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Annual Comprehensive Financial Report | 2022

MASSACHUSETTS PORT AUTHORITY EMPLOYEES' RETIREMENT SYSTEM

For the fiscal years ended December 31, 2022 and 2021
BOSTON, MASSACHUSETTS



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For the fiscal years ended December 31, 2022 and 2021
BOSTON, MASSACHUSETTS

Issued by John P. Prankevicius, CPA, Treasurer-Custodian and
Irene E. Moran, Director of Retirement

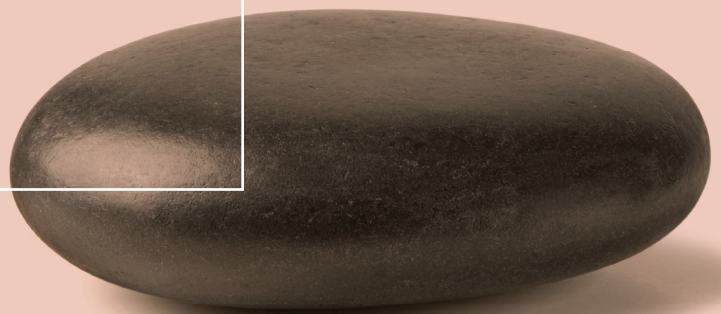
The Massachusetts Port Authority Employees' Retirement System is governed by, and the terms of the retirement plan are set forth in, Chapter 32 of the Massachusetts General Laws. That statute governs and determines the benefits payable to the members of the Retirement System and nothing contained herein can change or add to the terms of the retirement plan. The description of the plan as set forth herein is necessarily summary and incomplete and intended only to be a general overview of the principal provisions applicable to most members to assist in understanding the financial statements contained herein. In order to determine the benefits applicable to any particular member or class of members, please refer to Chapter 32.

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Introduction

Financial stability is an important component of personal wellness. It can dramatically improve your life and prevent hardships. Financial health means you have the ability to reach your goals, take advantage of opportunities and gives you flexibility to pursue your dreams. There are many facets to financial wellness including: amount of savings, how much you've put aside for retirement, debt to income ratio, ability to earn money and how much of your discretionary income you spend.



May 5, 2023

Dear Members:

We are pleased to present you with the 2022 Annual Comprehensive Financial Report ("ACFR" or the "Annual Report") for the Massachusetts Port Authority Employees' Retirement System (MPAERS). This annual report is designed to provide you with information concerning the status of the System, including: statistics and demographics covering both active and retired members; charts and graphs detailing pension investments; answers to frequently asked questions about the System; financial information covering asset growth and net assets available for plan benefits; and actuarial information on funding levels of the System.

This year's theme "Achieving Balance in Any Financial Climate" is a good reminder for us all that financial stability is an important component of personal wellness. The U.S. Consumer Financial Protection Bureau defines financial wellness – also known as financial well-being – as "the feeling of having financial freedom of choice, in the present and when considering the future." Financial stability is important because it improves overall health and well-being and reduces financial-related stress now and for the future. While your Massport pension can be an important component of your retirement savings and income plan, it is but one aspect of your overall financial plan. We encourage you to take the time periodically to assess your personal finances. Small steps taken gradually over time can pay big dividends in terms of becoming financially secure – now and into retirement.

In terms of the MPAERS' fund performance, the past year has been a challenge. Turbulent market conditions affected many investors including the Massport Employees' Retirement System. The MPAERS' pension fund experienced a 12% loss this year as detailed in the financial and investment sections of the ACFR. While we never like to see any type of loss, we believe our investment policy and underlying investments are reasonable and appropriate and in line with our long term goals.

With regard to funded status, our Plan as determined by the Entry-Age-Normal cost method is 98.4% funded as of January 1, 2022 – a 3.0% increase over the prior year. We believe that the MPAERS remains financially sound and well able to meet its obligations. This is due to solid long-term investment performance and the consistent financial support of the Authority. Investment losses coupled with assumption changes will result in increased employer contributions going forward. Massport contributed \$8 million to the pension fund last year and we expect the Authority's annual contribution levels to be in the \$11 to \$19 million range over the next few years.

Please be assured that we, the Board, remain steadfast in our duties as plan fiduciaries. We have spent a significant amount of time monitoring and evaluating our investment portfolio, policies and performance. This market environment has been an extremely challenging one which has impacted not only our long term investment strategies but also our day-to-day administrative and operational practices.

Maintaining the financial security of the system is of the utmost importance and the Board remains firmly committed to providing members and their beneficiaries with secure retirement, survivor and disability benefits.

We encourage you to contact members of the board and staff with any questions or concerns. We especially appreciate hearing your feedback.

Sincerely,

The Massachusetts Port Authority Employees' Retirement System Board:



James S. Hoyte
Chairman
Appointed Member



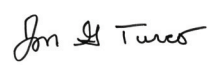
Michael A. Grieco
Vice Chairman
Appointed Member



John P. Prancevicius, CPA
Treasurer-Custodian
(Ex-officio Member)



Betsy Taylor
Elected Member



Jon G. Turco
Elected Member


Employees' Retirement System

Massachusetts Port Authority
One Harborside Drive Suite 200S
East Boston, MA 02128-2909
Telephone (617) 568-3951
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James S. Hoyte
Chairman

Betsy Taylor
Board Member

Michael A. Grieco
Vice Chairman

Jon G. Turco
Board Member

John P. Prancevicius, CPA
Treasurer-Custodian

Irene E. Moran
Director of Retirement

May 5, 2023

Board of Retirement
Massachusetts Port Authority Employees' Retirement System
One Harborside Drive, Suite 200S
East Boston, MA 02128-2909

Dear Board Members:

We are pleased to submit to you the Annual Comprehensive Financial Report ("ACFR" or the "Annual Report") of the Massachusetts Port Authority Employees' Retirement System (the "System," the "Plan," or the "MPAERS"). This report is issued for the years ending December 31, 2022 and 2021. Responsibility for both the accuracy of the financial information contained herein and for the completeness and fairness of the presentation rests with the management of the MPAERS. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the System.

History of the MPAERS

The Massachusetts Port Authority Employees' Retirement System is a single employer plan established on July 18, 1978, effective January 1, 1979, by enactment of Chapter 487 of the acts of 1978 (an amendment to Chapter 32 of the General Laws of the Commonwealth of Massachusetts). The MPAERS provides retirement benefits for substantially all employees of the Massachusetts Port Authority (the "Authority" or "Massport") and incidental benefits for their surviving spouses and beneficiaries.

Previously, Authority employees were members of the Commonwealth of Massachusetts Contributory Retirement System. Following enactment of the MPAERS, Authority employees' rights and benefits were transferred to the new system, which is a contributory defined benefit plan. The Authority and its employees contribute such amounts as are necessary to provide assets sufficient to meet benefits to be paid to plan participants. The benefit structure is defined by statute and any changes in plan provisions must occur through the legislative process.

The MPAERS administers the plan. The MPAERS Board determines investment objectives, strategies, policies, and general management. The Director of Retirement is accountable for the MPAERS' operations and reports to and advises the five-member Board of Trustees.

Major Initiatives

Benefits

A pension increase adjustment (also known as the cost-of-living adjustment or COLA) was enacted for retirees and survivors effective July 1, 2022. The 3% increase was paid on a base of \$14,000.

Additionally, on November 16, 2022 Governor Baker signed into law Chapter 269 of the Acts of 2022, a provision that allowed Massachusetts retirement systems to approve a one-time 5% Cost-of-Living Adjustment (COLA) for retirees, in place of the 3% maximum established under Massachusetts General Law (M.G.L.) Chapter 32, Section 103(a). This unprecedented increase was in recognition of the high inflation rate as compared to years past.

Both the Massport Authority Board and Retirement Board voted unanimously to approve this one-time additional 2% pension increase adjustment for Massport retirees retroactive to July 1, 2022. The retroactive increase was included in February 2023 benefit checks for eligible retirees and survivors.

Administration

Incumbents Michael P. O'Brien and Betsy Taylor were re-elected as the two member representatives on the MPAERS Board for a three-year term beginning on January 11, 2023. In February, Mike O'Brien announced his resignation from Massport employment and subsequently departed from the MPAERS Board. A special election was held and Jon G. Turco, Working Foreperson in Massport's Field Maintenance unit, was elected to serve for the remainder of Mike's term beginning on April 13, 2023 and ending January 10, 2026.

Legislative Changes

Although multiple bills relative to public pensions in Massachusetts are filed each year, there was only one bill approved in 2022 specifically impacting our members and the rules governing public pensions. In August 2022, Chapter 147 of the Acts of 2022 was signed into law. This new law provides that in some circumstances vacation buybacks will be considered regular compensation and included as pensionable earnings. Since its enactment, the Board and management have been working with our regulator, the Public Employee

Retirement Administration Commission (PERAC), to determine which members are affected and to develop and receive regulatory approval of a vacation buyback supplementary regulation. Potential impacts may include retroactive benefit increases for some current retirees, amounts owed to the System by this same group of retirees and amounts owed to the System by some active members. Management anticipates full implementation in 2023 and any additional liabilities will be recognized once such amounts are measurable.

Outreach

The MPAERS continues its focus on outreach through the publication of educational materials such as the retirement newsletter, *Outlook*, annual active member comprehensive benefit statements, and through retirement events and seminars including Retirement Information Sessions and our Drop-in Program. We place a special emphasis on providing quality customer service and we continually encourage feedback and welcome new ideas.

Internal and Budgetary Controls

The MPAERS management is responsible for establishing and maintaining an internal structure designed to ensure that the assets of the MPAERS are protected from loss, theft, or misuse, and to ensure that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely to be derived, and second, the valuation of costs and benefits requires estimates and judgments by management.

The MPAERS budget is presented to and accepted by the board each year and expenditures are reviewed by the board at its monthly meeting.

Accounting

This financial report has been prepared in conformity with accounting principles generally accepted in the United States and reporting guidelines set forth by the Governmental Accounting Standards Board (GASB).

Management's Discussion and Analysis

The Management's Discussion and Analysis (MD&A) can be found within the Financial Section of the Annual Report and contains an introduction to the Financial Statements as well as a narrative of the Plan's financial highlights for 2022. The MD&A begins on page 17.

Investments

Under M.G.L. Chapter 32, Section 23 the retirement board is responsible for overseeing the investments of the pension fund, including the selection and appointment of an investment consultant and management professionals to carry out the board's investment objectives and policies.

The Massport Retirement System closely monitors its investment consultant and money managers. The Board reviews pension fund performance at each monthly meeting. Our consultant, Wilshire Advisors, LLC, presents quarterly investment results to the board and each money manager appears before the board on an annual basis to discuss its firm and fund performance.

Wilshire Advisors performed an Asset Allocation analysis in October 2021 and, on the recommendation of the consultant, the Board adopted a new asset allocation, effective December 31, 2021, consisting of:

27.5%	US Equity
27.5%	International Equity
10.0%	Private Equity
5.0%	Opportunistic Credit
22.5%	US Bonds
7.5%	Real Estate

As a matter of policy, the MPAERS board bases the investment of the assets of the System on a financial plan that considers:

- a. the financial condition of the MPAERS;
- b. the expected long-term capital market outlook;
- c. the MPAERS' risk tolerance;
- d. future changes of active and retired participants;
- e. projected inflation and the rate of salary increases;
- f. cash flow requirements; and
- g. the targeted funding level as a percentage of the actuarial funding target.

As of December 31, 2022 the total time-weighted rate of return net of fees was (11.57)%. This is reflected in the 16.8% decrease in the fiduciary net position of the plan as documented in the Financial Section of this report. For more detailed information regarding the System's investment policies, guidelines, and results please see the Investment Section of the Annual Report.

Actuarial Funding Status

The MPAERS retains an independent actuarial firm, Stone Consulting, Inc., to conduct an annual actuarial valuation to monitor the Plan's funding status. The actuarial methodology required by the MPAERS' charter is the Frozen-Entry-Age Actuarial Cost Method, and the funding status as of January 1, 2022 is 91.6%. However, we believe that when this methodology is applied, the result does not properly reflect the actual funding status of the system. Therefore, two tables are presented in the Actuarial Section. Using the Entry-Age-Normal Actuarial Cost Method, the January 1, 2022 valuation establishes the MPAERS' funding status as 98.4%. We believe that this method of valuation more clearly reflects the actual funding status of our system and also provides a basis of comparison to the funding levels of other Massachusetts public pension plans. Further, the Entry-Age-Normal method is required by the Governmental Accounting Standards Board (GASB) for financial statement reporting purposes.

For more information on the actuarial assumptions of the Plan as part of the January 1, 2022 valuation please see the Summary of Actuarial Methods and Assumptions found in the Actuarial Section of the Annual Report.

Professional Services

An annual audit of the MPAERS was conducted by KPMG LLP, independent auditors. The report of the independent auditors on the MPAERS' financial statements is included in the Financial Section of this report.

The Board issued Requests for Proposals for Audit and Design services in 2022 and, following comprehensive selection processes, voted to retain KPMG LLP as auditor and Shields SGF as graphic designer for the MPAERS effective January 1, 2023.

Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Massachusetts Port Authority Employees' Retirement System for the fiscal year ended December 31, 2021. The Certificate of Achievement is a prestigious national award recognizing excellence in the preparation of state and local government financial reports.

A Certificate of Achievement is valid for one year only. We believe that our current Annual Comprehensive Financial Report continues to meet the Certificate of Achievement program requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Acknowledgements

We are proud to have once again completed a comprehensive document in accordance with the strict guidelines of the GFOA Certificate of Achievement program. Our goal is to present a thorough and accurate annual report that is easy for our members to read and understand. A great deal of hard work and collaboration go into the production of this comprehensive report and we would like to acknowledge the efforts that our team has put forth. In particular, we would like to thank the retirement staff as well as our investment consultant, auditors, actuary, and graphic designer for contributing their talents to this important project.

Respectfully submitted,



John P. Prankevicius, CPA
Treasurer-Custodian (ex-officio)



Irene E. Moran
Director of Retirement

Biographies



James S. Hoyte was appointed to the retirement board in January 2015. He was Massport's Secretary-Treasurer and Director of Administration and Finance when the MPAERS

was established in 1978. Jamie is currently Senior Advisor to the Tremont Strategies Group. He was Massachusetts Secretary of Environmental Affairs, 1983-1988 and Chairman of the Massachusetts Water Resources Authority, 1985-1988. From 1992 to 2009 Jamie served as Associate Vice President and Lecturer in Environmental Sciences and Public Policy at Harvard University. He holds a Bachelor of Arts degree from Harvard College and a Juris Doctor degree from Harvard Law School. He is a member of the Massachusetts Bar.



Michael A. Grieco joined the Massachusetts Port Authority in 1990. He was appointed Assistant Secretary-Treasurer in 1993 and served in that position for

more than twenty-eight years until his retirement from Massport in 2022. He has served as a Member of the Massport Employees' Retirement Board since 1996 and as the Vice-Chair of the Retirement Board since 2009. He holds a Bachelor of Science degree in finance from Boston College and Juris Doctor and Master of Business Administration degrees from Suffolk University. Michael is also a member of the Massachusetts Bar.



John P. Prancevicius, CPA is Massport's Chief Financial Officer and Secretary-Treasurer since 2007. John oversees Massport's financial responsibilities including treasury,

budgeting, accounting, finance, and debt and risk management. Additionally, John serves as Treasurer-Custodian to over \$1.0 billion in invested assets for Massport's employee pension and retiree health care programs. Prior to joining the Authority, John served in various financial roles in the City of Worcester, most recently as the City's Chief Financial Officer. John is a licensed Certified Public Accountant in the Commonwealth and earned his Bachelor's degree in Political Science and his Master's degree in Public Administration from the University of Maine. He holds a Master's Degree in Accounting from Bentley University.



Betsy Taylor was elected as an employee representative to the retirement board in 2013. She joined Massport in 1978 and has held a variety of financial positions. Upon retiring, she

was appointed to the Massachusetts Board of the Department of Transportation, the Board of the MBTA Retirement Fund and as Chair of the MBTA Board. Prior to her retirement on April 1, 2015, Betsy held the position of Massport's Director of Finance and Treasury and was responsible for issuing Massport's debt and managing its \$800 million cash portfolio. She previously worked at UMass, Smith College and Lesley College. She holds a Bachelor of Arts from Oberlin College and a Masters in Business Administration from Stanford University.



Jon G. Turco has been employed at Massport for 30 years. Throughout Jon's time at Massport, he has been a proud member of Teamsters Local 25. Jon serves on the Peabody City

Council where he is currently serving his eighth year and he is also serving his fifth year on the Council Finance Committee that oversees a \$170 million budget. Jon was elected as an employee representative to the Massport Employees' Retirement System Board in April 2023.



Irene E. Moran joined the Massachusetts Port Authority Employees' Retirement System in 1995 as Retirement Board Assistant. She was promoted to the Director of

Retirement position in 1997. Prior to her employment at Massport, Irene worked as a Support Manager for DataNational Corporation. She holds a Bachelor of Arts degree from the University of New Hampshire.

Organization Chart

Retirement Board

James S. Hoyte
Chairman, Appointed Member

Michael A. Grieco
Vice Chairman, Appointed Member

John P. Prankevicius, CPA
Treasurer-Custodian (ex-officio)

Betsy Taylor
Elected Member

Jon G. Turco
Elected Member

Director of Retirement

Irene E. Moran

Retirement Staff

Laura S. Barbosa
Retirement Member Services Specialist

Nancy Bournival
MPAERS Controller

Jan M. Coen
Retirement Board Coordinator



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Massachusetts Port Authority Employees' Retirement System

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

December 31, 2021

Christopher P. Morill

Executive Director/CEO



Consulting and Professional Services



Actuary
Stone Consulting, Inc.



Independent Auditors
KPMG LLP



Custodian
Wilmington Trust

Wilshire

Investment Consultant
Wilshire Advisors, LLC

Investment Managers



Baillie Gifford



Brandywine Global Investment Management, LLC



Palmer Square Capital Management



Pension Reserves Investment Management Board



Pzena Investment Management, LLC



State Street Global Advisors



Wellington Management Company, LLP

More information about our investment professionals can be found within the Schedules of Fees and Commissions in the Investment Section on pages 47 and 48.

Financial Section

Amount of Savings

If you haven't already done so, establish an emergency fund. Start small. Any amount helps. Utilize direct deposit to funnel money into a savings account each pay period. You might be surprised by how fast your nest egg grows. Experts tell us that having 3 to 6 months of income in savings is critical if and when the unexpected happens.



Independent Auditors' Report

THE MASSACHUSETTS PORT AUTHORITY EMPLOYEES' RETIREMENT SYSTEM BOARD:

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Massachusetts Port Authority Employees' Retirement System (the "Plan") as of and for the years ended December 31, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements for the years then ended as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the financial position of the Plan as of December 31, 2022 and 2021, and the changes in its financial position for the years then ended in accordance with U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

As discussed in Note C to the basic financial statements, in 2022, the System adopted Governmental Accounting Standards Board Statement No. 87, *Leases*. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with U.S. generally accepted accounting principles, 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 Plan'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.

Auditors' 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 auditors' report that includes our opinion. 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 and *Government Auditing Standards* 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.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, 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 Plan'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 Plan'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.

Required Supplementary Information

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

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Plan's basic financial statements. The other supplementary information identified in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the other supplementary information identified in the table of contents is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual comprehensive financial report. The other information comprises the introduction, investment, actuarial, statistical and frequently asked questions sections but does not include the basic financial statements and our auditors' report thereon. Our opinion on the basic 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 audits of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated May 5, 2023 on our consideration of the Plan's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Plan's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Plan's internal control over financial reporting and compliance.

KPMG LLP

Boston, Massachusetts

May 5, 2023, except for the Other Information section of our report, as to which the date is June 26, 2023

Required Supplementary Information

Management's Discussion and Analysis

Years Ended December 31, 2022 and 2021

This section presents Management's Discussion and Analysis (MD&A) of the Massachusetts Port Authority Employees' Retirement System's (the "MPAERS" or the "Plan") financial activity and performance as of and for the years ended December 31, 2022 and 2021. The MD&A is unaudited and is intended to serve as an introduction to the Plan's basic financial statements, as well as to offer readers of the Plan's financial statements a narrative view and analysis of MPAERS' financial activities.

Financial Highlights

The fiduciary net position of the Plan as of December 31, 2022 totaled \$766.2 million, a \$154.3 million, or 16.8% decrease, due to negative returns in most major asset classes. Fiduciary net position is the residual of the Plan's assets in excess of the Plan's liabilities as of the date of the Statements of Fiduciary Net Position. The Plan's assets are held in trust to meet future benefit payments.

Total Plan "additions" of \$(107.6) million, comprised of \$22.9 million in contributions and transfers, and \$130.5 million in investment losses, were realized for the year ended December 31, 2022. In comparison, the Plan experienced total additions of \$146.9 million and \$142.4 million for the years ended December 31, 2021 and 2020, respectively. The decrease in 2022 is due to investment losses as compared to the previous year. The increase in 2021 is primarily due to investment gains as compared to the gains of 2020.

For the plan year ended December 31, 2022, total Plan deductions were \$46.7 million, an increase of \$1.1 million, or 2.4% over the last year, and are comprised of \$43.7 million in benefit payments, \$1.8 million in transfers and withdrawals and \$1.2 million in administrative expenses. This \$1.1 million increase is primarily due to new retirements. This is compared to total plan deductions of \$45.6 million and \$39.5 million for the years ended December 31, 2021 and 2020, respectively.

For reporting purposes in accordance with the Government Accounting Standards Board (GASB), as of December 31, 2022, the Plan's fiduciary net position as a percentage of the total pension liability was 89.3%. As required by the Plan's charter, for funding purposes the Plan uses the Frozen-Entry-Age-Normal actuarial method which differs from that prescribed by GASB. Under the Frozen-Entry-Age-Normal method, the funded ratio of the plan as of January 1, 2022, was 91.6%.

Overview of the Financial Statements

The basic financial statements consist of the: (1) Statements of Fiduciary Net Position; (2) Statements of Changes in Fiduciary Net Position; (3) Notes to the Financial Statements; (4) Required Supplementary Information; and (5) Other Supplementary Information.

The Statements of Fiduciary Net Position report the Plan's assets, liabilities, and net position restricted for pensions at the end of the fiscal year calculated using the following formula: $\text{Assets} - \text{Liabilities} = \text{Net Position Restricted for Pensions}$. The Statements of Fiduciary Net Position report the financial position of the Plan at a given point in time, in this case, December 31. Over time, the increase or decrease in fiduciary net position serves as a useful indicator of the Plan's financial health.

The Statements of Changes in Fiduciary Net Position report additions to and deductions from the Plan during the fiscal year. The formula here is: $\text{Additions} - \text{Deductions} = \text{Net Increase (Decrease) in Plan Fiduciary Net Position}$. The Statements of Changes in Fiduciary Net Position report activity occurring over a specific period of time, in this case, the year beginning January 1 and ending December 31.

The Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the Plan's financial statements.

The Required Supplementary Information following the Notes to the Financial Statements consists of the schedules of changes in net pension (asset) liability and related ratios, investment returns, contributions and notes to the schedule of contributions.

Other Supplementary Information details schedules of administrative expenses and investment expenses and payments to consultants.

These statements and schedules are prepared in conformity with U.S. generally accepted accounting principles, including the new accounting and financial reporting requirements found in GASB Statement No. 87.

Financial Analysis

Total assets as of December 31, 2022 and 2021 were \$767.4 million and \$921.8 million, respectively, and were comprised of cash and cash equivalents; investments; accrued interest and accrued dividends receivables; contributions due from Plan members, other systems, and right of use asset. Total assets decreased by \$154.4 million or 16.8% from \$921.8 million as of December 31, 2021, due to investment losses in

most major asset classes. Total assets increased by \$101.5 million or 12.4% from \$820.3 million between 2020 and 2021 due to investment gains in all major asset classes.

Total liabilities as of December 31, 2022 were approximately \$1.2 million and total liabilities as of December 31, 2021 were approximately \$1.4 million. Total liabilities for 2022 were primarily comprised of payables for investment management fees, rent fees, refunds to members, a retroactive cost-of-living adjustment, payables to other state retirement plans, and a lease liability. In 2021 total liabilities were also primarily comprised of payables for investment management fees, rent fees, refunds to members, payables to other state retirement plans, and a lease liability.

Total fiduciary net position held in trust for pension benefits totaled \$766.2 million which represents a decrease of \$154.3 million or 16.8% over 2021. Fiduciary net position increased by \$101.3 million or 12.4% between 2020 and 2021. The decrease in 2022 is due to investment losses in most major asset classes and the increase in 2021 is primarily due to investment gains in all major asset classes.

Condensed Financial Information

	2022	As Restated 2021	Total \$ Change	Total % Change
Assets				
Cash and cash equivalents	\$ 1,112,752	\$ 932,542	\$ 180,210	19.3%
Investments	763,201,659	918,216,467	(155,014,808)	(16.9)
Receivables	2,843,125	2,248,858	594,267	26.4
Right of use Assets	264,952	451,978	(187,026)	(41.4)
Total Assets	\$ 767,422,488	\$ 921,849,845	\$ (154,427,357)	(16.8)%
Liabilities				
Payables	\$ 958,180	\$ 907,971	\$ 50,209	5.5%
Lease liability	266,988	453,548	(186,560)	(41.1)
Total Liabilities	\$ 1,225,168	\$ 1,361,519	\$ (136,351)	(10.0)%
Fiduciary Net Position	\$ 766,197,320	\$ 920,488,326	\$ (154,291,006)	(16.8)%

	As Restated 2021	2020	Total \$ Change	Total % Change
Assets				
Cash and cash equivalents	\$ 932,542	\$ 799,771	\$ 132,771	16.6%
Investments	918,216,467	810,355,773	107,860,694	13.3
Receivables	2,248,858	9,194,094	(6,945,236)	(75.5)
Right of use Assets	451,978	-	451,978	100.0
Total Assets	\$ 921,849,845	\$ 820,349,638	\$ 101,500,207	12.4%
Liabilities				
Payables	\$ 907,971	\$ 1,190,531	\$ (282,560)	(23.7)%
Lease liability	453,548	-	453,548	100.0
Total Liabilities	\$ 1,361,519	\$ 1,190,531	\$ 170,988	14.4%
Fiduciary Net Position	\$ 920,488,326	\$ 819,159,107	\$ 101,329,219	12.4%

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*.

–Management's Discussion and Analysis, continued–

Revenues – Additions to Plan Fiduciary Net Position

Additions to MPAERS' Fiduciary Net Position include plan member and plan sponsor contributions, transfers from other retirement systems and net investment gains (losses). Contributions, net transfers and net investment losses for plan year 2022 totaled approximately \$107.6 million as compared to a net addition of approximately \$146.9 million in 2021.

In 2022, member contributions increased by approximately \$936,000 or 8.6% primarily due to new hires and salary increases for the existing workforce. In 2021, member contributions decreased by approximately \$2.2 million or 16.8% due to a reduction in workforce which occurred during the first quarter of 2021.

Plan sponsor contributions of \$8.3 million decreased by \$3.4 million or 28.7%, compared to a decrease of \$2.9 million or 20.1% in 2021. The decreases in 2022 and 2021 in the Annual Required Employer Contribution (ARC) are due to fluctuations in funding requirements as determined by the Plan's actuary. Fluctuations in plan sponsor contributions are partially due to the incremental accrual by the Plan's actuary of market gains and losses over multiple years as well as changes to actuarial assumptions including mortality and discount rates.

Net investment loss for the year ending December 31, 2022 was \$130.5 million representing a change of \$253.0 million or a 206.6% reduction compared to 2021. The investment loss in 2022 is the result of investment losses as compared to the previous year. Net investment gain for the year ending December 31, 2021 was \$122.5 million representing a \$9.2 million or 8.1% increase from 2020. The increase in investment gain in 2021 is the result of investment gains as compared to the previous year.

Condensed Financial Information

	2022	2021	Total \$ Change	Total % Change
Additions				
Plan member contributions	\$ 11,841,149	\$ 10,904,747	\$ 936,402	8.6%
Plan sponsor contribution	8,340,432	11,695,314	(3,354,882)	(28.7)
Net transfers	2,717,068	1,814,038	903,030	49.8
Net investment (loss) gain	(130,526,209)	122,485,721	(253,011,930)	(206.6)
Total Additions	\$ (107,627,560)	\$ 146,899,820	\$ (254,527,380)	(173.3)%

	2021	2020	Total \$ Change	Total % Change
Additions				
Plan member contributions	\$ 10,904,747	\$ 13,100,494	\$ (2,195,747)	(16.8)%
Plan sponsor contribution	11,695,314	14,641,803	(2,946,489)	(20.1)
Net transfers	1,814,038	1,373,043	440,995	32.1
Net investment gain	122,485,721	113,320,740	9,164,981	8.1
Total Additions	\$ 146,899,820	\$ 142,436,080	\$ 4,463,740	3.1%

Expenses – Deductions from Plan Fiduciary Net Position

Deductions to the Plan include the payment of pension benefits to members and beneficiaries, refunds of contributions to inactive members, transfers of member contributions to other Massachusetts public retirement plans and the cost of administering the Plan. For plan year 2022, the total deductions were \$46.7 million, an increase of \$1.1 million or 2.4% over 2021. For plan year 2021, the total deductions were \$45.6 million, an increase of \$6.1 million or 15.4% over 2020.

Retirement benefit payments totaled \$43.8 million, an increase of approximately \$1.7 million or 4.1%. In 2021 retirement benefit payments totaled \$42.0 million, an increase of approximately \$5.4 million or 14.7% from the previous year. The increases in 2022 and 2021 are primarily due to new retirements but are also, to a lesser extent, attributed to retiree cost-of-living adjustments granted in those respective years.

For plan year 2022, withdrawals by inactive members totaled approximately \$778,000, a decrease of approximately \$495,000 or 38.9%. For plan year 2021, withdrawals by inactive members totaled approximately \$1.3 million, an increase of approximately \$226,000 or 21.6% over 2020. The decrease in 2022 is due to fewer inactive members withdrawing their contributions from the Plan, and the increase in 2021 is due to more inactive members withdrawing their contributions from the Plan. Transfers to other Massachusetts public retirement systems totaled approximately \$929,000, a decrease of approximately \$167,000 or 15.2% from 2021. This is compared to a \$442,000, or 67.7% increase from 2020 to 2021. Year to year changes in transfer rates can be attributed to variations in public sector workforce movement between Massport and other plan eligible government employers.

In 2022, plan administrative expenses totaled approximately \$1.2 million, an increase of approximately \$31,000 or 2.6%, and in 2021 plan administrative expenses totaled approximately \$1.2 million, an increase of approximately \$55,000 or 4.7%. The increase in plan administrative expenses in 2022 is due to increases in personnel service costs and rent fees, and the increase in plan administrative expenses in 2021 is due to increases in professional service costs and rent fees.

Condensed Financial Information

	2022	As Restated 2021	Total \$ Change	Total % Change
Deductions				
Retirement benefits	\$ 43,718,196	\$ 41,994,872	\$ 1,723,324	4.1%
Withdrawals by inactive members	778,488	1,273,538	(495,050)	(38.9)
Transfers to other state retirement plans	928,512	1,095,201	(166,689)	(15.2)
Administrative expenses	1,238,250	1,206,990	31,260	2.6
Total Deductions	\$ 46,663,446	\$ 45,570,601	\$ 1,092,845	2.4%

	As Restated 2021	2020	Total \$ Change	Total % Change
Deductions				
Retirement benefits	\$ 41,994,872	\$ 36,624,674	\$ 5,370,198	14.7%
Withdrawals by inactive members	1,273,538	1,047,163	226,375	21.6
Transfers to other state retirement plans	1,095,201	653,203	441,998	67.7
Administrative expenses	1,206,990	1,152,471	54,519	4.7
Total Deductions	\$ 45,570,601	\$ 39,477,511	\$ 6,093,090	15.4%

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*.

–Management's Discussion and Analysis, continued–

Changes in Plan Fiduciary Net Position

Changes in fiduciary net position as of December 31, 2022 were \$(154.3) million, which represents a decrease of \$255.6 million or 252.3% from 2021. This decrease is primarily the result of investment losses and increases in retirement benefits. Changes in fiduciary net position as of December 31, 2021 were \$101.3 million, which represents a decrease of \$1.6 million or 1.6% from 2020. This decrease is primarily due to an increase in plan deductions specifically retirement benefits, withdrawals by inactive members and transfers to other systems.

Condensed Financial Information

	2022	As Restated 2021	Total \$ Change	Total % Change
Changes in Plan Fiduciary Net Position				
Total additions	\$ (107,627,560)	\$ 146,899,820	\$ (254,527,380)	(173.3)%
Total deductions	46,663,446	45,570,601	1,092,845	2.4
Change in Plan Fiduciary Net Position	\$ (154,291,006)	\$ 101,329,219	\$ (255,620,225)	(252.3)%
Fiduciary Net Position	\$ 766,197,320	\$ 920,488,326	\$ (154,291,006)	(16.8)%

	As Restated 2021	2020	Total \$ Change	Total % Change
Changes in Plan Fiduciary Net Position				
Total additions	\$ 146,899,820	\$ 142,436,080	\$ 4,463,740	3.1%
Total deductions	45,570,601	39,477,511	6,093,090	15.4
Change in Plan Fiduciary Net Position	\$ 101,329,219	\$ 102,958,569	\$ (1,629,350)	(1.6)%
Fiduciary Net Position	\$ 920,488,326	\$ 819,159,107	\$ 101,329,219	12.4%

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*.

Overall Financial Position of the MPAERS

Due to investment losses in most major asset classes the Plan experienced a decrease in its investment portfolio for the year ending December 31, 2022. Management believes the Plan remains well funded and able to meet its obligations. As plan sponsor, the Massachusetts Port Authority bears the investment risk. When plan net position declines, the plan sponsor is statutorily obligated to offset the losses by funding the Plan's actuarially determined annual assessment.

Requests for Information

This financial report is designed to provide an overview of the MPAERS' finances. Questions concerning any of the information provided in this report should be addressed to Massachusetts Port Authority Employees' Retirement System, One Harborside Drive, Suite 200S, East Boston, MA 02128 or emailed to retirement@massport.com.

Financial Statements

Statements of Fiduciary Net Position

As of December 31	2022	As Restated 2021
Assets		
Cash and cash equivalents	\$ 1,112,752	\$ 932,542
Investments, at Fair Value		
Common stocks	\$ 11,347,461	\$ 12,551,808
Commingled funds:		
Domestic equity	166,941,678	235,668,654
Fixed income	182,173,305	258,202,389
Opportunistic credit	41,011,025	—
International equity	199,312,874	234,117,809
Real estate	68,914,390	77,525,672
Private equity	93,500,926	100,150,135
Total Investments, at Fair Value	\$ 763,201,659	\$ 918,216,467
Receivables		
Plan member contributions	\$ 304,548	\$ 267,302
Accrued interest and dividends	20,573	11,960
Other state retirement plans	1,853,814	1,956,269
Receivable for securities sold	622,852	4,440
Other	41,338	8,887
Total Receivables	\$ 2,843,125	\$ 2,248,858
Right of use Asset	\$ 264,952	\$ 451,978
Total Plan Assets	\$ 767,422,488	\$ 921,849,845
Liabilities		
Payables to other state retirement plans	\$ 410,702	\$ 524,349
Other payables	547,478	383,622
Lease liability	266,988	453,548
Total Plan Liabilities	\$ 1,225,168	\$ 1,361,519
Net Position Restricted for Pensions	\$ 766,197,320	\$ 920,488,326

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

Statements of Changes in Fiduciary Net Position

For the fiscal year ended December 31	2022	As Restated 2021
Additions		
Contributions		
Plan members	\$ 11,841,149	\$ 10,904,747
Plan sponsor	8,340,432	11,695,314
Total Contributions	\$ 20,181,581	\$ 22,600,061
Intergovernmental		
Transfers from other state retirement plans	\$ 1,136,935	\$ 405,852
Section 3(8)(c) transfers, net	1,580,133	1,408,186
Net Intergovernmental	\$ 2,717,068	\$ 1,814,038
Investment (Loss) Income		
Interest and dividends	\$ 14,379,029	\$ 15,148,763
Net (depreciation) appreciation in fair value of investments	(141,684,430)	110,433,242
Less management and related fees	(3,220,808)	(3,096,284)
Net Investment (Loss) Income	\$ (130,526,209)	\$ 122,485,721
Total Additions	\$ (107,627,560)	\$ 146,899,820
Deductions		
Retirement benefits	\$ 43,718,196	\$ 41,994,872
Withdrawals by inactive members	778,488	1,273,538
Transfers to other state retirement plans	928,512	1,095,201
Administrative expenses	1,238,250	1,206,990
Total Deductions	\$ 46,663,446	\$ 45,570,601
Change in Fiduciary Net Position	\$ (154,291,006)	\$ 101,329,219
Net Position Restricted for Pensions		
Beginning of year, as restated (Note C)	\$ 920,488,326	\$ 819,159,107
End of year	\$ 766,197,320	\$ 920,488,326

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

Notes to the Financial Statements

A. Plan Description

The Massachusetts Port Authority Employees' Retirement System (the "Plan" or the "System") is a single employer plan established on July 18, 1978, effective January 1, 1979, by enactment of Chapter 487 (an amendment to Chapter 32) of the General Laws of The Commonwealth of Massachusetts to provide retirement benefits for substantially all employees of the Massachusetts Port Authority (the "Authority"), and incidental benefits for their surviving spouses, beneficiaries and contingent annuitants. Prior to this enactment, Authority employees were members of the Commonwealth of Massachusetts Contributory Retirement System and the funding of the pension liability was on a "pay-as-you-go" method. Pursuant to this enactment, the employees' then present rights and benefits were transferred to the new retirement system. The Plan is a contributory defined benefit plan to which the Authority and its employees contribute such amounts as are necessary to provide assets sufficient to meet benefits to be paid to plan participants. The Plan is administered by the Massachusetts Port Authority Employees' Retirement System Board (the "Board"), consisting of five members including one ex-officio member, two elected members, one member appointed by the Massachusetts Port Authority and one member appointed by the other four board members.

At January 1, 2022 and 2021, the Plan's membership consisted of:

	2022	2021
Retirees and beneficiaries receiving benefits	976	930
Inactive members entitled to benefits but not yet receiving them	78	70
Current members:		
Active	1,094	1,263
Inactive	258	168
Total Membership	2,406	2,431

Benefits are paid by the Plan from plan assets available for plan benefits. Plan participants are entitled at normal retirement age to benefit payments based upon age at retirement, length of service, and earnings levels. Vesting occurs after 10 years of service. Optional payment methods may be elected, including the contingent annuitant method which provides for reduced payments during the life of the plan participant and continued payments to the participant's beneficiary after the death of the participant.

Benefits to participants who retired prior to January 1, 1979 are paid by the Massachusetts State Board of Retirement. The Massachusetts State Board of Retirement is reimbursed for all such benefits paid after December 31, 1978 as these benefits represent obligations of the Plan.

Under Chapter 32, Section 3(8)(c), of the General Laws of The Commonwealth of Massachusetts (Chapter 32), the Plan is reimbursed for benefits paid to participants entitled to receive benefits for previous participation in other Massachusetts Chapter 32 plans. The Plan is also obligated to pay a proportionate share of benefits to participants entitled to receive benefits for subsequent participation in other Massachusetts Chapter 32 plans.

Also under Chapter 32, for members leaving the Authority's employment to work for other Massachusetts governmental units, the Plan transfers their accumulated account balances and creditable service to the retirement system of the new employer. Other such retirement systems are in turn required to make comparable transfers to the Plan for employees coming to work for the Authority.

B. Contributions Required and Contributions Made

Contributions are made by the Authority based on amounts required to be funded as determined by annual actuarial valuations and are designed to fund the Plan on a level cost basis, as a percentage of pay, over the average remaining working lifetime of the active participants and to fund operating costs of the Plan. For the years ended December 31, 2022, 2021, and 2020, the Authority was required to contribute to the Plan \$8,340,432, \$11,695,314, and \$14,641,803, respectively. The Authority bears the risk that plan assets might decline due to fluctuations in the fair value of the Plan's investments requiring future contributions by the Authority to increase.

Employees who became members prior to January 1, 1975 contribute 5% of their regular compensation through payroll deductions. Employees whose membership commenced on or after January 1, 1975 but prior to January 1, 1984 contribute 7%. Those employees whose membership began on or after January 1, 1984 but prior to July 1, 1996 contribute 8%. Employees hired after July 1, 1996 contribute 9% of their regular compensation. Employees who are hired after December 31, 1978 contribute an additional 2% of regular compensation

—Notes to the Financial Statements, continued—

over \$30,000. Employee contributions accumulate and, subject to certain restrictions set forth in Chapter 32, are refundable to employees upon termination of employment by the Authority or payable to another retirement system should the employee transfer to another government unit covered by Chapter 32 of the General Laws of The Commonwealth of Massachusetts.

Contributions totaling \$20,181,581 (\$8,340,432 employer and \$11,841,149 employee) and \$22,600,061 (\$11,695,314 employer and \$10,904,747 employee) were recognized by the Plan for plan years 2022 and 2021, respectively.

C. Summary of Significant Accounting Policies

Basis of Accounting

These financial statements have been prepared with an “economic resources” measurement focus on the accrual basis of accounting in accordance with generally accepted governmental accounting principles.

Cash and Cash Equivalents

Cash and cash equivalents are considered to be cash on deposit, and highly liquid short-term investments with original maturities of three months or less from the date of acquisition.

Investment Valuation

Investments are reported at fair value. Securities traded on a national or international securities exchange are valued at the last reported sales price on the last business day of the plan year; investments traded on a national securities exchange for which no sale was reported on that date and investments in common and preferred stocks traded in over-the-counter markets are valued at the mean of the last reported bid and asked prices, or the last reported bid price. Mutual funds and commingled funds, including real estate and private equity investments, are valued based on net asset value (NAV) or unit value at year-end. Changes in fair value are included in investment (loss) income in the Statements of Changes in Fiduciary Net Position.

Contributions

Employer contributions are recognized when legally due. Member contributions are recognized by the Plan as compensation is earned by the Authority's employees.

Retirement Benefits

Retirement benefits and refunds are recorded when due and payable in accordance with the terms of the Plan.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of additions and deductions during the reporting periods. Actual results could differ from estimates. Fair values of real estate and private equity holdings are generally estimated absent readily available fair values, and such estimates may be materially different than values that would have been used if a ready market existed.

Other

Purchases and sales of securities are reflected on a trade-date basis. Gain or loss on sales of securities is based on average cost.

Dividend income is recorded on the ex-dividend date. Interest income is recorded as earned on an accrual basis. Income from venture capital limited partnerships is recorded using the equity method of accounting.

The Plan presents in its Statements of Changes in Fiduciary Net Position the net (depreciation) appreciation in the fair value of its investments, which consists of the net realized gains and losses during the year and the change in unrealized appreciation and depreciation during the year on those investments.

Investment Policy

The provisions of Massachusetts General Laws (M.G.L.) Chapter 32, Section 23(2) and the Board approved investment policy govern the Plan's investment practice.

Diversification is attained through varied investment management styles that comply with Massachusetts state law. This is accomplished through the retention of investment managers that adhere to M.G.L. Chapter 32, Section 23(3), the “Prudent Person” rule.

The Plan has retained an investment consultant to work with the Board in a fiduciary capacity to assure that strategic investment diversification is attained, to employ investment managers with expertise in their respective asset classes, and to closely monitor the implementation and performance of the respective investment strategies.

The Plan is currently invested in stocks (domestic and international), fixed income securities (domestic and international), opportunistic credit, real estate and private equity.

The target allocation for each major asset class is summarized in the following table:

Asset Class	Target Allocation	
	2022	2021
Domestic Equity	27.5%	27.5%
International Equity	27.5	27.5
Fixed Income	22.5	22.5
Opportunistic Credit	5.0	5.0
Real Estate	7.5	7.5
Private Equity	10.0	10.0
Total	100.0%	100.0%

The Board’s current rebalancing policy states that “The Board shall rebalance to the established targets during the quarter following the quarter ended whenever the asset class allocation falls outside the allowable ranges.”

Leases (Lessee)

The System is a lessee for a noncancellable lease of space and recognizes a lease liability and an intangible right-to-use lease asset.

The System initially measured the lease liability at the present value of payments expected to be made during the lease term. Subsequently, the lease liability is reduced by the principal portion of lease payments made. The lease asset is initially measured as the initial amount of the lease liability. Subsequently, the lease asset is amortized into administration expense on a straight-line basis over the lease term.

The lease term expires in 2024. The discount rate used for the calculation of the lease liability is 0.84%. Interest expense from this lease totaled \$3,092 and \$4,196 for the years ended December 31, 2022 and 2021, respectively.

Future annual lease payments are as follows:

Year ending December 31:	Principal	Interest	Total
2023	\$ 188,133	\$ 1,519	\$ 189,652
2024	78,855	166	79,021
Total	\$266,988	\$1,685	\$268,673

Adoption of New Accounting Pronouncement

In 2022, the System implemented GASB Statement No. 87, *Leases*. This statement requires the recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It 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.

–Notes to the Financial Statements, continued–

The System adopted this statement as of January 1, 2021. The result of this adoption of an accounting principle had no effect on the fiduciary net position as of January 1, 2021. Fiduciary Net Position as of December 31, 2021 has been restated, as follows:

	Net Position	Total Assets	Total Liabilities
As previously reported	\$ 920,489,896	\$ 921,397,867	\$ 907,971
Adjustments to recognize leases under GASB Statement No. 87, <i>Leases</i>	(1,570)	451,978	453,548
December 31, 2021, as restated	\$ 920,488,326	\$ 921,849,845	\$ 1,361,519

D. Deposit and Investment Risks

The following discusses the Plan's exposure to common deposit and investment risks related to custodial credit, credit, concentration of credit, interest rate and foreign currency risks as of December 31, 2022 and 2021.

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of a failure of a depository financial institution, the Plan deposits may not be returned. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the Plan and are held by either the depository financial institution or the depository financial institution's trust department or agent but not in the Plan's name.

Although there is no Plan-wide policy for custodial credit risk associated with deposits, the Plan's investments are held by the Plan's custodian and registered in the Plan's name. All of the Plan's securities are held by the Plan's custodial bank in the Plan's name, except for investments in mutual and commingled funds, real estate properties, and limited partnerships, which by their nature, are not required to be categorized. Investments in the Short-Term Investment Funds (STIF) are held in a SEC-registered pooled fund that is managed by the master custodian bank. The fair value of the position in the pool equals the value of the pool shares.

Credit Risk

Credit risk exists when there is a possibility the issuer or other counterparty to an investment may be unable to fulfill its obligations.

For the years ended December 31, 2022 and 2021, the System's fixed income and opportunistic credit investments totaled \$223,184,330 and \$258,202,389, respectively. These investments are split among three commingled funds. The funds are not rated.

There are no Plan-wide policy limitations for credit-risk exposures within the portfolio. The Plan's three fixed income investments are managed in accordance with an investment contract that is specific as to permissible credit quality ranges and the average credit quality of the overall portfolio.

Concentration of Credit Risk

Concentration of credit-risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issuer. The Plan has no investments, at fair value, that exceed 5% of the Plan's total investments as of December 31, 2022 and 2021 other than pooled investments.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. This risk is managed within the portfolio using the effective duration methodology. It is widely used in the management of fixed income portfolios in that it quantifies to a much greater degree the risk of interest rate changes. While there are no Plan-wide policy limitations as to the degree of interest rate risk taken, the Plan's one actively managed fixed income portfolio has guidelines which specify that the average duration of the portfolio ranges between plus or minus 1.5 years of the average duration of the Bloomberg Barclays US Aggregate Bond Index. The other two opportunistic credit income portfolios, one domestic and the other global, are in actively managed funds and the investment objectives of these funds are to outperform the Credit Suisse Leveraged Loan Index and Bloomberg Global Aggregate (Hedged US) Index, respectively. It is believed that the reporting of effective and spread durations found in the tables on the next page quantifies to the fullest extent possible the interest rate risk of the Plan's fixed income assets.

Interest Rate Sensitivity – Effective Duration

December 31, 2022	Fair Value	Effective Duration (in years)
Commingled funds:		
Fixed income – actively managed	\$ 182,173,305	6.87
Opportunistic credit – actively managed – domestic	11,708,910	4.42
Opportunistic credit – actively managed – global	29,302,115	7.50
Total	\$ 223,184,330	

December 31, 2021	Fair Value	Effective Duration (in years)
Commingled funds:		
Fixed income – actively managed	\$ 181,575,343	6.81
Fixed income – passively managed	76,627,046	6.78
Total	\$ 258,202,389	

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. From time to time, the Plan's external managers may or may not hedge the portfolio's foreign currency exposures with currency forward contracts depending on their views on a specific foreign currency relative to the U.S. dollar. While there are no Plan-wide policy limitations related to foreign currency risk, the Plan will not manage currency as a separate asset class or enter into speculative currency positions in its portfolios, except as it relates to specific cross-hedging activity, which may be permitted in certain investment manager guidelines. While the System has no investments denominated in foreign currencies, the following represents the investments denominated in U.S. dollars that can be subject to fluctuations in foreign currencies:

Currency	2022	2021
International equity pooled funds (various currencies)	\$ 199,312,874	\$ 234,117,809

Rate of Return

For the years ended December 31, 2022 and 2021, the annual money weighted rate of return on plan investments, net of plan investment expenses was (14.41)% and 16.13%, respectively. The money-weighted rate of return expresses investment performance net of investment expenses adjusted for the changing amounts actually invested.

Fair Value Hierarchy

GAAP establishes a fair value hierarchy for investments that prioritizes inputs used to measure fair value into three levels:

- Level 1 – quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities;
- Level 2 – observable prices that are based on inputs not quoted in active markets, but corroborated by market data;
- Level 3 – unobservable inputs that are used when little or no market data is available.

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs. In determining fair value, the Plan utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible.

Investments held through commingled funds for which fair value is estimated using net asset values (NAVs) as a practical expedient are not categorized in the fair value hierarchy.

–Notes to the Financial Statements, continued–

The Plan uses an independent pricing source to determine the fair value of investments at quoted market prices.

The Plan has the following Fair Value measurements as of December 31, 2022 and 2021:

2022	Fair Value	Level 1	Level 2	Level 3
Investments by Fair Value Level				
Equities	\$ 11,347,461	\$ 11,347,461	—	—
Total	\$ 11,347,461	\$ 11,347,461	—	—
Investments measured at NAV				
Commingled Equity Funds				
Large Cap	\$ 158,484,748	—	—	—
Small Cap	8,456,930	—	—	—
International	199,312,874	—	—	—
Commingled Fixed Income Funds				
Core Bond	182,173,305	—	—	—
Commingled Opportunistic Credit Funds				
Total	\$ 589,438,882	—	—	—
Other Investments at Fair Value				
PRIT Real Estate Fund	\$ 68,914,390	—	—	—
PRIT Private Equity	93,500,926	—	—	—
Total	\$ 162,415,316	—	—	—
Total Investments	\$ 763,201,659	\$ 11,347,461	—	—

2021	Fair Value	Level 1	Level 2	Level 3
Investments by Fair Value Level				
Equities	\$ 12,551,808	\$ 12,551,808	—	—
Total	\$ 12,551,808	\$ 12,551,808	—	—
Investments measured at NAV				
Commingled Equity Funds				
Large Cap	\$ 224,206,832	—	—	—
Small Cap	11,461,822	—	—	—
International	234,117,809	—	—	—
Commingled Fixed Income Funds				
Aggregate	76,627,046	—	—	—
Core Bond	181,575,343	—	—	—
Total	\$ 727,988,852	—	—	—
Other Investments at Fair Value				
PRIT Real Estate Fund	\$ 77,525,672	—	—	—
PRIT Private Equity	100,150,135	—	—	—
Total	\$ 177,675,807	—	—	—
Total Investments	\$ 918,216,467	\$ 12,551,808	—	—

The Plan categorizes its fair value measurements within the Fair Value Hierarchy established by generally accepted accounting principles. Equity securities classified in Level 1 of the Fair Value Hierarchy are valued using prices quoted in active markets for those securities. The Plan has no securities classified in Level 2 or Level 3.

The PRIT real estate and private equity funds are external investment pools that are not registered with the Securities and Exchange Commission, but are subject to oversight by the Pension Reserves Investment Management Board (the “PRIM Board”). The PRIM Board was created by legislation to provide general supervision of the investments and management of PRIT. The PRIT real estate and private equity funds are not rated funds. The fair value of the PRIT real estate and private equity funds are based on unit value as reported by management of the PRIT funds. The PRIT funds issue separately available audited financial statements with a year end of June 30. The Plan is required to provide a 24-hour redemption notice for the PRIT Real Estate fund. The PRIT Private Equity fund is not redeemable until notified by the PRIM Board.

The following represents the significant investment strategies and terms on which the Plan may redeem investments for those investments measured at the NAV (or its equivalent) as a practical expedient:

Investments Measured at NAV

	2022	2021	Redemption Frequency	Redemption Notice Period
Commingled equity funds ¹	\$ 366,254,552	\$ 469,786,463	Daily to Thrice Monthly	1-30 days
Commingled fixed income funds ²	\$ 182,173,305	\$ 258,202,389	Daily	1-30 days
Commingled opportunistic credit funds ³	\$ 41,011,025	—	Daily to Quarterly	10-90 days

¹ Commingled equity funds: This type includes five funds that invest primarily in U.S. large and small cap equity funds and international equity funds.

² Commingled fixed income fund: This type includes one fixed income fund that invests in U.S. corporate bonds, U.S. government bonds, U.S. asset-backed securities and foreign bonds.

³ Commingled opportunistic credit funds: This type includes two opportunistic credit funds that invest in domestic and global credit related instruments.

E. Operating Expenses

The Plan’s administrative expenses as shown on the Statements of Changes in Plan Fiduciary Net Position are borne by the Plan and financed with investment income. These expenses include personnel and professional services, member communication and education, and other miscellaneous administrative expenses. Operating expenses are billed back to the Authority dollar for dollar as part of the annual assessment.

F. General Termination Policy

Under Chapter 465, Section 25 of the General Laws of The Commonwealth of Massachusetts, in the event of dissolution of the Authority by the General Court, participants of the Plan who do not transfer to or enter service in a governmental plan in which a contributory retirement system was established under Chapter 32 shall continue as a member of the Massachusetts Port Authority Employees’ Retirement System and shall be entitled to benefits as outlined in the Plan. Effective upon the date of dissolution of the Authority, or default of its obligations under Chapter 32 of the General Laws, benefits to be paid to participants would become obligations of the Commonwealth of Massachusetts.

–Notes to the Financial Statements, continued–

G. Legally Required Reserve Accounts

The balances in the Plan's legally required reserves at December 31, 2022 and 2021 were as follows:

All reserve accounts are funded at levels required by state statute.

	2022	As Restated 2021	Purpose
Annuity Savings Fund	\$ 129,836,474	\$ 124,784,425	Active members' contribution balance
Annuity Reserve Fund	53,550,603	55,119,351	Retired members' contribution account
Pension Reserve Fund	547,285,649	680,845,077	Remaining net assets
Pension Fund	35,458,859	59,681,943	Amounts appropriated to fund retirement benefits
Military Service Fund	65,735	57,530	Amount appropriated to fund military service time
Total	\$ 766,197,320	\$ 920,488,326	

H. Related-Party Transactions

The Plan invests certain cash in a money market fund, the M&T Bank Short-Term Investment Fund, which is sponsored by the Plan's custodial bank. The total value of funds held at December 31, 2022 and 2021 was \$1,112,752 and \$932,542, respectively.

I. Net Pension Liability (Asset)

The components of the Net Pension Liability (Asset) of the System as of December 31, 2022 and 2021, is as follows:

	2022	As Restated 2021
Total Pension Liability	\$ 858,104,731	\$ 835,993,841
Fiduciary Net Position	766,197,320	920,488,326
Plan's Net Pension Liability (Asset)	\$ 91,907,411	\$ (84,494,485)
Fiduciary Net Position as a Percentage of the Total Pension Liability	89.3%	110.1%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of January 1, 2022 and update procedures were used to roll forward the total pension liability from the valuation date (1/1/22) to the measurement date (12/31/22). The following actuarial assumptions were applied to the periods included in the measurement for 2022 and 2021:

- Inflation – 3.0%
- Salary increases – 4.25% for 2022 and 2021
- Investment rate of return, net of plan investment expense – 6.75% for 2022 and 2021
- Cost-of-Living increases – 3.0% on a maximum base of \$14,000
- Mortality – 2022:
 - Pre-Retirement: Pub-2010 Table Healthy Employees (sex-distinct) projected with MP2021 Generational Mortality. Separate tables for Groups 1 & 2 (General Employees) and for Group 4 (Public Safety).
 - Post-Retirement: Pub-2010 healthy annuitant Table (sex-distinct) projected with MP2021 Generational Mortality. Group distinctions apply as with actives.
 - Disabled: Pub-2010 Table for disabled lives (sex-distinct) projected with MP2021 Generational Mortality was used. Mortality for accidental disability is assumed to be 50% from the same cause as the disability. Separate tables for Groups 1 & 2 and for Group 4.

- Mortality – 2021:
 - Healthy – RP2014 at 2006 Table Healthy Employees (sex distinct) projected with MP2021 Generational Mortality. Post-retirement the RP2014 healthy annuitant Table (sex distinct) projected with MP2021 Generational Mortality. December 31, 2020 projected with MP2018 Generational Mortality.
 - Disabled – RP2014 at 2006 healthy annuitant Table (sex distinct) projected with MP2021 Generational Mortality set-forward 2 years. December 31, 2020 projected with MP2018 Generational Mortality. Mortality for accidental disability is assumed to be 50% from the same cause as the disability.
- Long-term Expected Rate of Return:
 - The long-term expected rate of return on plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The best estimates of geometric long-term expected real rates of return for each major asset class are summarized in the following table:

Asset Class	Expected Real Rate of Return	
	2022*	2021*
Domestic Equity	4.71%	3.63%
International Equity	5.37	4.36
Fixed Income	2.42	1.07
Opportunistic Credit	4.20	3.13
Real Estate	4.54	4.29
Private Equity	7.72	6.75

*Amounts are net of inflation assumption of 2.38% and 2.66%, respectively.

Discount Rate

The discount rate used to measure the total pension liability as of December 31, 2022 and 2021 was 6.75%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Change in Benefit Terms

In 2018, there was a change to plan provisions resulting in a \$4.9 million reduction of the net pension liability. Due to a decision by the Contributory Retirement Appeal Board, vacation buybacks were not included in pensionable earnings when estimating the projected benefit payments. In August 2022, Chapter 147 of the Acts of 2022 was signed into law. This new law provides that in some circumstances vacation buybacks will be considered regular compensation and included as pensionable earnings. Since its enactment, the Board and management have been working with our regulator, the Public Employee Retirement Administration Commission (PERAC), to determine which members are affected and to develop and receive regulatory approval of a vacation buyback supplementary regulation. Potential impacts will include retroactive benefit increases for some current retirees, amounts owed to the System by this same group of retirees and amounts owed to the System by some active members. Management anticipates full implementation in 2023 and any additional liabilities will be recognized once such amounts are measurable.

–Notes to the Financial Statements, continued–

Sensitivity of the Net Pension Liability (Asset) to Changes in the Discount Rate

The following presents the net pension liability (asset) of the Plan as of December 31, 2022 and 2021, calculated using the current discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is one-percentage point lower or one-percentage point higher than the current rate:

2022	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Plan's Net Pension Liability (Asset)	\$193,513,079	\$ 91,907,411	\$ 7,362,432

2021 As Restated	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Plan's Net Pension Liability (Asset)	\$ 13,481,048	\$ (84,494,485)	\$(166,921,227)

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*.

Required Supplementary Information (Unaudited)

Schedule of Changes in Net Pension (Asset) Liability and Related Ratios

As of December 31	2022	As Restated 2021	2020
Total Pension Liability			
Service cost	\$ 19,438,506	\$ 18,994,468	\$ 17,335,130
Interest	56,300,284	55,139,792	53,203,718
Change of benefit terms	—	—	—
Differences between expected and actual experience	(28,553,747)	(463,175)	5,845,991
Change of assumptions	17,633,974	14,880,700	15,573,525
Benefits payments	(43,718,196)	(41,994,872)	(36,624,674)
Other	1,010,069	(554,701)	(327,323)
Net Change in Total Pension Liability	\$ 22,110,890	\$ 46,002,212	\$ 55,006,367
Total Pension Liability – beginning of year	\$ 835,993,841	\$ 789,991,629	\$ 734,985,262
Total Pension Liability – end of year (a)	\$ 858,104,731	\$ 835,993,841	\$ 789,991,629
Change in Fiduciary Net Position			
Contributions – employer	\$ 8,340,432	\$ 11,695,314	\$ 14,641,803
Contributions – employees	11,841,149	10,904,747	13,100,494
Net investment income (loss)	(130,526,209)	122,485,721	113,320,740
Benefits payments	(43,718,196)	(41,994,872)	(36,624,674)
Administrative expenses	(1,238,250)	(1,206,990)	(1,152,471)
Other	1,010,068	(554,701)	(327,323)
Net Change in Fiduciary Net Position	\$ (154,291,006)	\$ 101,329,219	\$ 102,958,569
Fiduciary Net Position – beginning of year	\$ 920,488,326	\$ 819,159,107	\$ 716,200,538
Fiduciary Net Position – end of year (b)	\$ 766,197,320	\$ 920,488,326	\$ 819,159,107
Net Pension (Asset) Liability – end of year (a)–(b)	\$ 91,907,411	\$ (84,494,485)	\$ (29,167,478)
Fiduciary Net Position as a Percentage of the Total Pension Liability	89.3%	110.1%	103.7%
Covered Payroll	\$ 112,199,412	\$ 126,886,615	\$ 128,612,917
Net Pension (Asset) Liability as a Percentage of Covered Payroll	81.9%	(66.6)%	(22.7)%

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*. See accompanying Independent Auditors' Report.

Notes to Schedule:

Benefit Changes

2018: Cost-of-Living adjustments increased, resulting in an increased net pension liability totaling \$3.0 million. Additionally, vacation buybacks were no longer includable in pensionable earnings, resulting in a decreased net pension liability totaling \$7.9 million.

Changes of Assumptions

2022: The mortality assumption was changed to the Pub-2010 Tables. This assumption change resulted in an increased net pension liability totaling \$17.6 million.

2021: The interest rate was changed from 7.0% to 6.75%. The mortality improvement scale was changed from MP2018 to MP2021. Rates of retirement and withdrawal rates were adjusted for 2021 only to reflect the impact of the COVID-19 pandemic. The net of these changes resulted in an increased total pension liability totaling \$14.9 million.

2020: The interest rate was changed to 7.0% from 7.25%. The salary increase assumption was changed to 4.25% from 4.5%. Compensation limits under Section 401(a) were recognized. The net of these changes resulted in an increased total pension liability totaling \$15.6 million.

2019: The mortality assumption was changed to the RP2014 at 2006 Table Healthy Employees (sex-distinct) projected with MP2018 Generational Mortality. The withdrawal, retirement and disability assumptions were also changed. These assumption changes resulted in a decreased net pension liability totaling \$13.8 million.

2016: The minimum retirement age increased to age 60 for post 9/30/2009 hires, resulting in a decreased net pension liability totaling \$1.5 million.

2015: Discount rate decreased from 7.625% to 7.25%, resulting in an increased net pension liability totaling \$24.1 million.

2019	2018	2017	2016	2015	2014	2013
\$ 17,529,241	\$ 16,774,393	\$ 16,419,396	\$ 15,920,199	\$ 14,875,343	\$ 13,055,819	\$ 12,515,848
51,734,212	49,569,214	47,341,133	44,961,249	41,160,193	40,955,958	38,659,898
—	(4,891,422)	—	—	—	—	—
15,434	748,729	(1,474,367)	2,591,721	(1,394,849)	1,929,282	—
(13,789,423)	—	—	(1,478,780)	24,097,914	—	—
(35,377,808)	(33,648,705)	(31,000,590)	(28,430,589)	(26,457,593)	(24,498,778)	(23,147,453)
2,277,196	561,899	269,347	(173,330)	351,309	141,411	439,361
\$ 22,388,852	\$ 29,114,108	\$ 31,554,919	\$ 33,390,470	\$ 52,632,317	\$ 31,583,692	\$ 28,467,654
\$ 712,596,410	\$ 683,482,302	\$ 651,927,383	\$ 618,536,913	\$ 565,904,596	\$ 534,320,904	\$ 505,853,250
\$ 734,985,262	\$ 712,596,410	\$ 683,482,302	\$ 651,927,383	\$ 618,536,913	\$ 565,904,596	\$ 534,320,904
\$ 12,029,098	\$ 13,043,069	\$ 13,362,268	\$ 13,552,303	\$ 10,845,396	\$ 11,146,319	\$ 11,960,386
12,576,329	11,559,077	11,242,327	10,659,615	9,947,598	9,627,879	9,112,191
118,234,705	(31,212,130)	92,225,853	42,565,124	(4,572,336)	31,932,249	65,690,757
(35,377,808)	(33,648,705)	(31,000,590)	(28,430,589)	(26,457,593)	(24,498,778)	(23,147,453)
(1,215,774)	(1,182,153)	(1,148,892)	(1,189,467)	(1,188,190)	(1,287,785)	(828,935)
2,277,196	561,899	269,347	(173,330)	351,309	141,411	439,361
\$ 108,523,746	\$ (40,878,943)	\$ 84,950,313	\$ 36,983,656	\$ (11,073,816)	\$ 27,061,295	\$ 63,226,307
\$ 607,676,792	\$ 648,555,735	\$ 563,605,422	\$ 526,621,766	\$ 537,695,582	\$ 510,634,287	\$ 447,407,980
\$ 716,200,538	\$ 607,676,792	\$ 648,555,735	\$ 563,605,422	\$ 526,621,766	\$ 537,695,582	\$ 510,634,287
\$ 18,784,724	\$ 104,919,618	\$ 34,926,567	\$ 88,321,961	\$ 91,915,147	\$ 28,209,014	\$ 23,686,617
97.4%	85.3%	94.9%	86.5%	85.1%	95.0%	95.6%
\$ 119,261,835	\$ 114,541,433	\$ 110,173,417	\$ 106,443,913	\$ 99,190,353	\$ 94,339,891	\$ 90,041,646
15.8%	91.6%	31.7%	83.0%	92.7%	29.9%	26.3%

Schedule of Investment Returns

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Annual money-weighted rate of return, net of investment expense*	(14.41)%	16.13%	16.14%	19.64%	(4.83)%	16.51%	8.14%	(0.82)%	6.36%	14.80%

*This calculation uses a mid-month assumption for all cash flows.
See accompanying Independent Auditors' Report.

Schedule of Contributions

Year	Actuarially Determined Contribution	Actual Contribution in Relation to Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2022	\$ 8,340,432	\$ 8,340,432	—	\$112,199,412	7.4%
2021	11,695,314	11,695,314	—	126,886,615	9.2
2020	14,641,803	14,641,803	—	128,612,917	11.4
2019	12,029,098	12,029,098	—	119,261,835	10.1
2018	13,043,069	13,043,069	—	114,541,433	11.4
2017	13,362,268	13,362,268	—	110,173,417	12.1
2016	13,552,303	13,552,303	—	106,443,913	12.7
2015	10,845,396	10,845,396	—	99,190,353	10.9
2014	11,146,319	11,146,319	—	94,339,891	11.8
2013	11,960,386	11,960,386	—	90,041,646	13.3

See accompanying Independent Auditors' Report.

–Required Supplementary Information, continued–

Notes to the Schedule of Contributions

Methods and Assumptions used to determine contribution rates:

Valuation Date	Actuarially determined contribution rates are calculated as of January 1, 18 months prior to the end of the fiscal year in which contributions are reported. The January 1, 2021 valuation established the rate for the fiscal year 2022 contribution and the January 1, 2022 valuation established the fiscal year 2023 contribution. The following assumptions were used for the periods included in the funding for 2022 and 2021:	
Actuarial Cost Method	Frozen-Entry-Age-Normal	
Amortization Method	20 year level, closed	
Asset Valuation Method	5-year smoothed market	
Inflation	3.0%	
Salary Increases	4.25% for 2022 and 2021	
Investment Rate of Return	6.75% and 7.0%, net of plan investment expenses for 2022 and 2021, respectively.	
Retirement Benefits	Depending on age at retirement and “Group” classification 0.1% – 2.5% per year of service times highest three-year average salary. A five-year average salary is used for those hired after April 1, 2012.	
Post-Retirement Cost-of-Living Increases	The Cost-of-Living base is assumed to be \$14,000. Annual Cost-of-Living increases are assumed to be 3.0% of the lesser of the base or annual benefits.	
Withdrawal Prior to Retirement	The rates shown at the following sample ages illustrate the ultimate withdrawal assumption. There is a 10 year select period for Groups 1 and 2. For 2022 rates are multiplied by 3.75 (less than 10 years of service) and by 3.20 (attained age 40 or over).	
Rate of Withdrawal		
Age	Groups 1 & 2	Group 4
25	7.0%	6.0%
30	7.0	0.5
35	6.0	0.5
40	4.0	0.4
45	3.0	0.1
50	0.5	N/A
55	0.5	N/A
Mortality – 2022	<p>Pre-Retirement: Pub-2010 Table Healthy Employees (sex-distinct) projected with MP2021 Generational Mortality. Separate tables for Groups 1 & 2 (General Employees) and for Group 4 (Public Safety).</p> <p>Post-Retirement: Pub-2010 healthy annuitant Table (sex-distinct) projected with MP2021 Generational Mortality. Group distinctions apply as with actives.</p> <p>Disabled: Pub-2010 Table for disabled lives (sex-distinct) projected with MP2021 Generational Mortality was used. Mortality for accidental disability is assumed to be 50% from the same cause as the disability. Separate tables for Groups 1 & 2 and for Group 4.</p>	
Mortality – 2021	<p>Healthy: RP2014 at 2006 Table Healthy Employees (sex-distinct) projected with MP2020 Generational Mortality. Post-retirement the RP2014 healthy annuitant Table (sex-distinct) projected with MP2020 Generational Mortality.</p> <p>Disabled: RP2014 at 2006 healthy annuitant Table (sex-distinct) projected with MP2020 Generational Mortality set-forward 2 years. Mortality for accidental disability is assumed to be 50% from the same cause as the disability.</p>	

See accompanying Independent Auditors’ Report

Other Supplementary Information

Schedule of Administrative Expenses

As of December 31	2022	As Restated 2021
Personnel Services		
Staff salaries	\$ 485,610	\$ 443,286
Board member stipend	22,500	22,500
Benefits	116,158	118,080
Total Personnel Services	\$ 624,268	\$ 583,866
Professional Services		
Actuarial	\$ 49,800	\$ 47,130
Audit	83,900	81,500
Legal counsel	69,166	79,853
Total Professional Services	\$ 202,866	\$ 208,483
Communication		
Printing	\$ 9,587	\$ 9,610
Postage	10,214	8,716
Education and training	8,880	3,500
Member services	8,185	15,402
Total Communication	\$ 36,866	\$ 37,228
Miscellaneous		
General and administrative	\$ 25,246	\$ 41,262
Rent and other	309,315	297,912
Technology system support	39,689	38,239
Total Miscellaneous	\$ 374,250	\$ 377,413
Total Administrative Expenses	\$ 1,238,250	\$ 1,206,990

See accompanying Independent Auditors' Report.

—Other Supplementary Information, continued—

Schedule of Investment Expenses and Payments to Consultants

As of December 31	2022	2021
Schedule of Investment Expenses		
Investment management fees	\$ 3,029,100	\$ 2,912,976
Investment consultant fees	150,000	141,761
Custodial fees	41,708	41,547
Total Investment Expenses	\$3,220,808	\$3,096,284
Schedule of Payments to Consultants*		
Independent auditors	\$ 83,900	\$ 81,500
Actuary	49,800	47,130
Legal	69,166	79,853
Total Payments to Consultants	\$ 202,866	\$ 208,483

*These payments are presented for analytical purposes; each amount is already included in schedules of administrative or investment expenses.
See accompanying Independent Auditors' Report.

Investment Section

Retirement Savings

While we as members of Massport's retirement system are very fortunate to have access to a defined benefit pension plan, it alone will not completely fund your retirement. Establishing a dedicated savings stream for additional retirement savings is crucial to your financial health. Massport's deferred compensation SMART Plan is a great option. Currently Massport matches up to \$3,000 per year towards your SMART Plan account.



Report on Investment Activity

The information contained in the Investment Section of the Annual Comprehensive Financial Report ("ACFR" or the "Annual Report") has been prepared by Wilshire Advisors, LLC, acting as the investment consultant to the Massachusetts Port Authority Employees' Retirement System (MPAERS). All investment information herein is unaudited; however, it has been reconciled between the trustee of the MPAERS, the investment managers hired by the MPAERS, and Wilshire Advisors, LLC. The investment returns presented herein were calculated utilizing the Modified Bank Administration Institute (BAI) methodology, which is a time-weighted rate of return approximation that weighs cash flows according to their timing between monthly fair values.

The overall goal of the MPAERS is to provide benefits, as anticipated under the MPAERS' governing plan document, to its participants and their beneficiaries through a carefully planned and executed investment program. Through this program, the MPAERS seeks to produce a return on investment commensurate with levels of liquidity and investment risk that are prudent and reasonable given the financial status of the MPAERS and the prevailing capital market conditions. While the MPAERS recognizes the importance of the preservation of capital, it also recognizes the critical importance of a reasonable investment return in meeting the long-term financial requirements of the MPAERS. It adheres to the theory of capital market pricing that maintains that varying degrees of investment risk should be rewarded with compensating returns. Consequently, prudent risk-taking is both necessary and justifiable.

The asset allocation policy is based on data and calculations resulting from the Actuarial Valuation conducted by Stone Consulting, Inc. effective January 1, 2021 and the subsequent Asset/Liability study conducted by the investment consultant, presented October 28, 2021.

Overall MPAERS Performance Objectives

The asset allocation policy that was in effect from January 1, 2013 through December 30, 2021 is outlined in the first table. Following the Asset/Liability Study presented by the investment consultant on October 28, 2021, the MPAERS elected to change the asset allocation policy as outlined in the second table. This allocation went into effect on December 31, 2021. The expected return in excess of inflation is 5.25% for 2023, and the actuarial assumed rate of return is 6.75%.

Asset Allocation Policy in effect January 1, 2013 through December 30, 2021

Asset Class	%	Benchmark
U.S. Stocks	27.5	DJ Wilshire 5000
International Stocks	27.5	MSCI ACWI ex U.S. (N)*
U.S. Bonds	30.0	Bloomberg Barclays US Aggregate Bond Index
Real Estate	7.5	Real Estate Policy Benchmark**
Private Equity	7.5	DJ Wilshire 5000

Asset Allocation Policy in effect as of December 31, 2021

Asset Class	%	Benchmark
U.S. Stocks	27.5	DJ Wilshire 5000
International Stocks	27.5	MSCI ACWI ex U.S. (N)*
U.S. Bonds	22.5	Bloomberg Barclays US Aggregate Bond Index
Opportunistic Credit	5.0	Opportunistic Credit Policy Benchmark***
Real Estate	7.5	Real Estate Policy Benchmark**
Private Equity	10.0	DJ Wilshire 5000

*International Stocks benchmark changed from MSCI EAFE (N) to MSCI ACWI ex U.S. (N) effective January 1, 2011

**The Real Estate policy benchmark is comprised of the following:

80% NCREIF Property Index Lagged

20% FTSE EPRA/NAREIT Dev (N)

***The Opportunistic Credit policy benchmark is comprised of the following:

75% Bloomberg Global Aggregate Index (Hedged)

25% Credit Suisse Leveraged Loan Index

Expected return relative to inflation: 5.25% in excess of Consumer Price Index

Actuarial assumed rate of return: 6.75% per year

A. Outline of Investment Policies

The policies and procedures of the investment program guide its implementation and outline the specific responsibilities of the MPAERS. Therefore, it is the policy of the MPAERS to:

1. Base the investment of the assets of the MPAERS on a financial plan that will consider:
 - a. the financial condition of the MPAERS;
 - b. the expected long-term capital market outlook;
 - c. the MPAERS' risk tolerance;
 - d. future changes of active and retired participants;
 - e. projected inflation and the rate of salary increases;
 - f. cash flow requirements; and
 - g. the targeted funding level as a percentage of the actuarial funding target.

In developing its financial plan, the board has relied on the MPAERS' investment consultant, as one of the MPAERS' expert fiduciaries, to advise the board as to the long-term capital outlook and the board's options available to meet the MPAERS' investment objectives in light of that investment outlook. The investment consultant has advised the board as to the potential impact on the funding level of private equity policies in terms of risk and return based on various levels of asset diversification and the current and projected liability structure of the MPAERS. Based on this advice, the board has adopted an overall investment performance goal commensurate with the level of risk necessary to reach those goals.

2. Based on the financial plan and the advice of the investment consultant, the board shall determine the specific allocation of the investments among the various asset classes considered prudent given the MPAERS' liability structure. The long-term asset allocation shall be expressed in terms of a target and ranges for each asset class to provide sufficient flexibility to take advantage of short-term market opportunities as they may occur. Allocation shall be sufficiently diversified to maintain a prudent level of risk, as determined by the board, based on the investment consultant's expert opinion and projections that utilize reasonable, generally accepted capital market assumptions to ensure the current asset mix has a high probability of achieving the long-term goals of the retirement program.
3. In accordance with the asset allocation guidelines so adopted, the MPAERS' investment consultant shall advise and recommend to the board, external investment managers with demonstrated experience and expertise whose investment styles collectively will implement the planned asset allocation. Based on these recommendations, the board will select the investment advisors that it deems most capable of carrying out the MPAERS' investment objectives. Upon the advice of the investment consultant, the board will set guidelines for these managers and regularly review their investment performance against stated objectives.
4. It is the responsibility of the board to administer the investments of the MPAERS at the lowest reasonable cost, taking into account the need to ensure quality. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to the MPAERS.

Under Section 23 of Chapter 32, the board has general supervision of the investment and reinvestment of the funds of the MPAERS (the "Funds") created pursuant to Chapter 32, Section 22 of such laws. The specific investment-related duties of the board and, by delegation, of its investment consultant and advisors, include but are not limited to:

1. selection and appointment of investment consultant and management professionals to assist the board to carry out its duties under Chapter 32 and the Public Employee Retirement Administration Commission's Investment Regulations;
2. establishment and implementation of the investment policy with the advice and assistance of the board's investment consultant and investment advisors; and
3. review and general supervision of the activities of the board's investment consultant and investment advisors with regard to the MPAERS' assets.

B. Investment Results

Portfolio	Returns for periods ending December 31						
	Annualized Returns		Annual Returns*				
	3-Year	5-Year	2022	2021	2020	2019	2018
Total Fund	5.81%	6.22%	-11.57%	15.25%	16.28%	19.68%	-4.62%
Policy Benchmark**	2.74	4.27	-14.23	11.56	13.34	19.77	-5.07
Peer Universe Median Return	3.98	5.16	-12.81	13.59	12.16	18.47	-4.05
Domestic Equity Composite	6.60%	8.06%	-18.84%	25.42%	19.01%	30.25%	-6.62%
Wilshire 5000	7.41	8.99	-19.04	26.70	20.82	31.02	-5.27
Peer Universe Median Return	7.06	8.09	-16.59	26.18	15.98	28.53	-5.13
International Equity Composite	-0.21%	1.26%	-20.71%	5.06%	19.35%	27.11%	-15.71%
MSCI ACWI ex U.S. (N)	0.07	0.88	-16.00	7.82	10.65	21.51	-14.20
Peer Universe Median Return	1.42	1.95	-16.40	10.03	13.89	22.55	-13.91
Fixed Income Composite	-2.49%	0.31%	-14.24%	-1.17%	9.40%	9.79%	-0.22%
Bloomberg Barclays US Aggregate Bond Index	-2.71	0.02	-13.01	-1.55	7.51	8.72	0.01
Peer Universe Median Return	-0.57	1.20	-9.49	-0.03	7.10	8.72	0.05
Private Equity Composite	30.55%	24.90%	6.71%	67.00%	24.86%	11.22%	22.83%
Wilshire 5000	7.41	8.99	-19.04	26.70	20.82	31.02	-5.27
Real Estate Composite	11.09%	9.76%	6.99%	27.34%	0.62%	10.60%	5.05%
Real Estate Policy Benchmark***	7.33	7.17	6.96	15.00	0.52	9.31	4.57
Peer Universe Median Return	8.89	8.31	6.26	29.85	1.86	7.14	1.31
Opportunistic Credit Composite	N/A	N/A	-8.42%	N/A	N/A	N/A	N/A
Opportunistic Credit Policy Benchmark****	N/A	N/A	-8.74	N/A	N/A	N/A	N/A
Peer Universe Median Return	N/A	N/A	-1.45	N/A	N/A	N/A	N/A

* Annual return figures have been adjusted to reflect returns net of fees.

** The present policy benchmark is comprised of the following:

From 1/1/2013 – 12/30/2021
 35.0% DJ Wilshire 5000
 27.5% MSCI ACWI ex U.S. (N)
 30.0% Bloomberg Barclays US Aggregate Bond Index
 7.5% Real Estate Policy Benchmark

From 12/31/2021 – Present
 37.5% DJ Wilshire 5000
 27.5% MSCI ACWI ex U.S. (N)
 22.5% Bloomberg Barclays US Aggregate Bond Index
 7.5% Real Estate Policy Benchmark
 5.0% Opportunistic Credit Policy Benchmark

*** The Real Estate policy benchmark is comprised of the following:

From 4/1/2005 – Present
 80% NCREIF Property Index Lagged
 20% FTSE EPRA/NAREIT Dev (N)

**** The Opportunistic Credit policy benchmark is comprised of the following:

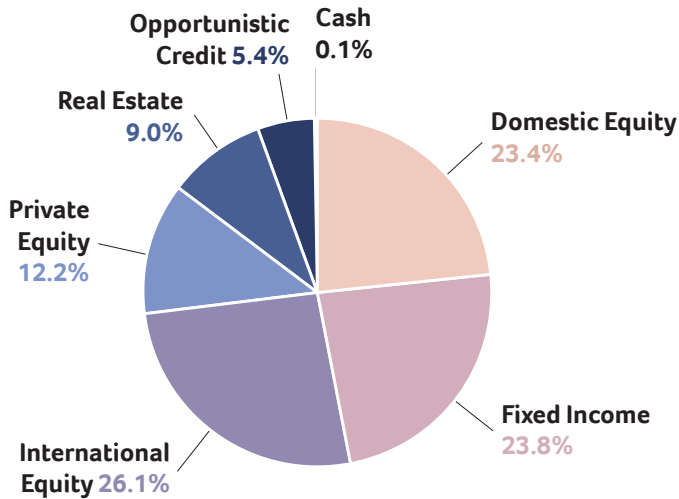
From 1/1/2022 – Present
 75% Bloomberg Global Aggregate Index (Hedged)
 25% Credit Suisse Leveraged Loan Index

The MPAERS' historical policy benchmark is a weighted average of the representative asset class benchmarks. Returns are calculated utilizing the Modified BAI methodology, which is a time-weighted rate of return approximation that weighs cash flows according to their timing between monthly fair values.

C. Asset Allocation

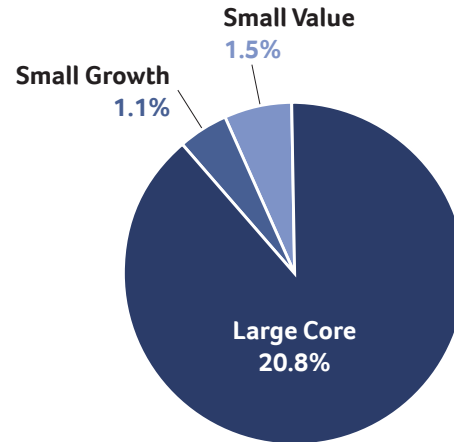
Actual Asset Allocation

December 31, 2022



Actual Domestic Equity Allocation

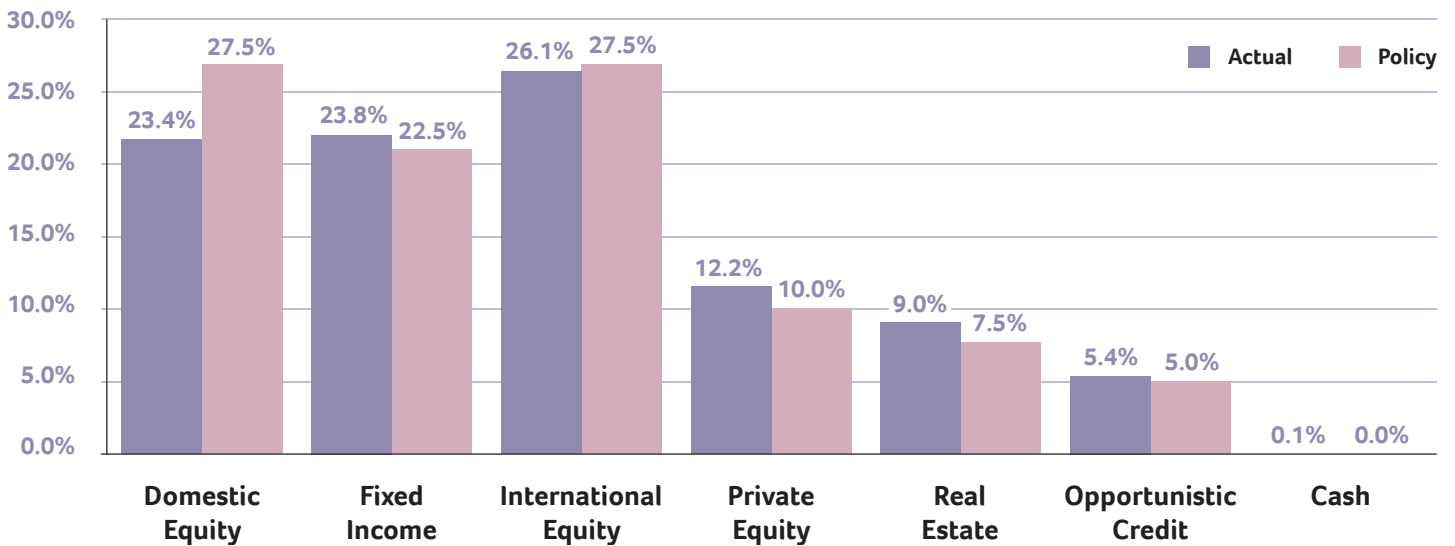
December 31, 2022



The current policy asset allocation depicted below has been in place since December 31, 2021.

Asset Allocation vs. Policy

December 31, 2022



Any shortfall in the private equity allocation due to anticipated future commitments, or current commitments that have yet to be called will be invested in the System's U.S. Stock Large Core Index Fund until such time as funds are committed and/or drawn down. Likewise, any overweight to private equities due to market appreciation will be netted against the System's U.S. Stock Large Core Index Fund.

The Board's current rebalancing policy states that "The Board shall rebalance to the established targets during the quarter following the quarter-ended whenever the asset class allocation falls outside the allowable ranges." Target ranges are +/- 5% for Private Equities, +/- 3% for Domestic Equities and International Equities, +/- 2.5% for Fixed Income and Opportunistic Credit, and +/- 2.5% for Real Estate.

D. List of Largest Assets Held

The following tables present the largest assets held by the MPAERS by asset class either individually or through a mutual fund.

Largest U.S. Equity Holdings (by Fair Value)

December 31, 2022

	Shares	Stock	Fair Value (\$000's)	% of U.S. Security**	% of all Assets**
1	67,325	Apple Inc	\$ 8,747	4.89%	1.14%
2	33,519	Microsoft Corp	8,038	4.50	1.05
3	39,810	Amazon.com Inc	3,344	1.87	0.44
4	8,078	Berkshire Hathaway Inc	2,495	1.40	0.33
5	26,957	Alphabet Inc	2,378	1.33	0.31
6	4,191	Unitedhealth Group Inc	2,221	1.24	0.29
7	23,947	Alphabet Inc	2,124	1.19	0.28
8	11,782	Johnson & Johnson	2,081	1.16	0.27
9	18,450	Exxon Mobil Corp	2,035	1.14	0.27
10	13,087	JPMorgan Chase & Co	1,754	0.98	0.23
Total Top Ten			\$ 35,217	19.71%	4.61%
Total fair value of domestic equities*			\$ 178,695		
Total fair value of all assets*			\$ 764,323		

Largest Non – U.S. Equity Holdings (by Fair Value)

December 31, 2022

	Shares	Stock	Fair Value (\$000's)	% of Non-U.S. Security**	% of all Assets**
1	294,209	Taiwan Semiconductor Manufacturing Co Ltd	\$ 4,293	2.15%	0.56%
2	257,694	AIA Group Ltd	2,866	1.44	0.37
3	21,520	Nestle SA, Cham Und Vevey	2,492	1.25	0.33
4	24,807	NOVARTIS AG	2,278	1.14	0.30
5	2,551	MercadoLibre Inc	2,159	1.08	0.28
6	94,887	Meituan	2,124	1.07	0.28
7	46,734	Samsung Electronics Co Ltd	2,044	1.03	0.27
8	37,825	Unilever PLC	1,927	0.97	0.25
9	59,928	Housing Development Finance Corp Ltd	1,911	0.96	0.25
10	3,502	ASML Holding NV	1,883	0.94	0.25
Total Top Ten			\$ 23,977	12.03%	3.14%
Total fair value of Non – U.S. equities*			\$ 199,313		
Total fair value of all assets*			\$ 764,323		

*Assets as presented herein do not include the effects of accruals which are reflected in the audited financial statements.

**Percentage totals are rounded to two decimal places.

Largest Bond Holdings (by Fair Value)

December 31, 2022

	Security	Effective Yield			Fair Value (\$000's)	% of Total Bonds**	% of Total Assets**
1	US TIPS	3.91%	Due: 7/15/2029	Rating: AAA	\$ 4,405	2.42%	0.58%
2	US TIPS	3.78	Due: 7/15/2032	Rating: AAA	4,334	2.38	0.57
3	US Treasury	3.94	Due: 8/15/2052	Rating: AAA	4,119	2.26	0.54
4	US Treasury	4.09	Due: 11/15/2042	Rating: AAA	3,861	2.12	0.51
5	US Treasury	4.08	Due: 5/15/2048	Rating: AAA	3,651	2.00	0.48
6	US Treasury	4.30	Due: 5/31/2025	Rating: AAA	3,463	1.90	0.45
7	US Treasury	4.12	Due: 8/15/2042	Rating: AAA	2,618	1.44	0.34
8	US Treasury	3.83	Due: 8/15/2032	Rating: AAA	2,257	1.24	0.30
9	US Treasury	3.92	Due: 11/15/2052	Rating: AAA	1,671	0.92	0.22
10	US Treasury	4.13	Due: 8/15/2040	Rating: AAA	1,634	0.90	0.21
Total Top Ten					\$ 32,013	17.57%	4.19%
Total fair value of bonds					\$ 182,173		
Total fair value of all assets*					\$ 764,323		

*Assets as presented herein do not include the effects of accruals which are reflected in the audited financial statements.

**Percentage totals are rounded to two decimal places.

These holdings represent a sample of the total holdings of the MPAERS and complete portfolios are available on request.

E. Schedules of Fees and Commissions

The following table outlines the schedule of fees that were paid by the MPAERS for the year ending December 31, 2022.

Schedule of Investment Service Fees for 2022

Investment Manager	Assets Under Management	Fees
Baillie Gifford	\$ 64,264,212	\$ 313,955
WTC-CIF II (Daily)	182,173,305	311,759
WTC-CIF International Opportunity	68,474,514	378,990
SSGA Passive Bond Market Index	-	3,562
SSGA Russell 2000 Growth	8,456,930	10,000
SSGA Russell 1000	158,484,748	72,354
SSGA MSCI ACWI xUS Index (N)	66,574,149	46,882
Pzena	11,753,196	113,495
Palmer Square Opportunistic Credit	11,708,910	104,654
Brandywine Global Multi-Sector Income	29,302,115	103,143
PRIT Private Equity VY 2000	38,316	14
PRIT Private Equity VY 2001	65,906	24
PRIT Private Equity VY 2002	7,851	4
PRIT Private Equity VY 2003	66,140	24
PRIT Private Equity VY 2004	20,884	(5)
PRIT Private Equity VY 2005	69,616	187
PRIT Private Equity VY 2006	481,468	241
PRIT Private Equity VY 2007	656,854	3,458
PRIT Private Equity VY 2008	1,603,617	1,848
PRIT Private Equity VY 2009	219,960	619
PRIT Private Equity VY 2010	2,300,301	11,134
PRIT Private Equity VY 2011	3,350,571	25,704
PRIT Private Equity VY 2012	2,360,803	28,311
PRIT Private Equity VY 2013	6,373,757	47,314
PRIT Private Equity VY 2014	8,089,437	49,124
PRIT Private Equity VY 2015	11,028,338	99,243
PRIT Private Equity VY 2016	5,552,020	73,293
PRIT Private Equity VY 2017	12,778,952	110,854
PRIT Private Equity VY 2018	12,944,241	152,886
PRIT Private Equity VY 2019	11,632,378	117,142
PRIT Private Equity VY 2020	7,092,999	140,399
PRIT Private Equity VY 2021	5,476,665	137,684
PRIT Private Equity VY 2022	1,289,852	20,396
PRIT Core Real Estate	68,914,390	550,410
Other	715,397	
Total	\$764,322,791*	\$ 3,029,100
Custodian fees		\$ 41,708
Investment consulting fees		\$ 150,000
Total other fees		\$ 191,708
Total investment services fees		\$ 3,220,808

*Total assets under management as presented herein do not include the effects of accruals which are reflected in the audited financial statements.

Commissions Paid to Brokers

The commissions that were paid to brokers by the MPAERS' separate account manager, Pzena Investment Management, during 2022 are presented in the following table.

Brokerage Firm	Shares	Total Commissions (agency trades)*	Commissions per Share (agency trades)
BMO Capital Markets	7,842	\$ 274	0.0350
Barclays Capital Inc.	500	18	0.0350
Robert W. Baird & Co. Inc.	1,081	38	0.0350
Cantor Fitzgerald & Co.	10,580	106	0.0100
Credit Suisse	9,500	333	0.0350
Credit Suisse – Algo	1,349	7	0.0050
Goldman, Sachs – CSA	500	9	0.0175
Evercore ISI	300	11	0.0350
Jefferies LLC	200	7	0.0350
Jones Trading	482	5	0.0100
Keefe, Bruyette & Woods	2,370	77	0.0323
KeyBanc Capital Markets, Inc.	2,815	55	0.0195
Merrill Lynch	200	7	0.0350
Morgan Stanley	3,021	106	0.0350
Raymond James & Associates Inc.	334	12	0.0350
Sanford Bernstein – Algo CSA	1,351	47	0.0350
Sanford Bernstein – Algo Execution	1,439	7	0.0050
Tourmaline Partners, LLC	163,425	892	0.0055
Tourmaline CSA	20,844	730	0.0350
UBS Securities LLC	1,200	42	0.0350
Wells Fargo Securities	189	7	0.0350
Grand Total	229,522	\$ 2,790	

*Total commissions are rounded to the nearest dollar.

F. Investment Summary by Type as of December 31, 2022

Type of Investment	Sector/Country	% Weight of Portfolio*	Fair Value (\$000's)	% of Total Fair Value*
Domestic Equity				
	Communication Services	6%	\$ 11,436	1.5%
	Consumer Discretionary	10	17,870	2.3
	Consumer Staples	7	11,615	1.5
	Energy	5	9,471	1.2
	Financials	13	22,873	3.0
	Health Care	15	26,804	3.5
	Industrials	11	19,120	2.5
	Information Technology	24	42,887	5.6
	Materials	4	6,433	0.8
	Real Estate	3	5,182	0.7
	Utilities	3	5,003	0.7
	Other	0	-	0.0
	Total Domestic Equity	100%	\$ 178,695	23.4%
Fixed Income				
	UST/Agency Bonds	22%	\$ 40,078	5.2%
	Corporate Bonds	36	65,582	8.6
	Mortgage Bonds	9	16,396	2.1
	Municipal Bonds	2	3,643	0.5
	Foreign Issues	5	9,109	1.2
	Miscellaneous/Cash	5	9,109	1.2
	Asset Backed Securities	21	38,256	5.0
	Total Fixed Income	100%	\$ 182,173	23.8%
International Equity				
	Total Europe	50%	\$ 100,254	13.2%
	Total Americas	8	15,546	2.0
	Total Pacific Basin	38	75,540	9.9
	Other Markets	4	7,973	1.0
	Total International Equity	100%	\$ 199,313	26.1%
Opportunistic Credit				
	Opportunistic Credit		\$ 41,011	5.4%
Private Equity				
	Private Equity		\$ 93,501	12.2%
	Real Estate		\$ 68,914	9.0%
Cash/Other				
	Cash/Other		\$ 715	0.1%
	Total Assets**		\$ 764,323	100.0%

* Percentage totals are rounded to zero and one decimal place.

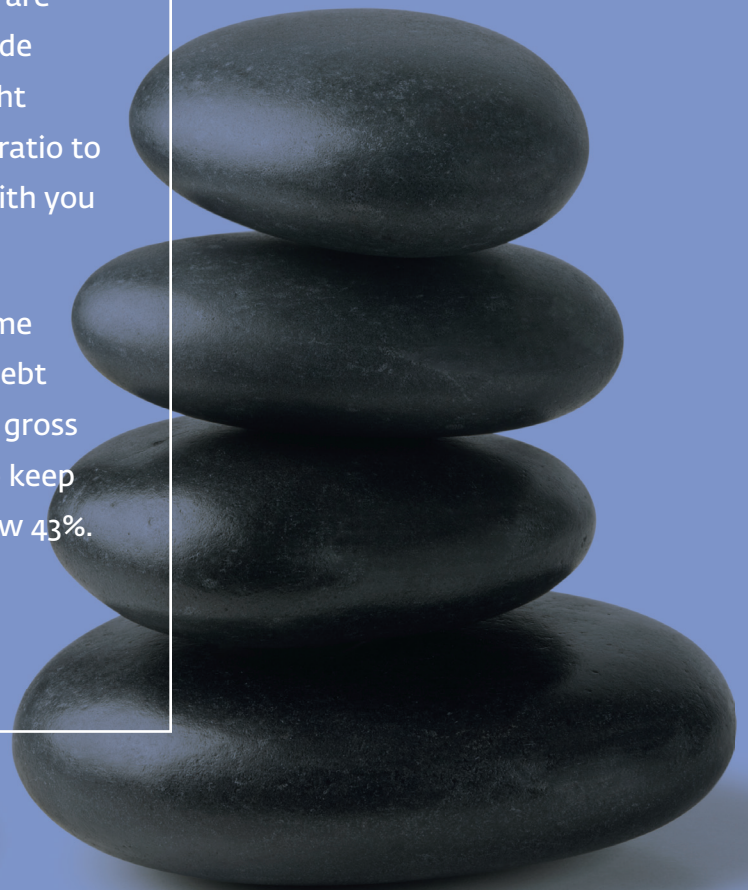
** Total assets under management as presented herein do not include the effects of accruals which are reflected in the audited financial statements.

Actuarial Section

Debt to Income Ratio

In addition to your credit score, your debt-to-income (DTI) ratio is an important part of understanding your overall financial health. Calculating your DTI ratio may help you determine how comfortable you are with your current debt, and also decide whether applying for credit is the right choice for you. Lenders use your DTI ratio to help determine the risk associated with you taking on another payment.

You can calculate your debt-to-income ratio by adding up all your monthly debt payments and dividing them by your gross income. A general rule of thumb is to keep your debt-to-income ratio at or below 43%.



Actuary's Certification

September 2, 2022

MASSACHUSETTS PORT AUTHORITY EMPLOYEES' RETIREMENT BOARD
One Harborside Drive, Suite 200S, East Boston, MA 02128-2909

Dear Members of the Board:

Stone Consulting, Inc. has performed a January 1, 2022 actuarial valuation of the Massachusetts Port Authority Employees' Retirement System (the "System," the "Plan," or the "MPAERS"). This valuation and report were prepared using generally accepted actuarial principles and practices. To the best of our knowledge, this report is complete and accurate, and the assumptions used were chosen by the Retirement Board in conjunction with Stone Consulting, Inc.'s recommendations. We believe the assumptions represent a reasonable estimate of anticipated experience of the System. The assumptions and methods used for funding purposes in this valuation meet the parameters set by the Actuarial Standards of Practice as set forth by the Actuarial Standards Board.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the administrative staff of the MPAERS. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the Plan's auditors.

This report was prepared using our proprietary valuation model and DBVAL version 12.24. In our professional judgment, this software has the capability to provide results which are consistent with the purposes of the valuation. Output from the software is tested to ensure that the model reasonably represents that which is intended to be modeled. The valuation output is prepared and analyzed using proprietary Excel spreadsheets followed by a final review by an actuary.

The funding objective of the plan is to provide for the current cost of benefits (i.e., normal cost) as a level percentage of payroll over time and this objective is currently being realized. The employer contribution rate is determined by adding the normal cost plus a level dollar amortization of the frozen-entry-age liability. The normal cost is expected to remain at a level percentage of payroll. While the statute which created the MPAERS did not anticipate the effect of assumption or plan changes on the funding schedule, we have amortized these effects over 20 years, consistent with the original amortization period contained in the Enabling Act of the Massachusetts Port Authority Employees' Retirement System.

The MPAERS experienced investment gains in calendar 2021. Net of investment expenses, the actual return on the market value of assets was 15.17% as compared to the prior valuation's expected

return of 7.00% (6.75% this valuation); the return on the actuarial value of assets was 11.47%. The Massachusetts Port Authority's (the "Authority") FY2023 (July 1, 2022) contribution of \$8,340,432 is \$3,354,882 less than the Authority's FY2022 contribution and \$2,049,568 less than the expected contribution based upon last year's actuarial valuation. The decrease is mainly due to investment gains and an experience gain as calculated on page 60.

Stone Consulting, Inc. prepares an actuarial valuation of the MPAERS annually. This satisfies the requirements under Chapter 32 of the Massachusetts General Laws.

Prepared and included in the actuarial valuation report for use in the Actuarial Section of the Annual Comprehensive Financial Report (the "Annual Report") are the following:

- Schedule of Active Member Valuation Data;
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls;
- Solvency Test; and
- Schedules of Funding Progress.

Additionally, for use in the statistical and financial sections of the Annual Report, we have included and prepared the following:

- Distribution of Plan Members;
- Schedule of Average Benefit Payments; and
- Schedule of Benefit Recipients by Type and Option.

We are pleased to present the results of this valuation. If the MPAERS Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in a misleading or inaccurate understanding of the results.

The undersigned are consultants for Stone Consulting, Inc. and are members of the American Academy of Actuaries; they meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan



Joan Moreau

Member, American Academy of Actuaries



Colin Edgar

Member, American Academy of Actuaries



Lawrence B. Stone

Member, American Academy of Actuaries

Summary of Actuarial Methods and Assumptions

The assumptions used for the actuarial valuation are recommended by the actuary and adopted by the MPAERS Board on an annual basis in conjunction with guidance provided by the actuary. Refer to the Recent Changes of this section to see changes in assumptions and methods. In addition, Massachusetts State Law specifies the actuarial cost method to be used.

Actuarial Methods

Actuarial Cost Method

The Frozen-Entry-Age Actuarial Cost Method has been used in this valuation. Under this method, the present value of all future benefits is determined for each individual participant as of each valuation date. The unfunded frozen actuarial liability represents the unfunded portion of the initial actuarial accrued liability as adjusted for plan changes and changes in assumptions. The annual normal cost is then determined as the amount necessary to fund, as a level percentage of pay of the participants included in the valuation, the excess of the present value of future benefits over the sum of the assets and the unfunded actuarial accrued liability. Actuarial gains and losses are not directly recognized under this method, but are spread over future years as a portion of the annual normal cost.

Asset Valuation Method

The Asset Valuation Method is the market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return. A five-year rolling period is used. The phase-in is 20% for year one, 40% for year two, 60% for year three, 80% for year four and 100% for year five. The actuarial value of assets must be within a corridor of 85% to 115% of the adjusted market value of assets.

Actuarial Assumptions

Investment Return Rate

6.75% per year

Mortality

- Pre-Retirement: Pub-2010 Table Healthy Employees (sex-distinct) projected with MP2021 Generational Mortality. Separate tables for Groups 1 & 2 (General Employees) and for Group 4 (Public Safety).
- Post-Retirement: Pub-2010 healthy annuitant Table (sex-distinct) projected with MP2021 Generational Mortality. Group distinctions apply as with actives.
- Disabled: Pub-2010 Table for disabled lives (sex-distinct) projected with MP2021 Generational Mortality was used. Mortality for accidental disability is assumed to be 50% from the same cause as the disability. Separate tables for Groups 1 & 2 and for Group 4.

Rates of Retirement

Group 1, 2 and 4 employees are assumed to retire at the following rates upon attainment of 10 years of service. If hired after 9/30/2009 and not eligible for post-retirement medical insurance until age 60, retirement begins at age 60 with 10 years of service.

Rates of Retirement

(Employees hired prior to April 2, 2012)

Age	Group 1*	Group 2*	Group 4*
50	2%	2%	2%
51	2	2	2
52	2	2	2
53	3	3	3
54	3	3	5
55	5	5	9
56	5	5	9
57	5	5	11
58	7	7	13
59	7	7	13
60	15	15	20
61	18	18	15
62	18	18	15
63	18	18	20
64	15	15	20
65	30	35	100
66	35	35	N/A
67	35	35	N/A
68	35	35	N/A
69	35	35	N/A
70	100	100	N/A

Rates of Retirement

(Employees hired after April 1, 2012)

Age	Group 1*	Group 2*	Group 4*
50	-	-	-
51	-	-	-
52	-	-	-
53	-	-	-
54	-	-	-
55	-	10%	3%
56	-	6	3
57	-	5	9
58	-	7	11
59	-	9	13
60	22%	12	20
61	18	15	15
62	18	23	15
63	19	19	20
64	15	16	20
65	15	30	100
66	20	35	N/A
67	35	35	N/A
68	35	35	N/A
69	35	35	N/A
70	100	100	N/A

* Groups 1, 2 and 4 are assigned based on employee class as described in the Summary of Principal Plan Provisions on pages 60-62.

Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the ultimate withdrawal assumption. There is a 10-year select period for Groups 1 and 2.

Rate of Withdrawal

Age	Groups 1 and 2*	Group 4*
25	7.0%	6.0%
30	7.0	0.5
35	6.0	0.5
40	4.0	0.4
45	3.0	0.1
50	0.5	N/A
55	0.5	N/A

* Groups 1, 2 and 4 are assigned based on employee class as described in the Summary of Principal Plan Provisions on pages 60-62.

Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

Rate of Disability

Age	Group 1*	Group 2*	Group 4*
25	.01%	.01%	.40%
30	.01	.01	.40
35	.34	.34	.40
40	.68	.68	.40
45	.10	.10	.50
50	.133	.133	.65
55	.14	.14	.65
60	.12	.12	.20

* Groups 1, 2 and 4 are assigned based on employee class as described in the Summary of Principal Plan Provisions on pages 60-62.

Disability is assumed to be 25% ordinary and 75% accidental for Groups 1 and 2 and 10% ordinary and 90% accidental for Group 4.

Salary Increases

4.25% per year

Regular Interest Rate Credited to Annuity Savings Account

2% per year

Family Composition

Members are assumed to be married with two dependent children – one male and one female both age 15; age difference between member and spouse assumed to be three years (the male being the older).

Pension Increase Adjustments

For purposes of the valuation, it is assumed that the Massachusetts Port Authority Employees' Retirement Board will fund 3% annual pension increase adjustments (cost-of-living or COLA increases).

Pension Increase Adjustment Base

The pension increase adjustment base (cost-of-living or COLA base) is assumed to be \$14,000.

Expenses

Budgeted amount for the fiscal year, excluding investment management fees and custodial fee, is added to the Normal Cost.

Credited Service

An active member's credited service is attributed to Massachusetts Port Authority employment.

Vacation Buybacks

Vacation Buybacks were assumed to not be regular compensation and were not considered in the calculation of future retirement benefits. A liability of \$310,834 was assumed to reflect the value of return of employee contributions that were previously taken on vacation buybacks.

Valuation Date

January 1, 2022

Inflation Rate Assumption

2.75%

Recent Changes

- As of January 1, 2022 the interest rate changed to 6.75% (from 7.00%) and the mortality assumption was changed to the Pub-2010 Table with MP2021 generational mortality projection.
- As of January 1, 2021 the mortality projection was changed to MP2020 (from MP2018) and the retirement and withdrawal rates were modified by adding a multiplier for the 2021 year to reflect short-term experience expected due to the impact of financial stress on the Authority arising from the SARS-CoV-2 pandemic. Rates in 2022 onward were not changed.
- As of January 1, 2020 the interest rate changed to 7.00% (from 7.25%) and the salary rate changed to 4.25% (from 4.50%). The salary maximum under section 401(a)(17) was recognized.
- As of January 1, 2019 the mortality assumption was changed to the RP2014 at 2006 Table Healthy Employees (sex-distinct) projected with MP2018 Generational Mortality. The withdrawal, retirement and disability assumptions were also changed. Vacation buybacks were assumed not to be regular compensation.
- As of January 1, 2018 the pension increase adjustment base (cost-of-living or COLA base) was increased to \$14,000 (from \$13,000).
- As of January 1, 2016 the interest rate changed to 7.25% (from 7.50%). Employees hired after 9/30/2009 and not eligible for post-retirement medical insurance until age 60, retirement begins at age 60 with 10 years of service.
- As of January 1, 2015 the interest rate changed to 7.50% (from 7.625%).
- As of January 1, 2013 the mortality assumption was changed to the RP2000 Generational Table and the retirement, disability and withdrawal assumptions were changed based on an experience study.
- As of January 1, 2012 the mortality assumption was changed to the RP2000 Table projected forward 22 years with Scale AA, the interest rate changed to 7.625% (from 7.75%) and the salary rate changed to 4.50% (from 4.75%). The vacation buyback factor was increased from 1.00% to 1.25%. The pension increase adjustment base (cost-of-living or COLA base) was increased to \$13,000 (from \$12,000).
- As of January 1, 2011 the mortality assumption was changed to the RP2000 Table projected forward 11 years with Scale AA.
- As of January 1, 2010 the mortality assumption was changed to the RP2000 Table projected forward 10 years with Scale AA and the interest rate changed to 7.75% (from 8.00%).
- As of January 1, 2009 the mortality assumption was changed to the RP2000 Table projected forward 9 years with Scale AA, the interest rate changed to 8.00% (from 7.75%), the salary rate changed to 4.75% (from 5.00%) and the contribution timing changed to the beginning of the fiscal year (from monthly).
- As of the January 1, 2008 valuation the retirement age assumption was extended to age 70 for Group 1 employees, disabled mortality changed to a 2-year set forward and the asset valuation method was changed to 5-year smoothing.
- As of the January 1, 2006 valuation the calculation of the 3(8)(c) liabilities did not reflect further COLA increases.
- As of the January 1, 2004 valuation the retirement assumption for Group 4 members was changed from retirement at age 58 and 10 years of service to retirement rates between ages 50 and 65.
- As of the January 1, 2003 valuation the asset valuation method was changed to use a 15% corridor instead of a 10% corridor. Also, the pension increase adjustment base assumption was changed from 3.00% to 0.00%, the interest assumption was changed from 8.00% to 7.75% and the salary assumption was changed from 5.50% to 5.00%.
- As of January 1, 2002 an assumption regarding vacation buybacks was added.
- As of January 1, 2001 mortality has been changed from GAM94 to RP2000 to better reflect male mortality.
- As of January 1, 2000 mortality was changed from GAM83 to reflect longer life expectancies. The retirement age assumption was also changed. Prior to the January 1, 2000 valuation, employees of Groups 1 and 2 were assumed to retire at the later of age 63 and 10 years of service. Employees of Group 4 were assumed to retire at the later of age 56 and 10 years of service.

Date of Adoption

All assumptions and methods were adopted by the MPAERS Board on April 26, 2022 for use in the January 1, 2022 actuarial valuation and thereafter.

Contribution Timing

Contributions are assumed to be made at the beginning of the fiscal year, July 1.

Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
1/1/2022	1,094	\$107,625,335	\$98,378	2.1%
1/1/2021	1,263	121,713,779	96,369	5.4
1/1/2020	1,348	123,193,742	91,390	4.5
1/1/2019	1,304	114,017,778	87,437	2.2
1/1/2018	1,288	110,221,357	85,576	2.7
1/1/2017	1,268	105,659,425	83,328	1.4
1/1/2016	1,245	102,262,879	82,139	2.5
1/1/2015	1,191	95,475,718	80,164	2.3
1/1/2014	1,161	90,979,477	78,363	2.1
1/1/2013	1,130	86,729,766	76,752	2.2

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Valuation Date	Added to Rolls		Removed from Rolls		Rolls - End of Year		% Increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
1/1/2022	85	\$3,931,490	39	\$1,330,086	976	\$42,618,818	6.7%	\$43,667
1/1/2021	93	4,946,456	35	1,337,745	930	39,938,345	10.9	42,944
1/1/2020	40	1,754,095	26	982,527	872	35,998,539	3.3	41,283
1/1/2019	56	2,864,801	24	773,963	858	34,856,114	7.1	40,625
1/1/2018	75	3,373,043	28	853,171	826	32,553,942	9.3	39,412
1/1/2017	47	2,447,748	17	470,350	779	29,780,717	8.3	38,229
1/1/2016	52	2,312,489	21	676,452	749	27,498,124	7.1	36,713
1/1/2015	51	2,070,732	19	586,503	718	25,678,308	7.4	35,764
1/1/2014	45	1,763,845	14	361,877	686	23,904,002	7.6	34,845
1/1/2013	41	1,537,663	16	494,358	655	22,208,579	5.7	33,906

Notes:

Additional changes to annual retirement allowances can be due to various factors including:

1. Cost-of-living increases under Massachusetts General Laws Chapter 103;
2. Retroactive benefit changes;
3. Post-retirement COLA under Massachusetts General Laws Chapter 32, Sections 90A, 90C and 90D;
4. Suspension of benefits;
5. Changes in worker's compensation offsets;
6. Data corrections; and,
7. Change in dependents' allowance due to dependents exceeding age limit.

Solvency Test

A solvency test is a method of checking the short-term progress towards funding. The plan's present actuarial value of assets is compared to:

1. Active members' contributions;
2. Liabilities for retirees and beneficiaries; and
3. Liabilities for service accrued for active members and inactive members.

Valuation Date	Actuarial Accrued Liability (AAL)			Actuarial Value of Assets	Portion of AAL Covered by Assets		
	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active/Inactive Members (Employer Financed)		(1)	(2)	(3)
1/1/2022	\$109,611,292	\$484,407,070	\$296,325,755	\$815,123,599	100%	100%	74.6%
1/1/2021	115,968,476	424,960,701	240,501,845	744,137,258	100	100	84.5
1/1/2020	117,046,783	385,176,782	225,696,396	681,448,719	100	100	79.4
1/1/2019	108,465,873	368,316,861	200,464,856	645,818,828	100	100	84.3
1/1/2018	105,900,611	348,123,401	217,426,046	623,436,483	100	100	77.9
1/1/2017	104,130,296	317,558,267	207,117,804	582,816,054	100	100	77.8
1/1/2016	100,448,530	293,058,960	202,549,957	549,104,708	100	100	76.8
1/1/2015	97,096,332	270,897,577	184,650,103	520,740,990	100	100	82.7
1/1/2014	94,361,394	249,709,368	159,403,343	479,181,222	100	100	84.8
1/1/2013	90,907,523	233,425,040	133,604,588	433,408,458	100	100	81.6

Notes:

- Under the Frozen-Entry-Age Cost Method Actuarial Accrued Liability is not directly calculated. Actuarial Accrued Liability, as determined here, is that portion of the present value of future benefits that will not be paid by future employer normal costs.
- January 1, 2013 numbers reflect a change in assumptions. Mortality is based on the RP2000 Table (sex-distinct) projected with Scale BB and Generational Mortality (from 22 year projection) and a change to retirement, disability and withdrawal assumptions.
- January 1, 2015 numbers reflect a change in assumptions. The interest rate was changed to 7.50% (from 7.625%).
- January 1, 2016 numbers reflect a change in assumptions. The interest rate was changed to 7.25% (from 7.50%) and retirement age is delayed until age 60 for post 9/30/2009 hires who are not eligible for post-retirement medical insurance until age 60.
- January 1, 2018 numbers reflect a change in the pension increase adjustment base (cost-of-living or COLA base) to \$14,000 (from \$13,000).
- January 1, 2019 numbers reflect a change in assumptions. Mortality is based on the RP2014 at 2006 Table Healthy Employees (sex-distinct) projected with MP2018 Generational Mortality and a change to retirement, disability and withdrawal assumptions. Also reflects a change in the treatment of vacation buybacks.
- January 1, 2020 numbers reflect a change in assumptions. The interest rate was changed to 7.00% (from 7.25%). The salary increase assumption was changed to 4.25% (from 4.50%). Compensation limits under Section 401(a)(17) were recognized.
- January 1, 2021 numbers reflect a change in assumptions. The mortality table was changed to MP2020 mortality projection (from MP2018 projection). The withdrawal and retirement rates were also modified.
- January 1, 2022 numbers reflect a change in assumptions. The interest rate was changed to 6.75% (from 7.00%). The mortality table was changed to the Pub-2010 Table with MP2021 mortality projection.

Schedules of Funding Progress (in thousands of dollars)

Year ended December 31, 2022 (Unaudited)

As presented below, the Frozen-Entry-Age Actuarial Cost Method for calculating the Schedules of Funding Progress is the methodology required by the Plan under its charter; however, when this methodology is applied in the presentation of these financial statements, the management of the Plan does not believe that the result properly reflects the actual funding status and has therefore also presented the Entry-Age-Normal Actuarial Cost Method on the adjacent page.

Frozen-Entry-Age Actuarial Cost Method

Actuarial Valuation Date	(a) Actuarial Value of Assets	(b) Actuarial Accrued Liability (AAL)	(b-a) Unfunded Actuarial Liability (UAAL)	(a/b) Funded Ratio	(c) Covered Payroll	(b-a)/(c) UAAL as a Percent of Covered Payroll
1/1/2022	\$815,124	\$890,344	\$75,221	91.6%	\$107,625	69.9%
1/1/2021	744,137	781,431	37,294	95.2	121,714	30.6
1/1/2020	681,449	727,920	46,471	93.6	123,194	37.7
1/1/2019	645,819	677,248	31,429	95.4	114,018	27.6
1/1/2018	623,436	671,450	48,014	92.8	110,221	43.6
1/1/2017	582,816	628,806	45,990	92.7	105,659	43.5
1/1/2016	549,105	596,057	46,953	92.1	102,263	45.9
1/1/2015	520,741	552,644	31,903	94.2	95,476	33.4
1/1/2014	479,181	503,474	24,293	95.2	90,979	26.7
1/1/2013	433,408	457,937	24,529	94.6	86,730	28.3

–Schedules of Funding Progress, continued–

The following table for the years 1/1/2013 through 1/1/2022 reflects the Schedules of Funding Progress under the Entry-Age-Normal Actuarial Cost Method which is the required method for all other retirement systems governed by Chapter 32 of the Massachusetts General Laws. The Plan believes that this method of valuation more clearly reflects the actual funding status of the Plan.

Entry-Age-Normal Actuarial Cost Method

	(a)	(b)	(b-a)	(a/b)	(c)	(b-a)/(c)
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percent of Covered Payroll
1/1/2022	\$815,124	\$828,358	\$13,234	98.4%	\$107,625	12.3%
1/1/2021	744,137	782,688	38,551	95.1	121,714	31.7
1/1/2020	681,449	755,360	73,911	90.2	123,194	60.0
1/1/2019	645,819	700,694	54,875	92.2	114,018	48.1
1/1/2018	623,436	686,118	62,682	90.9	110,221	56.9
1/1/2017	582,816	650,553	67,737	89.6	105,659	64.1
1/1/2016	549,105	619,650	70,545	88.6	102,263	69.0
1/1/2015	520,741	572,374	51,633	91.0	95,476	54.1
1/1/2014	479,181	536,250	57,069	89.4	90,979	62.7
1/1/2013	433,408	505,853	72,445	85.7	86,730	83.5

Analysis of the dollar amounts of net assets available for benefits, Actuarial Accrued Liability (AAL), and assets in excess of AAL in isolation can be misleading. Expressing the Actuarial Value of Assets available for benefits as a percentage of the AAL provides one indication of the Plan's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the Plan is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the Public Employee Retirement System (PERS). Trends in assets in excess of AAL and annual covered payroll are both affected by inflation. Expressing the AAL in excess of assets as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the lower this percentage, the stronger the PERS.

The comparability of trend information is affected by changes in actuarial assumptions, benefit provisions, actuarial funding methods, accounting policies, the size or composition of the population covered by the Plan, and other changes. Those changes usually affect trends in contribution requirements and in ratios that use the AAL as a factor.

Analysis of Financial Experience

The Frozen-Entry-Age Actuarial Cost Method does not explicitly recognize actuarial gains or losses. Actuarial gains and losses are spread over the future working lifetime of the active members as part of the normal cost. Therefore, an actuarial loss would increase the normal cost as a percentage of payroll while an actuarial gain would lower the normal cost as a percentage of payroll.

Gross Normal Cost as a Percentage of Payroll (prior to Employee Contributions and Expenses)

	1/1/2021	1/1/2022
Prior Year's Gross Normal Cost (1/1/2020, 1/1/2021)	16.07%	13.71%
Increases/(Decreases) due to:		
Liability experience	(0.50)	(2.23)
Investment experience	(1.74)*	(3.25)*
Changes in benefits, assumptions and methods	(0.12)	1.04
Total	(2.36)	(4.44)
Current Valuation	13.71%	9.27%

*Includes prior years' investment experience which was recognized this year.

Summary of Principal Plan Provisions

Participant

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

- Group 1: general employees
- Group 2: employees in specified hazardous occupations (e.g., guards)
- Group 4: firefighters and electricians

Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 - 1983	7% of Pay
1984 - June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 are required to contribute an additional 2% of pay over \$30,000.

Pay

- Pay – Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
- Average Pay – The average of pay during the three consecutive years (five consecutive years if hired after April 1, 2012) that produce the highest average or, if greater, during the last three years (five years if hired after April 1, 2012), whether or not consecutive, preceding retirement.

Credited Service

Period during which an employee contributes to the retirement system plus certain periods of military service and purchased service.

Service Retirement

- a. Eligibility – (1) Attainment of age 55 and completion of ten years of credited service or at any age with completion of 20 years of service. If hired prior to 1978 or a member of Group 4, the completion of ten years of service is not required. (2) Hired after April 1, 2012 and Group 1 – age 60 and completion of ten years of credited service. Group 2 – age 55 and completion of ten years of service. Group 4 – age 55.
- b. Retirement Allowance – Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown in the tables below (maximum allowance of 80% of average pay).

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

Benefit Percentage (Hired after April 1, 2012)*	Group 1	Group 2	Group 4
2.50%	67+	62+	57+
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

* Reduction is .125% for each year early instead of .15% per year for employees with over 30 years of service.

Deferred Vested Retirement

- a. Eligibility – Completion of ten years of credited service.
- b. Retirement Allowance – Determined in the same manner as "Service Retirement" section with the member eligible to start collecting a benefit at age 55 (age 60 for post-April 1, 2012 hires), or defer until later at his or her discretion.

If a member chooses, his or her contributions with interest may be withdrawn. The amount of interest he or she will receive depends on length of service and whether or not the termination of employment was voluntary.

Ordinary Disability Retirement

- a. Eligibility – Non-job related disability after completion of ten years of credited service.
- b. Retirement Allowance – Determined in the same manner as “Service Retirement” section and calculated as if the member had attained age 55 (age 60 for those hired after April 1, 2012), if younger. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

Accidental Disability Retirement

- a. Eligibility – Disabled as a result of an accident in the performance of duties. No age or service requirement.
- b. Retirement Allowance – 72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).

Non-Occupational Death

- a. Eligibility – Dies while in active service, but not due to occupational injury.
- b. Retirement Allowance – Benefit as if Option C had been elected (see below) and member had attained age 55 (age 60 for those hired after April 1, 2012) if younger. Minimum monthly benefits provided as follows: spouse – \$500, first child – \$120, each additional child – \$90.

Occupational Death

- a. Eligibility – Dies as a result of an occupational injury.
- b. Retirement Allowance – 72% of pay plus refund of annuity savings fund balance. In the case of an accidental disability retiree who dies of the same cause, the beneficiary receives 72% of the last 12 months salary or the current pension amount, whichever is greater.

Cost-of-Living Increases

Applied to the first \$14,000 of annual benefit. Funded by the Authority.

Payment Options

- a. Option A – Allowance payable monthly for the life of the member.
- b. Option B – Allowance payable monthly for the life of the member with a guarantee of any remaining member contributions with interest.
- c. Option C – Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary pre-deceases the member, the allowance amount “pops-up” to the non-reduced amount (Option A).

Statistical Section

Track Saving and Spending

An essential component of financial wellness is living within your means. One easy trick to monitor savings and spending is by utilizing the 50/15/5 Rule:

Consider allocating no more than 50% of take-home pay to essential expenses.

Try to save 15% of pre-tax income (including employer contributions) for retirement.

Save for the unexpected by keeping 5% of take-home pay in short-term savings for unplanned expenses.



Statistical Section

The objectives of the Statistical Section are to provide additional historical perspective, context and detail to assist readers in using the information in the Financial Statements, Notes to the Financial Statements, and Required Supplementary Information in order to understand and assess the Plan's economic condition.

Financial Trends

The Schedule of Changes in Fiduciary Net Position presented on page 66 contains historical information related to the Plan's revenues, expenses, changes in net assets and net assets available for benefits. The Schedule of Additions by Source on page 66 provides employer and employee contribution rates and investment income historical information. The schedules of deductions and benefit deductions by type on page 67 provide a history of annual benefit, withdrawal, transfer, and operating expense trends.

Demographic and Economic Information

The schedule of Distribution of Plan Members shown on page 68 provides relevant details about the composition of the Plan's active membership including concentration of members within various age groups.

Operating Information

The Schedule of Average Benefit Payments on page 69 presents average monthly benefits and average final salary information by years of credited service for new benefit recipients within specified plan years. The Schedule of Benefit Recipients by Type and Option on page 70 illustrates the number of participants and total benefit payments by type and option.

Statistical data is provided from both the Plan's internal resources and from Stone Consulting, Inc.

Financial Trends

Schedule of Changes in Fiduciary Net Position

Fiscal Year Ended Dec. 31	Net Position Beginning of Year	Additions	Deductions	Increase (Decrease) in Net Position	Net Position, End of Year
2022	\$920,488,326	\$(107,627,560)	\$46,663,446	\$(154,291,006)	\$766,197,320
2021 As Restated	819,159,107	146,899,820	45,570,601	101,329,219	920,488,326
2020	716,200,538	142,436,080	39,477,511	102,958,569	819,159,107
2019	607,676,792	146,063,231	37,539,485	108,523,746	716,200,538
2018	648,555,735	(5,110,614)	35,768,329	(40,878,943)	607,676,792
2017	563,605,422	118,611,234	33,660,921	84,950,313	648,555,735
2016	526,621,766	67,829,609	30,845,953	36,983,656	563,605,422
2015	537,695,582	17,732,090	28,805,906	(11,073,816)	526,621,766
2014	510,634,287	53,808,845	26,747,550	27,061,295	537,695,582
2013	447,407,980	88,258,924	25,032,617	63,226,307	510,634,287

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*.

Schedule of Additions by Source

Fiscal Year Ended Dec. 31	Employee Contributions	Employer Contribution	Employer Contribution as a % of Covered Payroll	Investment Income (a)	Other (b)	Total
2022	\$11,841,149	\$ 8,340,432	7.7%	\$(130,526,209)	\$2,717,068	\$(107,627,560)
2021	10,904,747	11,695,314	9.6	122,485,721	1,814,038	146,899,820
2020	13,100,494	14,641,803	11.9	113,320,740	1,373,043	142,436,080
2019	12,576,329	12,029,098	10.6	118,234,705	3,223,099	146,063,231
2018	11,559,077	13,043,069	11.8	(31,212,130)	1,499,370	(5,110,614)
2017	11,242,327	13,362,268	12.6	92,225,853	1,780,786	118,611,234
2016	10,659,615	13,552,303	13.3	42,565,124	1,052,567	67,829,609
2015	9,947,598	10,845,396	11.4	(4,572,336)	1,511,432	17,732,090
2014	9,627,879	11,146,319	12.3	31,932,249	1,102,398	53,808,845
2013	9,112,191	11,960,386	13.8	65,690,757	1,495,590	88,258,924

Contributions were made in accordance with actuarially determined contribution requirements.

(a) Net of investment expenses

(b) Includes state pension reimbursements and transfer of employees' contributions from other public pension plans as defined by Massachusetts General Law, Chapter 32.

Schedule of Deductions by Type

Fiscal Year Ended Dec. 31	Benefits	Operating Expenses	Withdrawals	Transfers to other Systems	Total
2022	\$43,718,196	\$1,238,250	\$ 778,488	\$ 928,512	\$46,663,446
2021 As Restated	41,994,872	1,206,990	1,273,538	1,095,201	45,570,601
2020	36,624,674	1,152,471	1,047,163	653,203	39,477,511
2019	35,377,808	1,215,774	533,670	412,233	37,539,485
2018	33,648,705	1,182,153	667,246	270,225	35,768,329
2017	31,000,590	1,148,892	1,053,876	457,563	33,660,921
2016	28,430,589	1,189,467	548,846	677,051	30,845,953
2015	26,457,593	1,188,190	711,061	449,062	28,805,906
2014	24,498,778	1,287,785	655,654	305,333	26,747,550
2013	23,147,453	828,935	482,147	574,082	25,032,617

2021 amounts were restated due to the implementation of GASB Statement No. 87, *Leases*.

Schedule of Benefit Deductions by Type

Fiscal Year Ended Dec. 31	Service	Disability	Beneficiary	Total
2022	\$37,354,839	\$2,618,796	\$3,744,561	\$43,718,196
2021	35,651,425	2,490,297	3,853,150	41,994,872
2020	30,430,578	2,522,604	3,671,492	36,624,674
2019	29,530,115	2,580,700	3,266,993	35,377,808
2018	27,897,081	2,585,698	3,165,926	33,648,705
2017	25,522,495	2,494,100	2,983,995	31,000,590
2016	23,065,741	2,474,022	2,890,826	28,430,589
2015	21,427,821	2,294,165	2,735,607	26,457,593
2014	19,806,409	2,147,303	2,545,066	24,498,778
2013	18,527,177	2,191,504	2,428,772	23,147,453

Demographic and Economic Information

Distribution of Plan Members as of January 1, 2023 – Active Members

Age	Years of Service									Total	Total Compensation	Average Compensation
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 +			
0-19	-	-	-	-	-	-	-	-	-	-	-	-
20-24	8	-	-	-	-	-	-	-	-	8	\$ 487,232	\$ 60,904
25-29	42	14	-	-	-	-	-	-	-	56	4,239,254	75,701
30-34	49	59	8	-	-	-	-	-	-	116	10,618,221	91,536
35-39	45	58	34	10	-	-	-	-	-	147	13,988,405	95,159
40-44	30	41	28	26	7	-	-	-	-	132	13,336,153	101,031
45-49	21	31	15	26	28	8	-	-	-	129	13,009,090	100,846
50-54	27	36	29	37	25	38	17	-	-	209	22,328,138	106,833
55-59	20	27	13	33	25	19	26	16	-	179	19,431,068	108,553
60-64	8	17	11	23	12	18	11	17	-	117	12,891,137	110,181
65-69	1	9	5	12	5	6	3	-	-	41	3,957,477	96,524
70-74	-	5	3	2	1	-	-	-	-	11	1,423,977	129,452
75-79	-	-	-	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-	-	-	-
Total	251	297	146	169	103	89	57	33	-	1,145	\$ 115,710,152	\$ 101,057

Operating Information

Schedule of Average Benefit Payments – New Benefit Recipients

Years of Service	0-5	5-10	10-15	15-20	20-25	25-30	30+	Total
From 1/1/2022 — 12/31/2022								
Average Monthly Benefit	\$ 6,583	—	\$ 1,813	\$ 3,251	\$ 3,408	\$ 3,256	\$ 6,194	\$ 4,514
Average Final Average Salary	\$96,277	—	\$ 89,907	\$105,621	\$ 80,213	\$ 84,390	\$ 108,577	\$ 97,240
Number of Retired Members	1	—	4	8	5	6	19	43
From 1/1/2021 — 12/31/2021								
Average Monthly Benefit	—	\$ 1,774	\$ 2,299	\$ 2,688	\$ 3,329	\$ 4,030	\$ 5,539	\$ 3,854
Average Final Average Salary	—	\$ 85,362	\$106,368	\$ 97,736	\$ 94,927	\$ 89,389	\$ 99,140	\$ 97,803
Number of Retired Members	—	2	14	15	14	11	29	85
From 1/1/2020 — 12/31/2020								
Average Monthly Benefit	—	\$ 1,202	\$ 1,644	\$ 2,568	\$ 3,132	\$ 4,083	\$ 5,622	\$ 4,432
Average Final Average Salary	—	\$104,495	\$ 86,546	\$ 91,875	\$ 87,576	\$ 83,044	\$ 101,543	\$ 94,289
Number of Retired Members	—	1	7	6	13	18	48	93
From 1/1/2019 — 12/31/2019								
Average Monthly Benefit	—	\$ 180	\$ 2,022	\$ 2,227	\$ 3,451	\$ 3,913	\$ 4,836	\$ 3,654
Average Final Average Salary	—	\$ 72,438	\$ 88,401	\$105,651	\$ 86,567	\$ 93,984	\$ 93,843	\$ 93,472
Number of Retired Members	—	1	4	6	6	8	15	40
From 1/1/2018 — 12/31/2018								
Average Monthly Benefit	—	—	\$ 1,337	\$ 2,386	\$ 4,844	\$ 4,663	\$ 6,126	\$ 4,263
Average Final Average Salary	—	—	\$ 77,362	\$ 80,549	\$112,491	\$ 87,557	\$ 106,840	\$ 95,622
Number of Retired Members	—	—	10	10	8	6	22	56
From 1/1/2017 — 12/31/2017								
Average Monthly Benefit	—	\$ 1,032	\$ 1,442	\$ 2,168	\$ 4,539	\$ 4,408	\$ 4,670	\$ 3,748
Average Final Average Salary	—	\$ 88,228	\$ 73,827	\$ 74,773	\$101,549	\$ 91,597	\$ 101,858	\$ 92,413
Number of Retired Members	—	2	8	13	7	10	35	75
From 1/1/2016 — 12/31/2016								
Average Monthly Benefit	—	\$ 1,412	\$ 1,606	\$ 3,908	\$ 3,228	\$ 4,438	\$ 6,598	\$ 4,340
Average Final Average Salary	—	\$ 73,015	\$ 71,168	\$115,891	\$ 83,010	\$108,241	\$ 110,925	\$ 96,970
Number of Retired Members	—	2	6	3	12	8	16	47
From 1/1/2015 — 12/31/2015								
Average Monthly Benefit	—	\$ 1,558	\$ 1,289	\$ 2,297	\$ 2,703	\$ 3,351	\$ 5,165	\$ 3,706
Average Final Average Salary	—	\$ 71,302	\$ 62,816	\$ 79,463	\$ 79,244	\$ 80,539	\$ 96,127	\$ 85,215
Number of Retired Members	—	3	5	4	8	8	24	52
From 1/1/2014 — 12/31/2014								
Average Monthly Benefit	—	\$ 1,843	\$ 1,522	\$ 1,976	\$ 2,989	\$ 4,404	\$ 5,176	\$ 3,384
Average Final Average Salary	—	\$100,847	\$ 65,417	\$ 77,784	\$ 78,703	\$100,315	\$ 92,326	\$ 83,789
Number of Retired Members	—	3	9	6	12	4	17	51
From 1/1/2013 — 12/31/2013								
Average Monthly Benefit	—	\$ 4,878	\$ 1,809	\$ 2,968	\$ 2,499	\$ 3,698	\$ 3,570	\$ 3,266
Average Final Average Salary	—	\$ 78,572	\$112,401	\$102,111	\$ 60,954	\$ 88,784	\$ 72,271	\$ 80,204
Number of Retired Members	—	3	3	5	10	11	13	45

Schedule of Benefit Recipients by Type and Option

December 31, 2022

	Type of Retirement*								Option Selected**				Grand Total
	Total	1	2	3	4	5	6	7	A	B	C	D	
Deferred	83												
\$0-\$500	5	3	1	0	0	0	0	1			4	1	5
\$500-\$1,000	52	28	3	0	1	5	1	14	15	4	14	19	52
\$1,000-\$1,500	65	44	13	2	0	2	0	4	20	4	35	6	65
\$1,500-\$2,000	98	77	14	0	1	0	1	5	29	16	48	5	98
\$2,000-\$2,500	130	92	19	1	2	0	9	7	43	16	64	7	130
\$2,500-\$3,000	86	60	12	0	5	0	2	7	18	12	49	7	86
\$3,000-\$3,500	84	65	5	0	6	0	7	1	35	13	35	1	84
\$3,500-\$4,000	77	57	5	2	9	1	2	1	11	17	47	2	77
Over \$4,000	399	350	8	1	23	1	9	7	94	41	256	8	399
Total	1,079	776	80	6	47	9	31	47	265	123	552	56	996

*Type of Retirement

- 1-Service
- 2-Survivors from service related retirements
- 3-Non-occupational disability
- 4-Occupational disability
- 5-Accidental death
- 6-Termination Allowance
- 7-In Service death

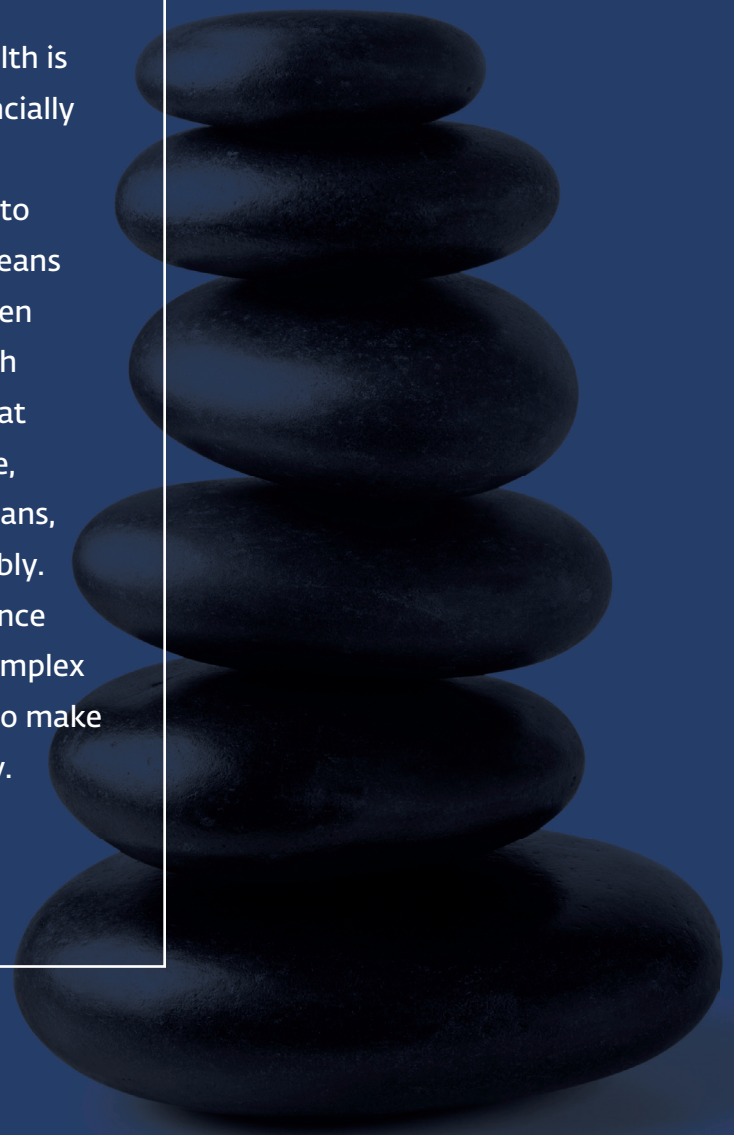
**Option Selected by original Retiree

- Option A-Life Annuity
- Option B-Beneficiary receives lump sum payment of remainder of members contributions
- Option C-66 2/3% Joint and survivor annuity
- Option D-Life annuity survivor benefit

Frequently Asked Questions

Financial Literacy

The only way to achieve financial health is through financial literacy. Being financially literate means you understand the importance of saving early and often to reach short and long term goals. It means you understand the difference between good and bad debt, and can avoid high interest credit cards. It also means that no matter your stage of life or income, you know how to live within your means, stick to a budget, and spend responsibly. Finally, healthy attitudes and confidence around money enable you to learn complex concepts such as investing and how to make smart decisions to make more money.



Frequently Asked Questions about Retirement

What are the ground rules?

1. Is membership mandatory for Massport employees?

Yes. Membership in the Massport Employees' Retirement System is required by law for all regularly employed employees who work at least 21 hours per week.

2. How are changes made to the retirement plan?

The Massport Employees' Retirement System is governed by the provisions of M.G.L., Chapter 32, as are most Massachusetts public pension systems. Any changes in the plan must be made through the legislative process.

3. How is my membership date determined?

For most Massport employees, your hire date is your membership date. Technically, it's the date you first began making contributions from your regular compensation into the retirement system. If you have a period of employment with Massport in which you did not make retirement contributions, you may want to contact the retirement office to inquire about purchasing your prior employment as creditable service.

Contributions...How much and how calculated?

4. How much do members contribute to the retirement system?

The amount each employee is required to contribute to the retirement system is set by statute. If you began employment on or after July 1, 1996, you must contribute nine percent of your regular compensation to the retirement system. If you were hired any time between January 1, 1984 and July 1, 1996 your contribution rate is set at eight percent. Members who joined the system any time between 1975 and 1983 contribute seven percent. Those employees who became members prior to 1975 are contributing five percent.

The law also mandates that for members whose employment commenced on or after January 1, 1979, an additional two percent will be withheld on regular compensation over \$30,000. This two percent is in addition to the seven, eight or nine percent that is already being deducted from total regular compensation.

5. Do a member's contributions to the retirement system earn interest? If so, how is the interest calculated?

Your contributions are placed in an individual annuity savings fund, which earns annual interest at a rate comparable to that of a passbook savings account. The interest rate is determined by the Public Employee Retirement Administration Commission and the Commissioner of Banks. This annual interest rate is independent of that earned on the retirement system's investments.

6. Does the amount of contributions and interest in a member's annuity savings fund account affect overall retirement benefits?

No. Your future retirement allowance is not based on your annuity savings account balance. It is instead determined by a formula consisting of your age, creditable service, group classification, and salary average at date of retirement. The money in your account is used to fund a portion of this allowance but the value of your account balance at retirement is not used in calculating your total retirement allowance.

7. Are employee contributions used to fund the administrative expenses of the retirement system?

No. Employee contributions are never used to fund administrative expenses. Operating expenses, including fees associated with actuarial and audit services, investment management, consultant and custodial fees, are funded solely through the system's investment income.

Benefits... How earned and how allocated?

8. What does it mean to be vested?

When you are vested, you have earned the right to a retirement allowance at a later date. You no longer have to remain in service to be eligible to collect it.

9. When does vesting occur?

You must have ten years of creditable service in order to be considered vested. If you transfer creditable service from another retirement system, or if you buy back prior or military service, such service is added to your Massport service to determine whether you are vested.

10. When is retirement an option?

If your membership date is prior to April 2, 2012 and you are a member classified in Group 1 or Group 2, you are eligible to retire at age 55 or older if you have at least ten years of creditable service. If you are a member classified in Group 4, you are eligible to retire at age 55 or older with no service requirement. If you have 20 years or more of service, you can retire at any age.

If your membership date is April 2, 2012 or later and your position is classified in Group 1, you are eligible to retire at age 60 or older if you have at least ten years of creditable service. If your position is classified in Group 2 you are eligible to retire at age 55 or older if you have at least ten years of service. Members classified in Group 4 are eligible to retire at age 55 or older with no service requirement.

Please note that if you are a member in Group 2 or Group 4 and your membership date is April 2, 2012 or later, the law requires that you must have performed the duties of the Group 2 or Group 4 position for at least 12 months immediately prior to your termination or retirement.

Please see Question 19 for a definition of group classifications.

11. What is the retirement allowance based on? How is it calculated?

Because our plan is a defined benefit plan, your retirement allowance is determined by a mathematical formula and is not based on the balance in your annuity account at the time of retirement. The factors used to determine your retirement allowance are; your age, creditable service, group classification, and an average of your three highest consecutive years* of regular compensation at date of retirement.

** If your hire date is April 2, 2012 or later, your retirement allowance will be based on a five-year salary average. Please call the retirement office for more information.*

12. Can I purchase creditable service earned in another Massachusetts public retirement system?

If you were a member of another retirement system subject to the provisions of M.G.L., Chapter 32, and you withdrew your retirement funds, it is possible to buy back your prior creditable service. The retirement office will verify your prior service and calculate the amount of your buyback. You must repay the amount withdrawn, plus interest, to the date of repayment. Please note that interest applied to prior service buybacks not initiated within one year of employment will increase by 100%. The current buyback interest rate is 3.375%. The rate after one year of employment will be 6.75%.

You have several payment options when completing a buyback. You may submit a lump sum payment, contribute through payroll deduction over a period of five years or less, or choose to roll over funds from an IRA, 401(k), 403(b), or 457 plan such as Massport's deferred compensation plan.

13. Will prior creditable service affect my membership date or contribution rate in Massport's retirement system?

If you have retirement contributions from a previous public employer directly transferred to our system, you are entitled to maintain the level of contribution you were paying previously. Under current regulations, if you received a refund of retirement contributions from your previous retirement system and later became a member of Massport's system, your contribution rate with Massport will be at the new member rate, regardless of what you were paying in your prior system. If you should later purchase your prior creditable service through a buyback, your contribution level will remain at the new member rate and will not be reduced to your previous rate.

14. If I was a temporary employee at Massport, may I apply that time towards my retirement creditable service?

If you were employed by Massport on a temporary basis, prior to becoming regular, full- or part-time, you may be entitled to purchase this service towards your retirement creditable service. If eligible, you must complete the buyback while you are employed at Massport. Please note that Massport student employment cannot be applied towards a service purchase.

If you had temporary service with another public employer in Massachusetts, you may be entitled to purchase that as well and apply it to your retirement creditable service at Massport. Each member's situation is different and requires research. Please call the retirement office for more information.

15. How is creditable service achieved?

You earn creditable service towards your retirement allowance for the period during which you are contributing to the retirement system. For most full- or part-time employees, this service time starts accruing the day you begin work and continues until the day you separate from service. However, if there is a period of time when you are off the payroll, you should consult with the retirement office as to how this will affect your total creditable service.

16. What if I work part time?

If you are an employee with periods of both part time and full time service, your part time service will be pro-rated based on actual hours worked. This is also the case if your hire date is March 28, 2019 or later and you are a part time employee for your entire career. Those employees with part time service only whose hire date is prior to March 28, 2019 are entitled to receive full creditable service for retirement calculation purposes. Additionally, due to a State Supreme Court decision (*Nancy Madden vs. Contributory Retirement Appeal Board*); if you worked part time before the MPAERS adopted its *Supplementary Regulation on Creditable Service* on April 26, 1993, you may be eligible to receive full time credit for that service. If you are someone who may be affected by the Madden decision, please contact the retirement office for more information about how it will impact your total creditable service.

17. Is regular compensation the same as total compensation?

No. Regular compensation is the portion of your salary that is subject to retirement contributions. Overtime, bonus pay, salary adjustments, severance pay, and any payments made for unused sick or vacation time are not considered regular compensation, are not subject to retirement contributions, and cannot be used towards your final average salary for the purpose of determining your retirement allowance.

18. Does the amount of my vacation buyback count as regular compensation?

It depends. In August 2022, Chapter 147 of the Acts of 2022 was signed into law. This new law provides that in some circumstances vacation buybacks will be considered regular compensation and included as pensionable earnings. Since its enactment, the Board and management have been working with our regulator, the Public Employee Retirement Administration Commission (PERAC), to determine which members are affected and to develop and receive regulatory approval of a vacation buyback supplementary regulation. Potential impacts may include retroactive benefit increases for some current retirees, amounts owed to the System by this same group of retirees and amounts owed to the System by some active members. Management anticipates full implementation in 2023 and any additional liabilities will be recognized once such amounts are measurable.

19. What are the group classifications within the retirement system?

The law determines your group classification based on your position. When you retire, your group number determines which age rate is used in the calculation of your retirement allowance. The board assigns employees to one of four groups as set forth in M.G.L., Chapter 32, Section 3:

- Group 1 - General employees, including clerical, administrative and technical workers, laborers and all others not otherwise classified. Most of Massport's employees are classified as Group 1.
- Group 2 - Airport gate guards and maritime port officers.
- Group 3 - State Police officers and inspectors.
- Group 4 - Firefighters, licensed electricians, first- and second-class stationary engineers, watch engineers, steam firemen, utility technicians and other supervisors.

If you have periods of service in more than one group classification, new rules apply. Please contact retirement staff for more information.

20. Does my participation in the 457 deferred compensation plan affect my Massport retirement benefit in any way?

No. Your Massport retirement benefit is separate from and not related to participation in the deferred compensation plan. The 457 plan is an optional savings vehicle, which allows you to supplement your retirement savings on a tax-deferred basis. It is strongly recommended that this plan be considered as an additional savings option by members.

Portability issues...What happens upon departure?

21. If I leave my job at Massport, what happens to my contributions?

If you leave your job at Massport and are not going to work for another governmental employer under the provisions of M.G.L., Chapter 32, you may be eligible to receive a refund of your contributions. If you are leaving to accept a position with a Massachusetts political subdivision subject to M.G.L., Chapter 32, your retirement contributions must be directly transferred to your new retirement system.

22. If I leave Massport and decide to take a refund of my contributions, how much interest will I receive?

The amount of interest you will receive depends on your length of service and the nature of your separation from service.

Resignation:

- *If you have less than 10 years of creditable service and voluntarily resign, you will receive three percent interest on your contributions for each year.*
- *If you have 10 or more years of creditable service and voluntarily resign you will receive 100 percent of the accrued "regular interest" for each year. Regular interest is determined annually by the Public Employee Retirement Administration Commission (PERAC) and the Commissioner of Banks and is comparable to that of a passbook savings account. The regular interest rate for 2022 was set at 0.1%. Please note that if you have more than 10 years of creditable service you are vested and potentially eligible for a future retirement allowance. You should carefully consider any decision to withdraw your funds.*

If you do choose to withdraw your funds and later return to work for Massport or another governmental entity subject to the provisions of M.G.L. Chapter 32, your previous employment will not count towards your creditable service in any future retirement calculation unless you repay the amount withdrawn, plus interest, prior to your date of retirement. Please see question 12 for repayment options and interest rate information.

Involuntary termination:

- *If you are involuntarily terminated, in most cases, you will receive 100 percent of the accrued regular interest for each year regardless of your length of service. If you have over 10 years of creditable service you could be eligible to receive a future retirement allowance. Contact retirement staff to discuss your options.*

23. Is there any time limit after terminating service to request a refund of contributions?

No. You may request a refund of your funds at any time after termination. If you leave your funds on deposit, however, and later seek a refund, your deductions will only earn interest for two years after termination. The previous question outlines the criteria used to determine which interest rate will apply.

24. Can a member who is vested and leaves his or her job at Massport still be eligible for a refund?

Any member who leaves his or her job may be eligible to withdraw his or her retirement funds. If the member is vested and has earned the right to a retirement allowance at a later date, careful consideration should be given to the value of the retirement benefit he or she may be forfeiting in exchange for a refund.

25. If I leave my job at Massport and leave my money in the retirement system, can I retire at a later date?

If you are vested and leave your job at Massport, you can choose to "defer" your retirement by leaving your money in the system until you are ready to retire.

26. Can a member withdraw or borrow money from his or her account in the retirement system without resigning or retiring?

No. There is no loan provision in this plan. An active member cannot withdraw or borrow money from his or her annuity savings fund account under any circumstances.

27. What are the tax consequences if I take a refund of my retirement contributions?

Your contributions and all of the interest you receive from your account are subject to federal income tax. When processing a refund of retirement contributions, the retirement office is required to withhold 20 percent of the taxable portion of your refund for federal tax. This 20 percent tax payment is required only if the refund is made directly to you. If you are younger than 59½, you may also be subject to an additional 10 percent IRS early withdrawal penalty.

To defer taxation, you must make a direct rollover of your retirement funds to an Individual Retirement Account (IRA) or another type of qualifying retirement account with a financial institution. With a direct rollover no tax is withheld and the entire taxable portion of your refund is transferred. If you have both taxable and nontaxable contributions, you may accept receipt of the nontaxable portion of your refund with no tax consequence and the taxable portion may be rolled over.

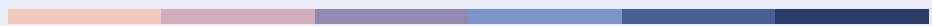
28. If I die before retirement, what happens to the funds in my account?

If you are married and die before you retire, in most cases, your surviving spouse will have the option of collecting a monthly benefit or receiving a lump sum payment of your contributions.

If you are single, the person you designated on your retirement beneficiary form would be eligible to receive a lump sum payment of your contributions. However, you may want to consider designating an Option D beneficiary which would allow you to provide a lifetime benefit for a child, parent, sibling, or former spouse who has not remarried, in the event that you die prior to retirement. Please contact the retirement office for more information.

29. Where can I get more information about the retirement plan at Massport?

If you have questions about the plan you should contact the retirement staff. To obtain a copy of either the *Massachusetts Public Employee Retirement Guide*, the *Guide to Disability Retirement for Public Employees*, or the *Guide to Survivor Benefits for Public Employees*, please contact the retirement office at (617) 568-3951 or access the guides online at <https://www.mass.gov/guides/perac-retirement-guides>.



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