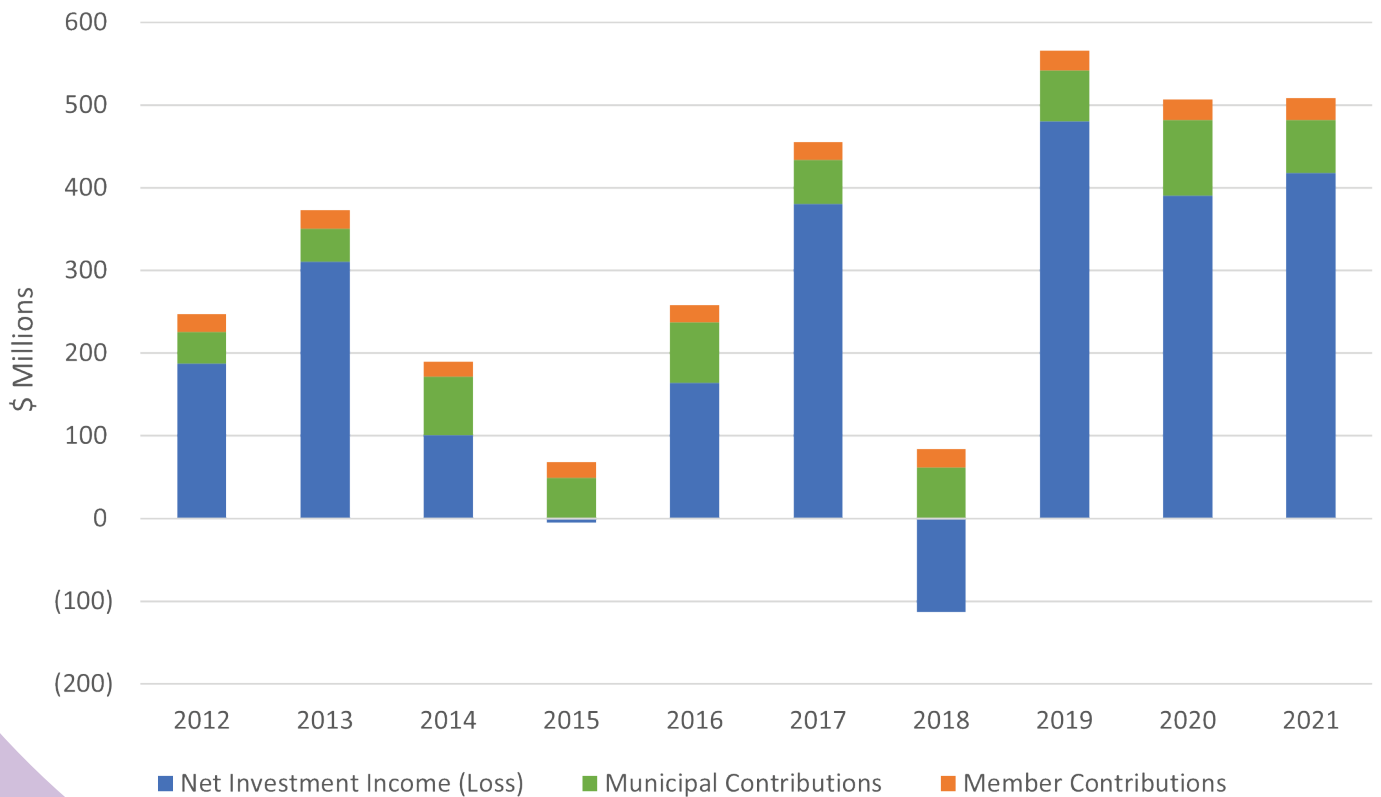


# PART 1: FINANCIAL

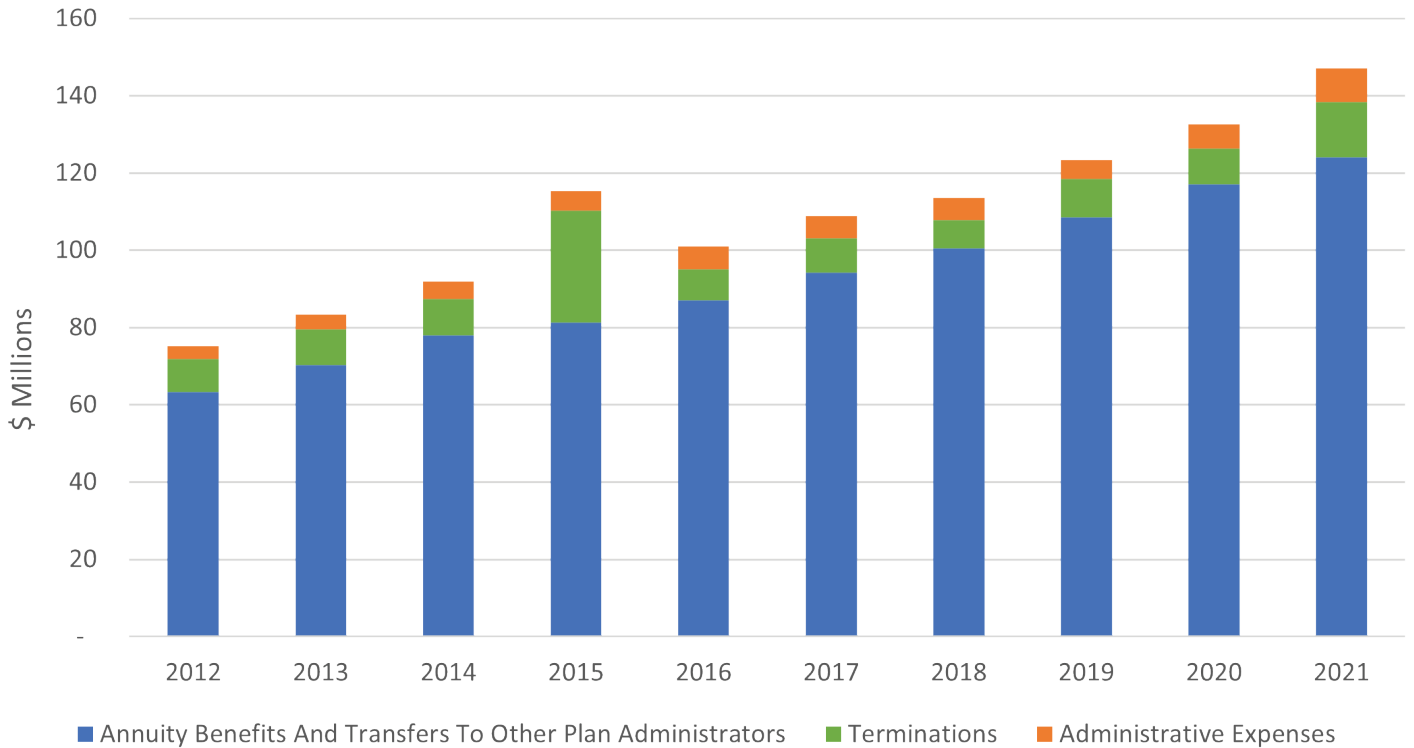
## RESULTS OF OPERATIONS 10-year Trend



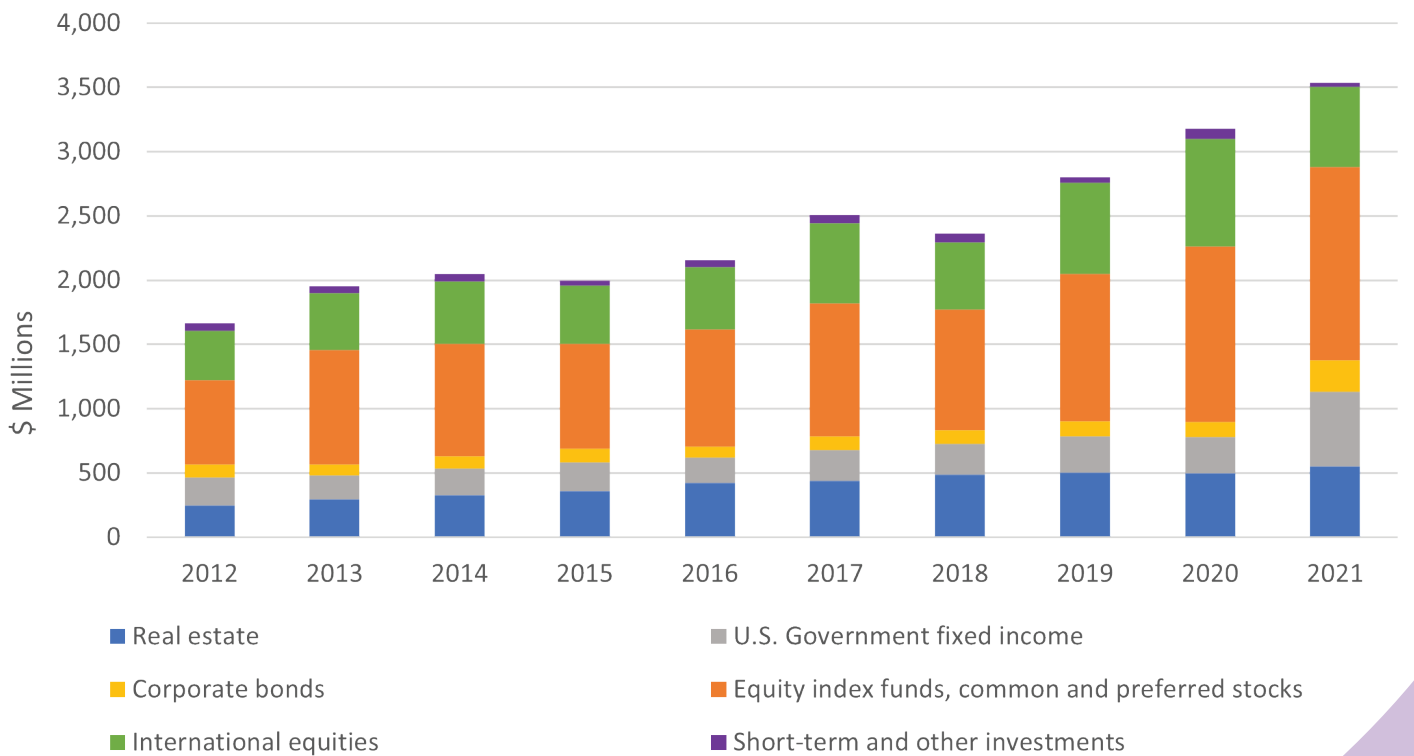
## ADDITIONS TO FIDUCIARY NET POSITION 10-Year Trend



**DEDUCTIONS FROM FIDUCIARY NET POSITION  
10-Year Trend**



**INVESTMENTS BY TYPE  
10-Year Trend**



## PART 1: FINANCIAL

### CHANGES IN FIDUCIARY NET POSITION

10-Year Trend

Year	Contributions	Net Investment Income (Loss) And Miscellaneous Income	Annuity Benefits And Terminations And Transfers To Other Plan Administrators	Administrative Expenses	Change In Fiduciary Net Position
2021	\$91,142,190	\$417,791,414	\$138,304,329	\$8,737,064	\$361,892,211
2020	116,632,667	390,643,231	126,343,576	6,301,742	374,630,580
2019	85,683,337	480,282,330	118,409,245	4,867,058	442,689,364
2018	84,554,720	(113,220,485)	107,803,587	5,770,601	(142,239,953)
2017	75,412,160	380,140,930	103,077,938	5,498,575	346,976,577
2016	93,999,086	379,933,759	95,013,418	5,834,448	373,084,979
2015	68,740,888	163,735,825	110,303,677	4,983,399	117,189,637
2014	89,762,417	100,453,558	87,436,751	4,411,462	98,367,762
2013	61,092,399	310,197,575	78,245,253	3,723,590	289,321,131
2012	59,253,955	187,755,253	71,827,710	3,424,363	171,757,135

### ADDITIONS TO FIDUCIARY NET POSITION

10-Year Trend

Year	Member Contributions	Municipal Contributions And Transfers From Other Plan Administrators <sup>1</sup>	Municipal Assessments <sup>2</sup>	Net Investment Income (Loss) And Miscellaneous Income	Additions To Fiduciary Net Position, Net Of Investment Losses
2021	\$26,573,783	\$64,316,462 <sup>3</sup>	\$251,945	\$417,791,414	\$508,933,604
2020	25,199,715	91,184,063 <sup>4</sup>	248,889	390,643,231	507,275,898
2019	24,332,531	60,994,306 <sup>5</sup>	356,500	480,282,330	565,965,667
2018	23,008,066	61,288,746 <sup>6</sup>	257,908	(113,220,485)	(28,665,765)
2017	21,717,564	53,446,315	248,281	379,933,759	455,345,919
2016	20,776,539	72,995,245 <sup>7</sup>	227,302	163,735,825	257,734,911
2015	19,472,225	49,062,549	206,114	(4,943,521)	63,797,367
2014	18,441,437	71,157,740 <sup>8</sup>	163,240	100,453,558	190,215,975
2013	22,416,432	38,493,407	182,560	310,197,575	371,289,974
2012	20,981,612	37,974,023	298,320	187,755,253	247,009,208

<sup>1</sup>Contributions were made in accordance with actuarially determined contribution requirements.

<sup>2</sup>Municipal assessments are receipts but not assets of the plans.

<sup>3</sup>Municipal contributions for 2021 include additional contributions towards unfunded liability of \$2.1 million and transfers from other plan administrators of \$1.9 million.

<sup>4</sup>Municipal contributions for 2020 include additional contributions towards unfunded liability of \$2.1 million and transfers from other plan administrators of \$31.9 million.

<sup>5</sup>Municipal contributions for 2019 include transfers from other plan administrators of \$4.7 million.

<sup>6</sup>Municipal contributions for 2018 include additional contributions towards unfunded liability of \$8.6 million.

<sup>7</sup>Municipal contributions for 2016 include transfers from other plan administrators of \$21.4 million.

<sup>8</sup>Municipal contributions for 2014 include a one-time payment for one municipality towards its unfunded liability.

**DEDUCTIONS FROM FIDUCIARY NET POSITION**

10-Year Trend

Year	Benefits and Refunds		Administrative Expenses	Deductions From Fiduciary Net Position
	Annuity	Refunds		
2021	\$122,150,117	\$16,154,212	\$8,737,064	\$147,041,393
2020	114,291,794	12,051,782	6,301,742	132,645,318
2019	108,465,916	9,943,329	4,867,058	123,276,303
2018	100,465,963	7,337,624	5,770,601	113,574,188
2017	94,172,167	8,905,771	5,498,575	108,576,513
2016	87,046,730	7,966,688	5,834,448	100,847,866
2015	81,299,398	29,004,279	4,983,399	115,287,076
2014	78,046,330	9,390,421	4,411,462	91,848,213
2013	68,901,058	9,344,195	3,723,590	81,968,843
2012	63,390,100	8,437,610	3,424,363	75,252,073

**SCHEDULE OF BENEFIT DEDUCTIONS FROM FIDUCIARY NET POSITION**

10-Year Trend

Year	Annuity Benefit by Type							Total Annuity
	Normal	Early	Disability	Survivor	Death	Drop	Transfer And Other	
2021	\$74,539,451	\$33,421,882	\$1,842,404	\$9,222,971	\$1,090,143	\$509,751	\$1,523,515	\$122,150,117
2020 <sup>1</sup>	66,892,692	33,990,328	1,514,134	8,430,889	959,791	773,643	1,730,317	114,291,794
2019	86,559,982	9,085,439	1,569,152	8,022,306	2,860,130	368,908	-	108,465,916
2018	82,214,203	7,545,194	1,498,518	5,728,724	2,456,344	1,022,980	-	100,465,963
2017	76,325,433	7,925,396	1,534,891	5,014,321	2,733,583	638,543	-	94,172,167
2016	70,441,634	7,998,536	983,325	4,477,493	2,742,076	403,666	-	87,046,730
2015	64,508,631	8,698,618	1,036,807	3,900,315	2,614,938	460,751	79,338	81,299,398
2014	58,291,738	8,769,947	1,362,544	5,569,629	3,234,667	146,215	671,590	78,046,330
2013	52,063,381	8,156,170	1,722,313	5,243,882	1,637,485	68,795	9,032	68,901,058
2012	47,951,194	7,545,724	1,347,255	4,848,070	1,678,836	-	19,021	63,390,100

<sup>1</sup>The increase in the 2020 early category of payments is due to changes in the pension administration system (CPAS) recognition of categories. CPAS 5.8 identifies the category of payment as "early" for those annuitant retiring early with no benefit reductions. CPAS 5.3 classified this group as normal.

**SCHEDULE OF REFUND DEDUCTIONS FROM FIDUCIARY NET POSITION BY TYPE**

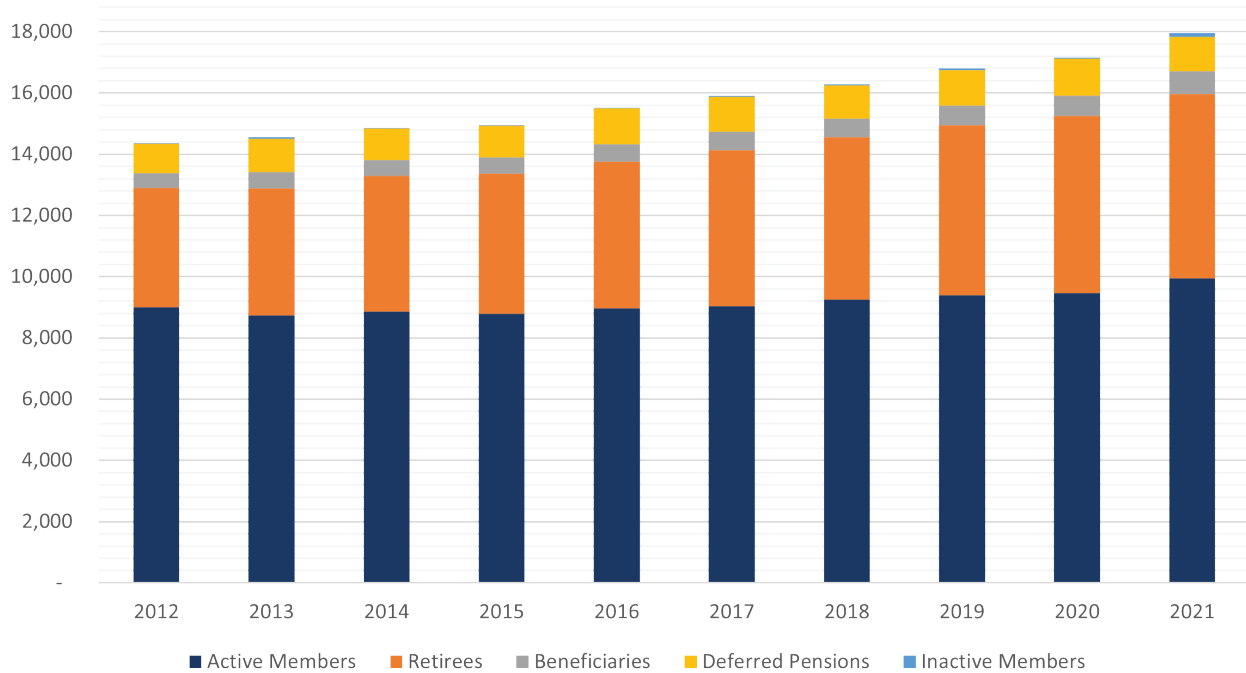
10-Year Trend

Year	Refunds by Type		Total Refunds
	Terminations	Lump Sum	
2021	\$2,840,063	\$13,314,149	\$16,154,212
2020	3,978,743	8,073,039	12,051,782
2019	3,513,448	6,429,881	9,943,329
2018	2,869,673	4,467,951	7,337,624
2017	2,424,733	6,481,038	8,905,771
2016	2,757,092	5,209,596	7,966,688
2015	2,838,347	26,165,932	29,004,279
2014	4,788,017	4,602,404	9,390,421
2013	2,449,964	6,894,231	9,344,195
2012	3,908,772	4,528,838	8,437,610



## PART 2: MEMBERSHIP

### TOTAL MEMBERSHIP 10-Year Trend (as of January 1)



### SCHEDULE OF TOTAL MEMBERSHIP

#### 10-Year Trend

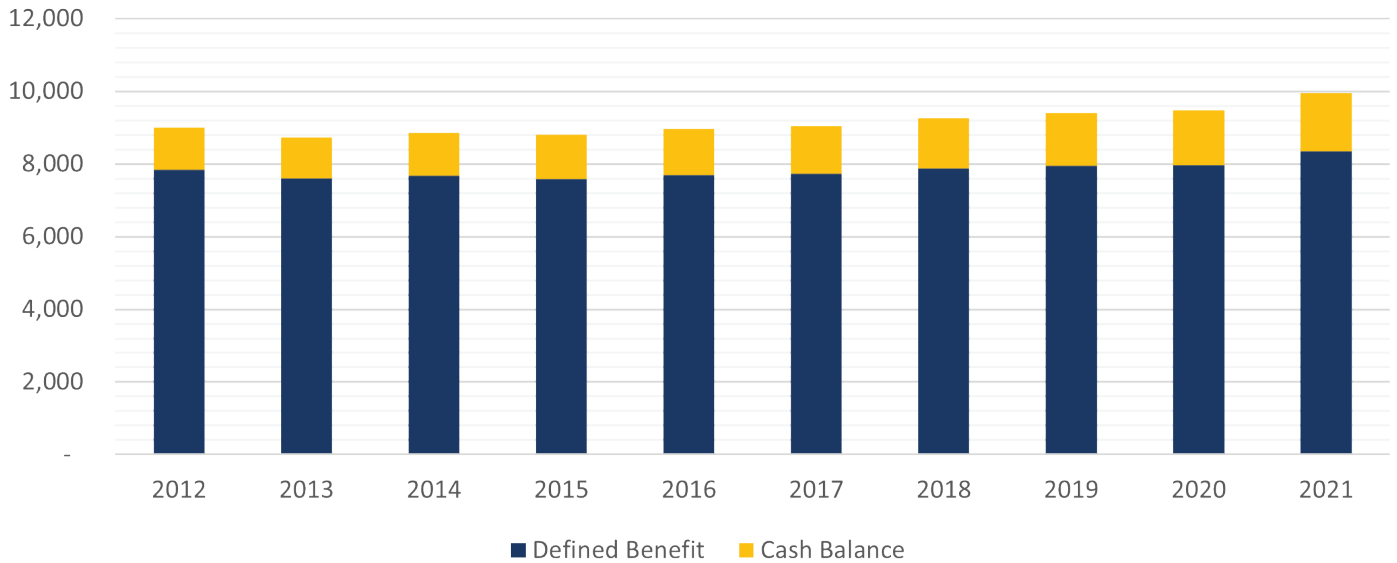
#### Active Members

Valuation Day January 1,	Defined Benefit	Cash Balance	Retirees	Beneficiaries	Deferred Pensions <sup>(1)</sup>	Inactive Members <sup>(2)</sup>	Total
2021	7,860	1,486	6,050	694	1,284	47	17,421
2020	7,970	1,502	5,781	654	1,205	47	17,159
2019	7,949	1,446	5,550	639	1,168	40	16,792
2018	7,868	1,387	5,307	599	1,090	35	16,286
2017	7,728	1,303	5,099	600	1,150	28	15,908
2016	7,698	1,274	4,784	576	1,173	7	15,512
2015	7,580	1,214	4,566	542	1,027	8	14,937
2014	7,676	1,185	4,423	520	1,044	14	14,862
2013	7,599	1,131	4,160	520	1,098	51	14,559
2012	7,836	1,158	3,899	495	952	21	14,361

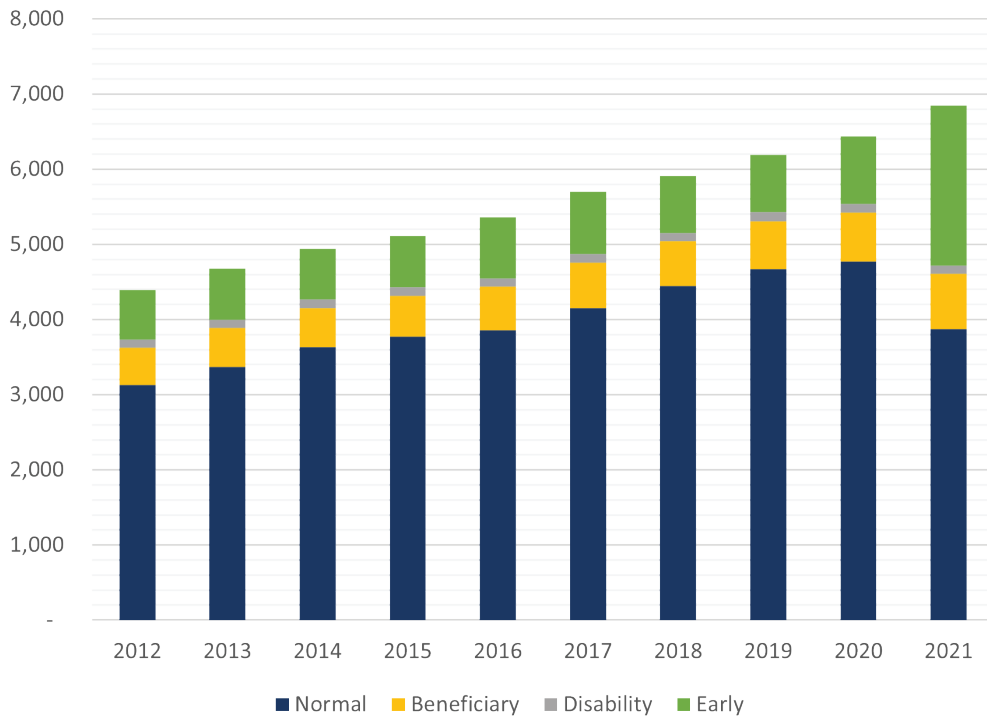
<sup>1</sup>Inactive participants with rights to deferred pension (vested).

<sup>2</sup>Inactive participants with rights to return of contributions (non-vested).

**ACTIVE MEMBERS BY PLAN TYPE**  
**10-Year Trend**  
 (as of January 1)



**RETIRED MEMBERS BY TYPE**  
**10-YEAR TREND**  
 (as of January 1)



## PART 2: MEMBERSHIP

### DISTRIBUTION OF ACTIVE MEMBERS

Counts by Age/Service  
as of January 1, 2021

Years of Service

Age	1 Year or less	1 to 2	2 to 3	3 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 & Up	Total
Under 20	5	4	0	0	0	0	0	0	0	0	9
20 - 24	120	80	44	27	5	0	0	0	0	0	276
25 - 29	142	143	119	165	104	1	0	0	0	0	674
30 - 34	126	126	137	149	246	62	3	0	0	0	849
35 - 39	89	99	95	144	254	174	51	4	0	0	910
40 - 44	83	106	77	118	198	170	191	55	2	0	1,000
45 - 49	62	77	75	115	202	157	186	144	54	4	1,076
50 - 54	79	81	86	128	217	186	195	186	132	75	1,365
55 - 59	53	63	66	119	219	180	201	184	138	222	1,445
60 - 64	40	39	53	86	187	170	167	149	99	234	1,224
65 & up	10	16	18	43	62	70	84	71	44	100	518
<b>Total</b>	<b>809</b>	<b>834</b>	<b>770</b>	<b>1,094</b>	<b>1,694</b>	<b>1,170</b>	<b>1,078</b>	<b>793</b>	<b>469</b>	<b>635</b>	<b>9,346</b>

### DISTRIBUTION OF ACTIVE MEMBERS

Average Salary by Age/Service  
as of January 1, 2021

Years of Service

Age	1 Year or less	1 to 2	2 to 3	3 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 & Up	Average
Under 20	\$23,293	\$33,270	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$27,727
20 - 24	35,541	44,254	46,717	48,784	83,464	-	-	-	-	-	42,012
25 - 29	40,982	48,563	51,592	53,246	57,668	62,140	-	-	-	-	50,072
30 - 34	41,539	49,998	51,418	57,671	62,745	59,600	52,387	-	-	-	54,721
35 - 39	45,758	47,679	56,452	56,090	63,505	68,935	71,350	98,681	-	-	59,770
40 - 44	39,565	47,952	53,294	55,376	60,172	66,762	74,015	72,262	60,016	-	60,500
45 - 49	43,271	48,514	54,959	56,466	59,218	65,336	71,721	78,438	74,145	78,868	63,391
50 - 54	38,288	50,114	50,746	52,580	55,898	59,105	67,310	69,374	75,313	78,888	60,944
55 - 59	38,372	53,031	46,535	54,820	57,048	60,640	62,216	64,303	68,280	74,313	61,339
60 - 64	35,292	47,323	51,324	56,307	58,089	54,507	58,144	63,224	65,851	65,748	58,822
65 & up	36,859	42,969	54,982	52,429	57,101	55,106	59,582	52,153	60,666	64,758	57,048
<b>Average</b>	<b>\$39,941</b>	<b>\$48,429</b>	<b>\$51,913</b>	<b>\$54,983</b>	<b>\$59,553</b>	<b>\$61,873</b>	<b>\$66,437</b>	<b>\$67,513</b>	<b>\$69,672</b>	<b>\$70,221</b>	<b>\$58,691</b>

## PART 2: MEMBERSHIP

### PENSIONS IN PAYMENT

By Monthly Amount and Type  
as of January 1, 2021

Monthly Amount	Type Of Pension					Total
	Normal	Involuntary Early	Voluntary Early	Service Disability	Non- Service Disability	
Under \$100	\$253	\$20	\$18	\$1	\$1	\$293
\$100 - \$199	297	29	34	1	-	361
200 - 299	285	27	36	-	-	348
300 - 399	275	24	33	4	2	338
400 - 499	291	24	32	1	2	350
500 - 599	274	9	36	2	6	327
600 - 699	221	15	35	3	-	274
700 - 799	239	14	35	1	4	293
800 - 899	233	10	34	1	9	287
900 - 999	206	8	30	5	9	258
1000 - 1199	443	16	69	6	13	547
1200 - 1399	323	9	60	6	6	404
1400 - 1599	316	5	39	9	5	374
1600 - 1799	248	5	29	1	2	285
1800 - 1999	234	3	33	5	2	277
2000 - 2199	213	3	19	2	3	240
2200 - 2399	198	4	23	2	-	227
2400 - 2599	155	-	17	1	1	174
2600 - 2799	146	-	13	2	2	163
2800 - 2999	111	-	6	-	1	118
3000 - 3499	279	1	15	1	1	297
3500 - 3999	195	-	10	-	-	205
4000 and over	294	-	10	-	-	304
<b>Total</b>	<b>\$5,729</b>	<b>\$226</b>	<b>\$666</b>	<b>\$54</b>	<b>\$69</b>	<b>\$6,744</b>



## PART 2: MEMBERSHIP

### PENSIONS AWARDED BY TYPE AND AMOUNT

10-Year Trend

Valuation Day January 1,	Normal		Voluntary Early		Involuntary Early		Disability		Total	
	Count	Average Monthly Amount	Count	Average Monthly Amount	Count	Average Monthly Amount	Count*	Average Monthly Amount	Count	Average Monthly Amount
2021	406	\$1,797	1	\$2,312	22	\$1,790	5 (3)	\$1,931	434	\$1,799
2020	341	\$1,644	8	\$781	27	\$1,887	5 (5)	\$1,247	381	\$1,638
2019	382	\$1,651	9	\$963	33	\$1,475	5 (4)	\$2,277	429	\$1,631
2018	342	\$1,616	29	\$1,350	8	\$822	4 (1)	\$1,311	383	\$1,576
2017	397	\$1,600	28	\$1,428	11	\$627	11 (3)	\$1,485	447	\$1,562
2016	309	\$1,593	22	\$1,569	4	\$562	4 (2)	\$1,113	339	\$1,574
2015	341	\$1,524	29	\$1,575	14	\$825	8 (2)	\$1,022	392	\$1,492
2014	364	\$1,800	34	\$1,280	17	\$905	16 (2)	\$1,319	431	\$1,706
2013	341	\$1,421	22	\$1,614	20	\$520	7 (2)	\$709	390	\$1,370
2012	352	\$1,496	40	\$1,180	37	\$459	9 (3)	\$888	438	\$1,367

\*Number of service-related disability pensions shown in parentheses



### SCHEDULE OF ACTIVE MEMBER VALUATION DATA

#### 10-Year Trend

#### Defined Benefit Plans

Valuation Day January 1,	Number of Active Members	Percentage Change in Membership	Number Of Participating Employers	Percentage Increase In Number Of Participating Employers	Total Annual Payroll	Percentage Increase in Payroll	Average Annual Salary	Percentage Increase in Average Annual Salary
2021	7,860	-1.4%	724	-0.6%	\$476,970,336	2.4%	\$60,683	3.8%
2020	7,970	0.3%	728	0.7%	465,906,342	2.3%	58,458	2.1%
2019	7,949	1.0%	723	-1.0%	455,352,355	4.8%	57,284	3.7%
2018	7,868	1.8%	730	1.1%	434,554,380	2.8%	55,231	1.0%
2017	7,728	0.4%	722	0.0%	422,621,214	7.2%	54,687	6.8%
2016	7,698	1.6%	722	0.1%	394,133,120	2.6%	51,199	1.0%
2015	7,580	-1.3%	721	0.7%	384,270,155	-1.3%	50,695	-0.1%
2014	7,676	1.0%	716	0.3%	389,410,214	3.5%	50,731	2.5%
2013	7,599	-3.0%	714	0.7%	376,296,674	2.6%	49,519	5.8%
2012	7,836	-3.2%	709	0.3%	366,882,467	-4.4%	46,820	1.3%

### SCHEDULE OF ACTIVE MEMBER VALUATION DATA

#### 10-Year Trend

#### Cash Balance Plans

Valuation Day January 1,	Number of Active Members	Percentage Change in Membership	Number Of Participating Employers	Percentage Increase In Number Of Participating Employers	Total Annual Payroll	Percentage Increase in Payroll	Average Annual Salary	Percentage Increase in Average Annual Salary
2021	1,486	-1.1%	328	0.0%	\$71,553,094	3.5%	\$48,151	4.6%
2020	1,502	3.9%	328	1.6%	69,134,048	9.2%	46,028	5.1%
2019	1,446	4.3%	323	2.9%	63,302,730	5.5%	43,778	1.2%
2018	1,387	6.4%	314	1.0%	60,013,152	11.1%	43,268	4.4%
2017	1,303	2.3%	311	5.8%	53,998,354	4.6%	41,442	2.2%
2016	1,274	4.9%	294	2.8%	51,642,049	8.6%	40,535	3.5%
2015	1,214	2.4%	286	6.7%	47,537,851	5.2%	39,158	2.7%
2014	1,185	4.8%	268	6.8%	45,193,710	1.6%	38,138	-3.1%
2013	1,131	-2.3%	251	4.6%	44,490,671	8.1%	39,337	10.7%
2012	1,158	3.5%	240	4.8%	41,143,383	-1.3%	35,530	-4.6%

## PART 2: MEMBERSHIP

### SCHEDULE OF AVERAGE NEW MONTHLY BENEFIT PAYMENTS FROM DEFINED BENEFIT PLANS

10-Year Trend

Retirement Effective Date	Years Credited Service						
	<5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+
<b>2021</b>							
Average monthly benefit	\$349	\$506	\$862	\$1,345	\$2,224	\$2,735	\$2,989
Average final average salary	\$41,028	\$51,960	\$49,304	\$53,802	\$65,993	\$74,326	\$65,467
Number of retired members	12	28	54	55	68	47	95
<b>2020</b>							
Average monthly benefit	\$606	\$581	\$878	\$2,453	\$1,786	\$2,605	\$3,027
Average final average salary	\$47,749	\$49,244	\$46,184	\$55,891	\$63,780	\$68,255	\$67,356
Number of retired members	11	33	51	62	50	55	85
<b>2019</b>							
Average monthly benefit	\$391	\$587	\$819	\$1,364	\$1,853	\$2,272	\$3,242
Average final average salary	\$40,467	\$44,214	\$49,034	\$47,161	\$51,461	\$55,448	\$67,055
Number of retired members	12	45	43	58	39	37	90
<b>2018</b>							
Average monthly benefit	\$310	\$667	\$933	\$1,251	\$1,860	\$2,870	\$3,674
Average final average salary	\$59,831	\$43,076	\$49,018	\$49,312	\$52,479	\$60,231	\$64,982
Number of retired members	13	32	60	49	55	47	97
<b>2017</b>							
Average monthly benefit	\$457	\$578	\$955	\$1,512	\$1,915	\$2,744	\$3,501
Average final average salary	\$44,940	\$37,684	\$46,433	\$50,159	\$53,564	\$61,510	\$61,257
Number of retired members	14	28	53	44	52	52	82
<b>2016</b>							
Average monthly benefit	\$374	\$694	\$895	\$1,336	\$2,003	\$2,660	\$3,460
Average final average salary	\$31,616	\$49,321	\$41,023	\$45,681	\$53,708	\$56,706	\$58,295
Number of retired members	12	36	64	65	64	58	108
<b>2015</b>							
Average monthly benefit	\$184	\$601	\$901	\$1,328	\$1,876	\$2,542	\$3,841
Average final average salary	\$53,428	\$47,415	\$40,968	\$43,550	\$52,415	\$55,956	\$66,231
Number of retired members	18	35	46	58	42	65	57
<b>2014</b>							
Average monthly benefit	\$172	\$442	\$793	\$1,253	\$2,106	\$2,232	\$3,375
Average final average salary	\$46,376	\$41,257	\$38,647	\$41,967	\$49,967	\$50,207	\$59,175
Number of retired members	11	36	65	47	48	52	73
<b>2013</b>							
Average monthly benefit	\$351	\$484	\$927	\$1,288	\$1,833	\$2,294	\$3,285
Average final average salary	\$48,984	\$42,915	\$46,047	\$43,468	\$49,235	\$52,714	\$55,709
Number of retired members	11	49	62	51	53	69	116
<b>2012</b>							
Average monthly benefit	\$513	\$396	\$729	\$1,144	\$1,546	\$2,185	\$3,287
Average final average salary	\$48,078	\$34,996	\$37,640	\$39,183	\$43,646	\$48,153	\$57,516
Number of retired members	12	32	63	45	60	46	91

## PART 2: MEMBERSHIP

### SCHEDULE OF AVERAGE NEW MONTHLY BENEFIT PAYMENTS FROM CASH BENEFIT PLANS

10-Year Trend

Retirement Effective Date	Years Credited Service						
	<5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+
<b>2021</b>							
Average monthly benefit	\$156	\$310	\$485	\$840	\$592	\$1,335	\$1,151
Number of retired members	3	9	9	12	6	10	13
<b>2020</b>							
Average monthly benefit	\$196	\$177	\$472	\$961	\$902	\$1,382	\$630
Number of retired members	5	11	13	5	11	11	8
<b>2019</b>							
Average monthly benefit	\$40	\$256	\$506	\$790	\$756	\$810	\$1,350
Number of retired members	6	14	5	13	7	5	9
<b>2018</b>							
Average monthly benefit	\$81	\$332	\$628	\$431	\$1,390	\$1,515	\$1,974
Number of retired members	5	11	13	6	8	4	17
<b>2017</b>							
Average monthly benefit	\$149	\$222	\$289	\$732	\$948	\$495	\$1,334
Number of retired members	6	6	7	6	6	4	11
<b>2016</b>							
Average monthly benefit	\$47	\$220	\$499	\$650	\$1,124	\$1,595	\$1,385
Number of retired members	3	13	11	9	10	8	10
<b>2015</b>							
Average monthly benefit	\$131	\$189	\$239	\$823	\$1,071	\$713	\$1,914
Number of retired members	3	10	5	8	9	4	6
<b>2014</b>							
Average monthly benefit	\$94	\$420	\$649	\$580	\$1,285	\$942	\$717
Number of retired members	13	10	9	8	6	2	6
<b>2013</b>							
Average monthly benefit	\$141	\$203	\$430	\$388	\$820	\$945	\$1,028
Number of retired members	7	10	5	4	7	3	5
<b>2012</b>							
Average monthly benefit	\$189	\$270	\$557	\$580	\$857	\$581	\$804
Number of retired members	6	7	8	5	13	5	5



## PART 2: MEMBERSHIP

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

#### COUNTY

Adams County	Bellefonte Borough (CB Plan)	Cressona Borough	Hyndman Borough
Erie County Gaming Revenue Authority	Bellwood Borough	Dalton Borough	Jessup Borough
Forest County	Bentleyville Borough	Deemston Borough	Jim Thorpe Borough
Jefferson County	Berlin Borough	Delmont Borough	Johnsonburg Borough
Sullivan County	Berlin Borough (CB Plan)	Derry Borough	Jonestown Borough
<b>CITY</b>	Big Beaver Borough	Dravosburg Borough	Kenhorst Borough
Allentown City	Biglerville Borough	Dublin Borough	Kennett Square Borough
Bethlehem City	Biglerville Borough (CB Plan)	Duboistown Borough	Kittanning Borough
Clairton City	Bloomfield Borough	Duncannon Borough	Kittanning Borough CB
Connellsville City	Bowmanstown Borough	Duncansville Borough	Knox Borough
Easton City	Brackenridge Borough	East Berlin Borough	Kulpmont Borough
Farrell City	Bridgeville Borough	East Greenville Borough	Kutztown Borough
Greensburg City	Bridgewater Borough	East Rochester Borough	Larksville Borough
Harrisburg City	Brockway Borough	East Stroudsburg Borough	Lehighton Borough
Hermitage City	Brookville Borough	East Stroudsburg Borough (CB Plan)	Lewistown Borough
Jeannette City	California Borough	East Washington Borough	Liberty Borough
Latrobe City	Cambridge Springs Borough	Emlenton Borough	Linesville Borough
Lebanon City	Camp Hill Borough	Emporium Borough	Lykens Borough
Lower Burrell City	Camp Hill Borough (CB Plan)	Etna Borough	Marcus Hook Borough
Nanticoke City	Carnegie Borough	Everett Borough	Mars Borough
New Kensington City	Carroll Valley Borough	Factoryville Borough	Martinsburg Borough
Sharon City	Carrolltown Borough	Falls Creek Borough	Marysville Borough
Sunbury City	Centerville Borough	Ferndale Borough	Matamoras Borough
Uniontown City	Central City Borough	Ford City Borough	Mayfield Borough
<b>BOROUGH</b>	Charleroi Borough	Forest City Borough	Mercer Borough
Adamstown Borough	Christiana Borough (Lancaster County)	Fountain Hill Borough	Meyersdale Borough
Apollo Borough	Claysville Borough	Fountain Hill Borough (CB)	Middleburg Borough
Ashland Borough	Cleona Borough	Franklin Borough	Midway Borough
Atglen Borough	Clymer Borough	Franklintown Borough	Millersburg Borough
Atglen Borough (CB Plan)	Coaldale Borough	Freeburg Borough	Millerstown Borough
Avondale Borough	Cochranton Borough	Freedom Borough (Beaver County)	Millville Borough
Avonmore Borough	Cokeburg Borough	Freeland Borough	Minersville Borough
Bally Borough	Collegeville Borough	Freeport Borough	Monaca Borough
Bangor Borough	Collingdale Borough	Greenville Borough	Monroeville Municipality
Bangor Borough (CB Plan)	Conneautville Borough	Hollidaysburg Borough	Mont Alto Borough
Bedford Borough	Conshohocken Borough	Homer City Borough	Montrose Borough
Bedford Borough (CB)	Conway Borough	Hughestown Borough	Moosic Borough
Bellefonte Borough		Hummelstown Borough	Moosic Borough (CB Plan)
		Huntingdon Borough	Morrisville Borough
			Moscow Borough

## SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Mount Gretna Borough	Seven Fields Borough (CB Plan)	Youngwood Borough	Black Creek Township
Mount Jewett Borough	Shamokin Dam Borough	<b>TOWNSHIPS OF THE FIRST CLASS</b>	Blair Township
Mount Pleasant Borough	Sharpsburg Borough	Bristol Township	Bloomfield Township
Mount Union Borough	Sharpsville Borough	Caln Township	Blooming Grove Township
Nanty Glo Borough	Shenandoah Borough	Collier Township	Boggs Township (Centre County)
Narberth Borough	Shippingport Borough	Crescent Township	Boggs Township (Clearfield County)
Nesquehoning Borough	Slippery Rock Borough	East Deer Township	Brecknock Township
New Eagle Borough	Smithton Borough	Elizabeth Township (Allegheny County)	Brecknock Township (Berks County) (CB Plan)
New Florence Borough	South Waverly Borough	Harrison Township	Briar Creek Township
New Stanton Borough	Southmont Borough	Hopewell Township (Beaver County)	Brighton Township
Newport Borough	Springdale Borough	North Huntingdon Township	Broad Top Township
Newtown Borough	Stewartstown Borough	North Versailles Township	Brokenstraw Township
Norristown Borough	Summit Hill Borough	Ridley Township	Brothersvalley Township
North East Borough	Tarentum Borough	Rochester Township	Brown Township
North Wales Borough	Tatamy Borough (CB)	Salisbury Township	Buckingham Township
Northumberland Borough	Telford Borough	Springdale Township	Buffalo Township
Orwigsburg Borough	Thornburg Borough	Susquehanna Township	Burnside Township
Palmerton Borough	Topton Borough	Swatara Township	Burrell Township
Palmyra Borough	Trafford Borough	Swatara Township (CB Plan)	Caernarvon Township
Pen Argyl Borough	Trainer Borough	Upper Moreland Township	Cambria Township
Pennsburg Borough	Turbotville Borough	Vanport Township	Cambridge Township
Perkasie Borough	Turtle Creek Borough	West Pottsgrove Township	Canal Township
Pine Grove Borough	Verona Borough	Whitehall Township	Canton Township
Portage Borough	Versailles Borough	Whitehall Township (CB Plan)	Cass Township
Pringle Borough	Waterford Borough	Wilkins Township	Center Township (Greene County)
Prospect Borough	Waynesburg Borough	<b>TOWNSHIPS OF THE SECOND CLASS</b>	Center Township (Indiana County)
Prospect Park Borough	West Grove Borough	Allegheny Township (Westmoreland County)	Center Township (Snyder County)
Richland Borough	West Middlesex Borough	Antrim Township	Centre Township (Berks County)
Ridley Park Borough	West Newton Borough	Athens Township	Centre Township (Perry County)
Roaring Spring Borough	West Reading Borough	Bald Eagle Township	Cherrytree Township
Rochester Borough	Wheatland Borough	Beaver Township	Chippewa Township
Rouseville Borough	White Haven Borough	Bedminster Township	Clarion Township
Rural Valley Borough	Williamsburg Borough	Bell Township	Clay Township
Salisbury Borough	Williamstown Borough	Bethel Township	Clearfield Township
Sandy Lake Borough	Wilmerding Borough	Birmingham Township	
Saxton Borough	Wilson Borough		
Schuylkill Haven Borough	Windsor Borough		
Selinsgrove Borough	Yardley Borough		
Sellersville Borough	Yoe Borough		
Seven Fields Borough	York Springs Borough		

## PART 2: MEMBERSHIP

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Columbus Township	East Manchester Township	Greenfield Township (Blair County)	Jones Township
Concord Township	East Marlborough Township	Greenfield Township (Erie County)	Keating Township
Conemaugh Township	East Rockhill Township	Greenfield Township (Lackawanna County)	Kennett Township
Conewago Township	East Rockhill Township (CB Plan)	Hamilton Township	Lancaster Township (Butler County)
Cook Township	Eaton Township	Hamiltonban Township	Lancaster Township (Lancaster County)
Coolspring Township	Eldred Township (Jefferson County)	Hamlin Township	Latimore Township
Cornplanter Township	Eldred Township (Monroe County)	Hanover Township (Beaver County)	LeBoeuf Township
Corydon Township	Eldred Township (Warren County)	Hanover Township (Lehigh County)	Lehman Township
Covington Township	Elizabeth Township (Lancaster County)	Haycock Township	Liberty Township
Cranberry Township	Elizabeth Township (Lancaster County) (CB Plan)	Hemlock Township	Limestone Township (Clarion County)
Cross Creek Township	Elk Creek Township	Henderson Township	Limestone Township (Lycoming County)
Cussewago Township	Elk Township	Hilltown Township	Limestone Township (Union County)
Darlington Township	Fairfield Township	Hopewell Township (Cumberland County)	Lincoln Township
Delaware Township	Fairview Township	Hopewell Township (Washington County)	Liverpool Township
Derry Township (Dauphin County)	Falls Township	Hopewell Township (York County)	London Britain Township
Derry Township (Dauphin County) (CB Plan)	Farmington Township	Horsham Township	London Grove Township
Derry Township (Mifflin County)	Forks Township	Howe Township	Lower Mahanoy Township
Derry Township (Westmoreland County)	Forks Township (CB Plan)	Hunlock Township	Lower Towamensing Township
Dickinson Township	Forward Township	Huntington Township	Lower Towamensing Township (CB Plan)
Dingman Township	Foster Township	Huston Township	Lower Yoder Township
Donegal Township (Butler County)	Franklin Township (Beaver County)	Jackson Township (Greene County)	Loyalhanna Township
Donegal Township (Washington County)	Franklin Township (Butler County)	Jackson Township (Lebanon County)	Loyalhanna Township (CB Plan)
Donegal Township (Westmoreland County)	Franklin Township (Carbon County)	Jackson Township (Luzerne County)	Mahanoy Township
Dorrance Township	Franklin Township (Greene County)	Jackson Township (Snyder County)	Mahoning Township
Douglass Township (Montgomery County)	Franklin Township (Susquehanna Co)	Jackson Township (Susquehanna County)	Manchester Township
Drumore Township	Frazer Township	Jackson Township (Venango County)	Manchester Township (CB Plan)
East Allen Township	Freedom Township	Jefferson Township (Washington County)	McKean Township
East Carroll Township	Freehold Township	Jenks Township	Mead Township
East Coventry Township	Frenchcreek Township	Jenner Township	Middle Smithfield Township
East Coventry Township (CB Plan)	Girard Township		Middlesex Township
East Fallowfield Township	Glade Township		Milford Township (Bucks County)
East Finley Township	Greene Township		Milford Township (Pike County)
East Hanover Township			
East Huntingdon Township			

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Millcreek Township	Penn Township	Rye Township (Perry County) (CB Plan)	Union Township (Lebanon County)
Monongahela Township	Pennsbury Township	Salford Township	Union Township (Snyder County)
Monroe Township (Snyder County)	Perry Township	Scott Township	Union Township (Washington County)
Monroe Township (Wyoming County)	Peters Township	Sewickley Township	Unity Township
Montour Township	Peters Township (CB Plan)	Shade Township	Upper Burrell Township
Moore Township	Pike Township	Sheffield Township	Upper Frederick Township
Morris Township (Greene County)	Pine Creek Township	Shippensburg Township	Upper Milford Township
Morris Township (Tioga County)	Pine Grove Township (Schuylkill County)	Shrewsbury Township	Upper Nazareth Township
Morris Township	Pine Grove Township (Warren County)	Slippery Rock Township	Valley Township
(Washington County)	Pittsfield Township	Smithfield Township	Wallace Township
Mount Joy Township	Pleasant Township	Snake Spring Township	Warrington Township
Mount Pleasant Township	Plum Township	Solebury Township	Warsaw Township
Muncy Creek Township	Plumcreek Township	Solebury Township (CB Plan)	Warwick Township
New Garden Township	Plumstead Township	South Abington Township	Washington Township (Berks County)
New Sewickley Township	Plymouth Township	South Abington Township (CB Plan)	Washington Township (Cambria County)
Nockamixon Township	Pocopson Township	South Beaver Township	Washington Township (Dauphin County)
North Buffalo Township	Point Township	South Bend Township	Washington Township (Erie County)
North Coventry Township	Portage Township	South Franklin Township	Washington Township (Fayette County)
North Franklin Township	Porter Township	South Hanover Township	Washington Township (Greene County)
North Newton Township (CB)	Preston Township	South Huntingdon Township	Washington Township (Jefferson County)
North Sewickley Township	Price Township	South Manheim Township	Washington Township (Northampton County - CB Plan)
North Strabane Township	Providence Township	South Middleton Township	Washington Township (Schuylkill County)
North Strabane Township (CB Plan)	Pulaski Township	South Pymatuning Township	Washington Township (Westmoreland County)
Nottingham Township	Pymatuning Township	South Strabane Township	Washington Township (Wyoming County)
Oakland Township	Raccoon Township	Southampton Township	Waverly Township
Oil Creek Township (Crawford County)	Rice Township	Southwest Township	Wayne Township
Oil Creek Township (Venango County)	Richhill Township	Spring Creek Township	West Bradford Township
Old Lycoming Township	Richland Township (Bucks County)	Springfield Township	
Oliver Township (Jefferson County)	Richland Township (CB Plan)	Stonycreek Township	
Oliver Township (Mifflin County)	Richland Township (Venango County)	Sugar Grove Township	
Orange Township	Ridgway Township	Sullivan Township	
Paint Township	Rome Township	Summit Township	
Paradise Township	Rose Township	Tinicum Township	
	Ross Township	Towamensing Township	
	Rutland Township	Tredyffrin Township	
	Rye Township	Tunkhannock Township	
		Union Township (Berks County)	



## PART 2: MEMBERSHIP

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

West Brunswick Township	Police	East Deer Township Police	Hilltown Township Police
West Caln Township	California Borough Police	East Fallowfield Township Police	Honey Brook Borough Police
West Carroll Township	Cambria Township Police	East Franklin Township Police	Hummelstown Borough Police
West Fallowfield Township	Cambridge Springs Borough Police	East Greenville Borough Police	Independence Township Police
West Lampeter Township	Camp Hill Borough Police	East Marlborough Township Police	Jackson Township Police (Luzerne County)
West Pennsboro Township	Carroll Township Police	East Pennsboro Township Police	Johnsonburg Borough Police
West Rockhill Township	Carroll Valley Borough Police	East Washington Borough Police	Kennett Township Police
West Sadsbury Township	Carrolltown Borough Police	Elizabeth Township (Allegheny County) Police	Knox Borough Police
West Salem Township	Central City Borough Police	Emlenton Borough Police	Lancaster Township (Butler County) Police
West Wheatfield Township	Centre Township (Berks County) Police	Emporium Borough Police	Larksville Borough Police
Westtown Township	Clairton Police	Everett Borough Police	Lewistown Borough Police
Wetmore Township	Clymer Borough Police	Factoryville Borough Police	Liberty Borough Police
White Township	Cochranton Borough Police	Fairview Township Police	Linesville Borough Police
Whiteley Township	Colebrookdale Township Police	Falls Creek Borough Police	Locust Township Police
Wiconisco Township	Conneaut Lake Regional Police	Farrell City Police	Lower Windsor Township Police
Williams Township	Covington Township Police	Forest City Borough Police	Lower Yoder Township Police
Wilmington Township	Crescent Township Police	Forward Township Police	Lykens Borough Police
Windsor Township	Danville Borough Police	Franklin Borough Police	Mahoning Township Police (Lawrence County)
Wright Township	Darlington Township Police	Franklin Township Police (Beaver County)	Mahoning Township Police (Montour County)
Wrightstown Township	Decatur Township Police	Frazer Township Police	Manor Borough Police
Zerbe Township	Delmont Borough Police	Freedom Township Police	Mars Borough Police
<b>POLICE</b>	Donegal Township Police (Washington County)	Freeland Borough Police	Martinsburg Borough Police
Apollo Borough Police	Douglass Township (Montgomery County) Police	German Township Police	Marysville Borough Police
Ashley Borough Police	Douglass Township Police (Berks County)	Gilpin Township Police	Mayfield Borough Police
Bally Borough Police	Dublin Borough Police	Greene County Regional Police	Mead Township Police
Beaver Meadows Borough Police	Duboistown Borough Police	Greenfield Township (Blair County) Police	Mercer Borough Police
Bedminster Township Police	Dunbar Borough Police	Greenville Borough Police	Middleburg Borough Police
Bellwood Borough Police	Duncannon Borough Police	Hamiltonban Township Police	Middlesex Township Police
Bentleyville Borough Police	Duncansville Borough Police	Harveys Lake Borough Police	Millcreek Township Police
Bentleyville Borough Police (CB Plan)	East Bangor Borough Police	Heidelberg Township Police	Millersburg Borough Police
Big Beaver Borough Police	East Berlin Borough Police	Hellam Township Police	Millville Borough Police
Biglerville Borough Police	East Coventry Township Police	Hemlock Township Police	Montour Township Police
Birmingham Township Police			Moore Township Police
Blair Township Police			
Brecknock Township Police			
Briar Creek Township Police			
Bridgewater Borough Police			
Buckingham Township			

## SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Moosic Borough Police	Pequea Township Police	South Waverly Borough Police	West Vincent Township Police
Morrisville Borough Police	Perkasie Borough Police	South Williamsport Borough Police	Westfield Borough Police
Moscow Borough Police	Pine Grove Borough Police	Southern Chester County Regional Police Department	White Haven Borough Police
Mount Jewett Borough Police	Point Township Police	Southern Police Commission	Wiconisco Township Police
Mount Pleasant Borough Police	Polk Borough Police	Springdale Township Police	Williamsburg Borough Police
Mount Pleasant Township Police (Washington Co)	Pulaski Township Police	Summit Hill Borough Police	Williamstown Borough Police
Mount Union Borough Police	Pymatuning Township Police	Tatamy Borough Police (CB)	Windsor Township Police
New Castle Township Police	Quarryville Borough Police	Telford Borough Police	Wrightstown Township Police
New Garden Township Police	Red Lion Police	Tinicum Township Police	Yardley Borough Police
New Wilmington Borough Police	Redstone Township Police	Tulpehocken Township Police	York County Regional Police Department
Newport Borough Police	Richland Borough Police	Tunkhannock Township Police	Youngwood Borough Police
Newtown Borough Police	Richland Township Police	Upper Burrell Township Police	<b>FIREFIIGHTERS</b>
Nockamixon Township Police	Roaring Brook Township Police	Upper Macungie Township Police	Clairton Firefighters
North Coventry Township Police	Roaring Spring Borough Police	Vanport Township Police	Farrell City Firefighters
North Hopewell Township Police	Rochester Township Police	Versailles Borough Police	Greenville Borough Firemen
North Huntingdon Township Police	Rye Township Police	Washington Township Police (Fayette County)	Harrisburg Fire
North Middleton Township Police	Sadsbury Township Police	Washington Township Police (Westmoreland County)	Larksville Borough Firemen
North Sewickley Township Police	Sandy Lake Borough Police	Waverly Township Police	Manchester Township Firefighters
North Woodbury Township Police	Saxton Borough Police	West Caln Township Police	Manchester Township Firefighters (CB Plan)
Northeastern Regional Police Department	Schwenksville Borough Police	West Fallowfield Township Police	North Strabane Township Fire
Northumberland Borough Police	Scott Township Police	West Grove Borough Police	North Strabane Township Fire (CB)
Old Lycoming Township Police	Scottdale Borough Police	West Lampeter Township Police	South Strabane Township Fire
Orangeville Area Police Board	Selinsgrove Borough Police	West Middlesex Borough Police	Upper Moreland Firefighters
Orwigsburg Borough Police	Shade Township Police	West Newton Borough Police	Wilson Borough Firemen
Palmyra Borough Police	Shamokin Dam Borough Police	West Pikeland Township Police	<b>AUTHORITIES AND OTHER UNITS</b>
Paxtang Borough Police	Sheffield Township Police	West Pottsgrove Township Police	Allegheny Valley Joint Sewage Authority
Penbrook Borough Police	Shippingport Borough Police	West Sadsbury Township Police	Ambridge Borough Municipal Authority
Pennridge Regional Police	Shiremanstown Borough Police		Armstrong Conservation District
	Sinking Spring Borough Police		Avonmore Borough
	South Beaver Township Police		
	South Centre Township Police		
	South Pymatuning Township Police		

## PART 2: MEMBERSHIP

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Municipal Authority	Conservation District	Curwensville Municipal Authority	Authority
B.A.R.T.A.	Cambria Township Sewer Authority	Delaware Valley Municipal Management Association	Fredericksburg Sewer & Water Authority
Bangor Borough Sewer Department	Cambria Township Water Authority	Delaware Valley Municipal Management Association (CB Plan)	Freeland Borough Municipal Authority
Bath Borough Authority	Capital Region Water	Derry Township Municipal Authority	Glendale Valley Municipal Authority
Bedford Township Municipal Authority	Carbon County Conservation District	Derry Township Sanitary Sewer Authority	Greater Lebanon Refuse Authority
Belle Vernon Municipal Authority	Carmichaels-Cumberland Joint Sewer Authority	DuBois City Redevelopment Authority	Greenville Municipal Authority
Bethlehem Authority	Carroll Township Authority	East Berlin Area Joint Authority	Guilford Township Authority
Bethlehem City Redevelopment Authority	Catawissa Borough Municipal Water Authority	East Norriton-Plymouth-Whitpain Joint Sewer Authority	Guilford Water Authority
Bethlehem Parking Authority	Centerville Borough Sanitary Authority	Eastern Snyder County Regional Authority	Harrison Township Water Authority
Blair Township Water and Sewer Authority	Central Carbon Municipal Authority	Economy Borough Municipal Authority	Hawley Area Authority
Bloomfield Township Sewage Authority	Central Indiana County Joint Sanitary Authority	Elizabeth Borough Municipal Authority	Hellertown Borough Authority
Bradford City Water Authority	Centre County Library & Historical Museum	Elizabeth Township Sanitary Authority	Hilltown Township Water & Sewer Authority
Bradford Regional Airport Authority	Clarion County Housing Authority	Elizabethville Area Authority	Horsham Water and Sewer Authority
Brighton Township Municipal Authority	Clarion County Housing Authority (CB Plan)	Erie County Housing Authority	Hughesville-Wolf Township Joint Municipal Authority
Brighton Township Sewage Authority	Coaldale-Lansford-Summit Hill Sewer Authority	Everett Area Municipal Authority	Hyndman Borough Municipal Authority
Brockway Area Sewage Authority	Collier Township Sewer Department	Fairfield Municipal Authority	Indiana County Conservation District
Brockway Borough Municipal Authority	Columbia County Conservation District	Fawn Township Sewage Authority	Indiana County Solid Waste Authority
Brodhead Creek Regional Authority	Connellsville Municipal Authority	Fawn-Frazer Joint Water Authority	Jackson Township Water Authority
Brookville Municipal Authority	Connellsville Redevelopment Authority	Fayette County Conservation District	Jefferson Conservation District
Bucks County Redevelopment Authority	Conshohocken Borough Authority	Frackville Area Municipal Authority	Jefferson County Solid Waste Authority (Jefferson County)
Bucks County Water & Sewer Authority	Coolspring, Jackson & Lake Latonka Joint Authority	Franklin City Housing Authority	Jenner Area Joint Sewer Authority
Bucks County Water and Sewer Authority (CB Plan)	Coplay-Whitehall Sewer Authority	Franklin Township Municipal Sanitary Authority	Johnsonburg Municipal Authority
Burrell Township Sewage Authority	Cressona Borough Authority	Franklin Township Sewer Authority	Johnstown Redevelopment Authority
Butler Area Public Library	Creswell Heights Joint Authority	Frazer Transportation	Juniata County Conservation District
Cambria County Conservation & Recreation Authority	Cumberland-Franklin Joint Municipal Authority		Kiskiminetas Township

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Municipal Authority	McKean County Solid Waste Authority	Municipal Authority of Westmoreland County of COJMA	Peters Creek Sanitary Authority
Kittanning Suburban Joint Water Authority	Mercer County Regional Planning Commission	Myerstown Community Library Association	Peters Township Municipal Authority
Kulpmont-Marion Heights JMA	Mid Mon Valley Water Authority	Myerstown Water Authority	Pleasant Hills Authority
Lancaster City Parking Authority	Middlesex Township Municipal Authority	Nanty Glo Sanitary Sewer Authority	Pocono Mountains Municipal Airport Authority (CB)
Lansford - Coaldale Joint Water Authority	Middletown Township Sewer Authority	Nanty Glo Water Authority	Portage Area Sewer Authority
Lebanon City Authority	Mifflintown Municipal Authority	Nesquehoning Borough Authority	Possum Valley Municipal Authority
Lebanon City Authority (CB Plan)	Milford Water Authority	New Kensington Municipal Sanitary Authority	Redevelopment Authority of the City of Corry
Lebanon Community Library	Millcreek - Richland Joint Authority	New Kensington Redevelopment Authority	Reynoldsville Water Authority
Leetsdale Borough Municipal Authority	Millersburg Area Authority	Newport Borough Water Authority	Riverview Sanitary Authority
Lehigh County Authority	Mon Valley Sewage Authority	North & South Shenango Joint Municipal Authority	Robesonia-Wernersville Municipal Authority
Lehighon Water Authority	Monroe County Redevelopment Authority	North Coventry Municipal Authority	Robinson Township Municipal Authority
Linesville Pine Joint Municipal Authority	Montgomery County Sewer Authority	North Huntingdon Township Municipal Authority	Rochester Area Joint Sewer Authority
London Grove Township Municipal Authority	Montour County Conservation District	North Middleton Authority	Rostraver Township Sewer Authority
Lower Bucks County Joint Municipal Authority	Montrose Municipal Authority	North Strabane Township Municipal Authority	Saxton Borough Municipal Authority
Lower Bucks County Joint Municipal Authority Supervisors	Moon Township Municipal Authority	Northampton Borough Municipal Authority	Seward/St. Clair Township Sanitary Authority
Lower Indiana County Municipal Authority	Mount Jewett Borough Authority	Northampton Borough Municipal Authority (CB Plan)	Sewer Authority of the Township of Pittston
Lower Mahanoy Township Municipal Authority	Mount Joy Township Authority	Northern Lancaster County Authority	Shade-Central City Joint Authority
Lower Providence Township Sewer Authority	Mount Lebanon Parking Authority	Oil City Housing Authority	Shannock Valley General Services Authority
Luzerne Conservation District	Mount Pleasant Township Municipal Authority	Parker Area Authority	Sharon Sanitary Authority
Luzerne County Flood Protection Authority	Mount Pocono Municipal Authority	Parker Area Authority (CB Plan)	Sheffield Township Municipal Authority
Mahanoy Township Authority	Municipal Authority of the Borough of Kittanning	Parks Township Municipal Authority	Slippery Rock Municipal Authority
Maidencreek Township Authority	Municipal Authority of the Borough of Matamoras	Penn Township Sewage Authority	Smithton Borough Municipal Authority
Manheim Area Water and Sewer Authority	Municipal Authority of the Borough of Morrisville	Pennridge Waste Water Treatment Authority	Snake Spring Township Municipal Authority
Manor Township Joint Municipal Authority	Municipal Authority of the Borough of Portage Water Department	Pennsylvania Municipal League	Snyder County Housing Authority
Mary Meuser Memorial Library		Perkasie Regional Authority	



## PART 2: MEMBERSHIP

### SCHEDULE OF PARTICIPATING PLANS

AS OF JAN. 1, 2021

Somerset Conservation District	Wayne County Redevelopment Authority
South Fayette Township Municipal Authority	Wayne Library Authority
South Middleton Township Municipal Authority	Wernersville Municipal Authority
Southwestern Pa Water Authority	West Carroll Water Authority
St. Marys Area Water Authority	West Hanover Township Water & Sewer Authority (CB)
Stormwater Authority of the City of Chester	Western Butler County Authority
Sunbury Municipal Authority	Western Clinton County Municipal Authority
Swatara Township Authority	Western Westmoreland Municipal Authority
Tower City Borough Authority	Western Westmoreland Municipal Authority (CB Plan)
Township of Falls Authority	Westmoreland-Fayette Municipal Sewage Authority
Tri-County Joint Municipal Authority	White Run Regional Municipal Authority
Twin Boroughs Sanitary Authority	Whitehall Township Authority
Upper Allegheny Joint Sanitary Authority	Williamstown Borough Authority
Upper Montgomery Joint Authority	Womelsdorf-Robesonia Joint Authority
Upper Southampton Municipal Authority	Wyoming Valley Sanitary Authority
Vanport Township Municipal Authority	York County Planning Commission
Vernon Township Sanitary Authority	
Vernon Township Water Authority	
Warren County Housing Authority	
Warren County Solid Waste Authority	
Warwick Township Municipal Authority	
Washington Township Municipal Authority (Berks County)	
Washington Township Municipal Authority (Fayette County)	
Waterford Borough Municipal Authority	

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