

MICHIGAN PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Annual Comprehensive Financial Report
for the Fiscal Year Ended September 30, 2023

MPERS

A Fiduciary Component Unit of the State of Michigan

Prepared by:
Financial Services
For

Office of Retirement Services
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INTRODUCTORY SECTION

Certificate of Achievement
Public Pension Standards Award
Letter of Transmittal
Retirement Board Members
Advisors and Consultants
Organization Chart

INTRODUCTORY SECTION

CERTIFICATE OF ACHIEVEMENT



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Michigan Public School Employees' Retirement System

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

September 30, 2022

Christopher P. Morill

Executive Director/CEO

INTRODUCTORY SECTION
PUBLIC PENSION STANDARDS AWARD



Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
2023

Presented to

Michigan Office of Retirement Services

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

Presented by the Public Pension Coordinating Council, a confederation of

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

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

Michigan Public School Employees'
Retirement System
P.O. Box 30171
Lansing, Michigan 48909-7671
Telephone 517- 284-4400
Outside Lansing 1-800-381-5111

STATE OF MICHIGAN

GRETCHEN WHITMER, Governor

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET

February 14, 2024

The Honorable Gretchen Whitmer
Governor, State of Michigan,

Members of the Legislature
State of Michigan,

Retirement Board Members
and
Members, Retirees and Beneficiaries

Ladies and Gentlemen:

We are pleased to present the annual comprehensive financial report of the Michigan Public School Employees' Retirement System (System) for fiscal year 2023.

INTRODUCTION TO REPORT

The System was established by legislation under Public Act 136 of 1945, and is administered by the Office of Retirement Services (ORS). The number of active and retired members and beneficiaries of the System is presented in Note 1 of the financial statements in the Financial Section in this report. The purpose of the System is to provide retirement, disability, death, and healthcare benefits for all public school employees. The services performed by ORS staff provide benefits to members, retirees, and beneficiaries.

Responsibility

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the leadership team of the System. 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.

Internal Control Structure

The leadership team of the System is responsible for maintaining adequate internal accounting controls designed to provide reasonable assurance that transactions are executed in accordance with management's general or specific authorization, and are recorded as necessary to maintain accountability for assets and to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America. The internal control structure is designed to provide reasonable assurance regarding the safekeeping of assets and reliability of all financial records.

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management. This internal control structure includes maintaining written policies and procedures. Discussion and analysis of fiduciary net position and related additions and deductions are presented in the Management Discussion and Analysis which can be found immediately following the Independent Auditor's Report.

Independent Auditors and Actuary

The Office of the Auditor General (OAG), independent auditors, conducted an annual audit of the System. The independent auditor's report on the System's financial statements is included in the Financial Section in this report.

An actuarial valuation is conducted annually. The purpose of the valuation is to evaluate the mortality, service, compensation, and other financial experience of the System and to recommend employer contribution rates. The annual actuarial valuation was completed by Gabriel, Roeder, Smith & Company for the fiscal year ended September 30, 2022 and recommends employer contribution rates for the fiscal year ended September 30, 2025. Actuarial certification and supporting statistics are included in the Actuarial Section in this report.

Management's Discussion and Analysis (MD&A)

Generally Accepted Accounting Principles (GAAP) require that management provide a narrative introduction, overview, and analysis to accompany the Basic Financial Statements in the form of an MD&A. This letter of transmittal is intended to complement the MD&A and should be read in conjunction with it. The MD&A can be found immediately following the Independent Auditor's Report.

PROFILE OF THE GOVERNMENT

In accordance with Public Act 300 of 1980, on October 31, 1980, the Public School Employees' Chapter I Retirement Fund merged with the Public School Employees' Chapter II Retirement Fund to establish the Public School Employees' Retirement System. Public Acts 136 of 1945 and 259 of 1974, respectively, created the two original funds. A 12-member board and the director of the Department of Technology, Management, and Budget (DTMB), govern the System. The System serves approximately 396,000 members from over 690 participating public school employers in Michigan. The System is funded by employer contributions, member contributions, and investment earnings. A detailed plan description is included in Note 1 of the Financial Section in this report.

ECONOMIC CONDITIONS AND OUTLOOK

Despite a long-term mix of both challenging and robust economic times, the System continues to show steady performance.

Investments

The State of Michigan Investment Board is the investment fiduciary and custodian of all investments of the System pursuant to State law. The primary investment objective is to maximize the rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to eliminate inordinate risks and to meet the actuarial assumption for the investment rate of return. The investment activity for the year produced a total rate of return on the portfolio of 8.3 percent for the pension plan and 8.3 percent for the other postemployment benefits (OPEB) plan. For the last five years, the System has experienced an annualized rate of return of 7.7 percent for the pension plan and 7.6 percent for the OPEB plan. A summary of asset allocation and rates of return is presented in the Investment Section in this report.

Accounting System

Transactions of the System are reported on the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when incurred. Participants' benefits are recorded when payable by law. We believe that the accounting and administrative internal controls established by the System provide reasonable assurance

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

the System is carrying out its responsibilities in safeguarding its assets, in maintaining the reliability of the financial records for preparing financial statements, and in maintaining accountability for its assets.

Funding

Funds are derived from the excess of additions to plan fiduciary net position over deductions from plan fiduciary net position. Funds are accumulated by the System to meet future benefit obligations to retirees and beneficiaries. The percentage computed by dividing the actuarial value of assets by the actuarial accrued liability is referred to as the “funded ratio.” This ratio provides an indication of the funding status of the System and generally, the greater this percentage, the stronger the System.

Pension – The actuarial value of the assets and actuarial accrued liability for pension benefits of the System were \$63.1 billion and \$98.1 billion, respectively, resulting in a funded ratio of 64.3 percent on September 30, 2022. A historical perspective of funding levels for the Pension Plan is presented on the Schedule of Funding Progress in the Actuarial section in this report.

OPEB – Prefunding for OPEB began in fiscal year 2013. The actuarial value of the assets and actuarial accrued liability for OPEB were \$11.4 billion and \$11.5 billion, respectively, resulting in a funded ratio of 99.2 percent as of September 30, 2022. A historical perspective of funding levels is presented on the Schedule of Funding Progress in the Actuarial section in this report.

MAJOR GOALS ACCOMPLISHED

HIPAA training module - The main goal of the federal Health Insurance Portability and Accountability Act (HIPAA) is to strike a balance between making the flow of healthcare information easier and protecting patients’ privacy.

As technology advances, it transforms healthcare delivery and the interactions with customers and vendors. While advancements bring benefits, they also present challenges protecting customers’ privacy and security.

ORS its internal HIPAA training module. The goal was to help staff retain knowledge better, foster a culture of compliance, and enable proficient customer privacy and security.

The training incorporates content clarity, custom examples that relate directly to ORS work, interactive activities designed to mimic real-world scenarios, and additional resources. Any ORS staff assigned HIPAA training on or after May 18, 2023, are using the new module.

IRS Form W-4P and Form W-R updates - The IRS updated Form W-4P (Withholding Certificate for Periodic Pension or Annuity Payments) for 2022, delaying required use until Jan. 1, 2023.

For retirees receiving pensions, annuities (including commercial annuities), and certain other deferred compensation, Form W-4P tells payers the amount of federal income tax to withhold from payment(s).

In addition, IRS moved withholding elections for nonperiodic payments and eligible rollover distributions to its new Form W-4R (Withholding Certificate for Nonperiodic Payments and Eligible Rollover Distributions).

ORS made numerous updates, including on federal tax withholding screens for the Clarety account database for retirees in its five retirement systems; two screens in the miAccount application -- apply for retirement (federal tax) and retiree federal tax withholding; and ORS paper forms and letters providing federal tax entries.

ORS communicated the changes on ORS websites, via emails and letters sent to retirees, through Customer Service representatives, and Facebook and Twitter social media.

For retirees who didn’t update federal withholdings by Dec. 9, 2022, ORS made those IRS default withholdings of single or married filing separately. Changes made after that overrode the default.

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Modernization - ORS has begun a modernization project to replace legacy applications.

The project aims to deliver a new technology platform that is wholly integrated and enables agility in our tools to deliver better customer experiences and outcomes.

The efforts are focused on creating a technology ecosystem that enables us to deliver retirement services to customers, employers, and ORS staff.

Among the components being modernized are the customer relationship management platform, our line of business application, self-service platforms for employers and customers, and communication tools.

NICE CXone call center solution - ORS upgraded its Customer Service and Employer Reporting call center operations from the Genesys-Cisco phone platform to the NICE CXone cloud-based solution.

The replacement includes interactive voice response (IVR), callback requests, workforce management (WFM), call recording, and quality management.

The upgrade to NICE CXone was effective Oct. 26, 2022. Testing for NICE started in August 2022, with more than 160 defects identified, remediated, and re-tested.

More flexible than the former platform, CXone provides a one-platform solution instead of multiple applications with the previous Genesys-Cisco on-premises platform. In addition, CXone allows for improved security with implementation of the single sign-on process.

ORS continues to learn and grow with the technology enhancement for its call center interactions.

Public Act 4 of 2023/Michigan retirement tax repeal - On March 7, 2023, Michigan Gov. Gretchen Whitmer signed into law a phase-out of the state pension tax previously implemented in 2012.

Under Public Act (PA) 4 of 2023, retirees may choose between current deductible limits on pensions or retirement income or new limits being put in place starting with 2023 state income taxes filed in 2024.

ORS Michigan Department of Treasury continue working to provide further details to impacted retirees. The law takes effect 90 days after the Michigan Legislature's current 2023 session ends.

To help inform, ORS provided charts and FAQs outlining changes on website landing pages for the Michigan Public School Employees' Retirement System (MPSERS), State Employees' Retirement System (SERS), Judges' Retirement System (JRS), and Michigan State Police Retirement System (SPRS).

To communicate impacts, ORS sent emails and letters to affected retirees; published information in the Connections newsletter for defined benefits recipients; and shared updated rules with ORS partners. In addition, ORS updated its employer-information website and internal-use common responses and solution finder content for call center representatives. ORS also posted information on social media.

SECURE 2.0 Act - The Setting Every Community Up for Retirement Enhancement (SECURE) 2.0 Act of 2022 makes changes to qualified retirement plans and Individual Retirement Accounts (IRAs) to expand coverage, increase retirement savings, and simplify retirement plan rules.

The federal law, effective Dec. 29, 2022, enhances the SECURE Act of 2019. Some initial provisions, including increases in age for required minimum distributions for participants and spousal beneficiaries, are already in effect; others go into effect in 2024, 2025, and 2026.

ORS works with Voya Financial, the State of Michigan 401(k) and 457 Plans recordkeeper; the state's Human Resource Management Network; and the Office of Financial Management on changes to information technology systems, policies, websites, communications, and forms affecting SERS, MPSERS, SPRS, and JRS.

ORS is publicizing the changes in newsletters to active employees in the four retirement systems and to MPSERS employers, on websites, and through ORS social media channels.

Self Leadership - ORS is using Blanchard Exchange's Self Leadership program to empower staff and make a difference in the quality of engagements and work.

Kicked off in late January 2023, the program is running through December 2023. The focus is for all ORS staff to become more proactive asking for direction and support, challenge assumed constraints, and take action in areas they are empowered to do so.

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

The goals are to foster shared terms for development and performance, improve workplace conversations, build trust, boost self-reliance, and raise productivity. The program augments the Situational Leadership II program ORS has embraced since 2018.

The self-directed coursework takes about 2½ hours to complete, with assignments, videos, stories, and games. Staff use the principles in one-on-one meetings and progress reports.

To bolster matters, the ORS intranet offers a self-leadership awareness series and informational posters are up at ORS offices.

Strategic Initiative Process - The Health Initiative Strategic Plan is an effort to improve healthcare outcomes and keep coverage affordable for MPSERS members and school districts. It also helps ensure the system's long-term financial stability.

A new benefit design package for the system's 2024 healthcare coverages was approved in July 2023 by the Michigan Public School Employees' Retirement Board and the Department of Technology Management & Budget director.

Historically, the Master Healthcare Plan has strived to maintain alignment between Medicare and the non-Medicare plans. However, with the move to Medicare Advantage, ORS saw less alignment because of federal Centers for Medicare & Medicaid Services requirements. Also, coverage differences emerged for preventive services, retail health clinics, and 90-day retail pharmacy prescriptions.

Aligning benefits provides more coverage options for non-Medicare members and simplifies matters. In addition, the Plan was modernized to include dental plan updates, a specialty co-pay card solution, and increased vision plan benefit frequency.

Video initiative - ORS invested in video for the fiscal year 2023, hiring a new video lead and upgrading equipment.

The results include a 5½ -minute video for new members of the MPSERS titled "Choosing Your Retirement Plan"; four minute-or-so-long Ask the Expert videos for the Proactive and Connections newsletters and social media; and an internal technical assessment presentation for ORS modernization efforts.

All are new benchmarks for ORS, which is using more video because of increased interest and industry trends.

The MPSERS video was shot July 2023 in an Okemos, Michigan, elementary school, with the topic chosen from surveying new hires in 2021. The project involved 80 minutes of footage; three days editing; and follow-up for the finished product.

The lead for the ORS Customer Education video line-of-business team has a degree in video and was a broadcast journalist.

Women & Retirement - ORS and Voya Financial created a multi-platform campaign titled Women & Retirement that ran from November 2021 to October 2022. Showing how women can better prepare to achieve their retirement goals, the campaign was recognized with the National Association of Government Defined Contribution Administrators 2023 Leadership Award for Participant Education & Communication. Content was organized around several foundational facts: women enter the workforce later, are more likely to take time off as a caregiver, tend to live longer, and, on average, spend more years in retirement than men. A November 2022 survey and review showed the campaign's impact. Voya had 4,499 webinar attendees and 1,156 one-on-one appointments during the campaign period, increases of 48% and 31%, respectively. The Women & Retirement landing page was the ORS website's second longest-viewed in 2022, and was among the top 20 most-visited ORS webpages in fiscal year 2023.

HONORS

Public Pension Standards Award – ORS was awarded the 2023 Standards Award from the Public Pension Coordinating Council Standards Program (PPCC) for both funding and administration. ORS has received these awards every year since 2004. The PPCC Standards reflect expectations for public retirement system management and administration and serve as a benchmark for all DB public plans to be measured.

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LETTER OF TRANSMITTAL

Government Finance Officers Association Award – The Government Finance Officers Association (GFOA) of the United States and Canada awarded the retirement system with the Certificate of Achievement for Excellence in Financial Reporting for the fiscal year 2022 Annual Comprehensive Financial Report (ACFR). This marks the 32nd consecutive year ORS has received this prestigious award.

ACKNOWLEDGEMENTS

The preparation of this report was accomplished with the dedication and cooperation of many people. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means for determining responsible stewardship of the funds of the System.

We would, therefore, like to express our appreciation for the assistance given by staff, the advisors, and the many people who contributed to its preparation. We believe their combined efforts have produced a report that will enable employers and plan members to better evaluate and understand the Michigan Public School Employees' Retirement System. Their cooperation contributes significantly to the success of the System.

Sincerely,



Michelle Lange, Director
Department of Technology, Management & Budget



Anthony J. Estell, Director
Office of Retirement Services

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

RETIREMENT BOARD MEMBERS *

As of February 14, 2024

Vacant
Active Classroom Teacher

Mark Greathead
Active Superintendent
Term Expires March 30, 2026

Brian Kwiatkowski
Active Classroom Teacher
Term Expires March 30, 2025

Timothy Raymer, Chair
Retired Finance/Operations
Term Expires March 30, 2027

John Solecki
General Public – Investments
Term Expires March 30, 2024

Vacant
General Public -
Actuary/Health Insurance

Dr. Patricia Chapman
Community College Trustee
Term Expires March 30, 2024

Kevin Philipps
Active Finance/Operations,
Non-Superintendent
Term Expires March 30, 2024

James Pearson
Retired Teacher
Term Expires March 30, 2026

Liz Eastway, Vice Chair
Retired Non-Certified Support
Term Expires March 30, 2025

Anne Hamming
Reporting Unit Board of
Control
Term Expires March 30, 2024

Dr. Michele Harmala, for Dr.
Michael Rice
State Superintendent of
Education, ex officio

* Statute provides that board members may continue to serve after their term expires until they are replaced or reappointed.

ADVISORS AND CONSULTANTS

As of February 14, 2024

Actuaries

Gabriel, Roeder, Smith & Co.
Mita D. Drazilov
Southfield, Michigan

Independent Auditors

Doug A. Ringler, C.P.A., C.I.A.
Auditor General
State of Michigan

Investment Manager and Custodian

Rachael Eubanks
State Treasurer
State of Michigan

Legal Advisor

Dana Nessel
Attorney General
State of Michigan

Investment Performance Measurement

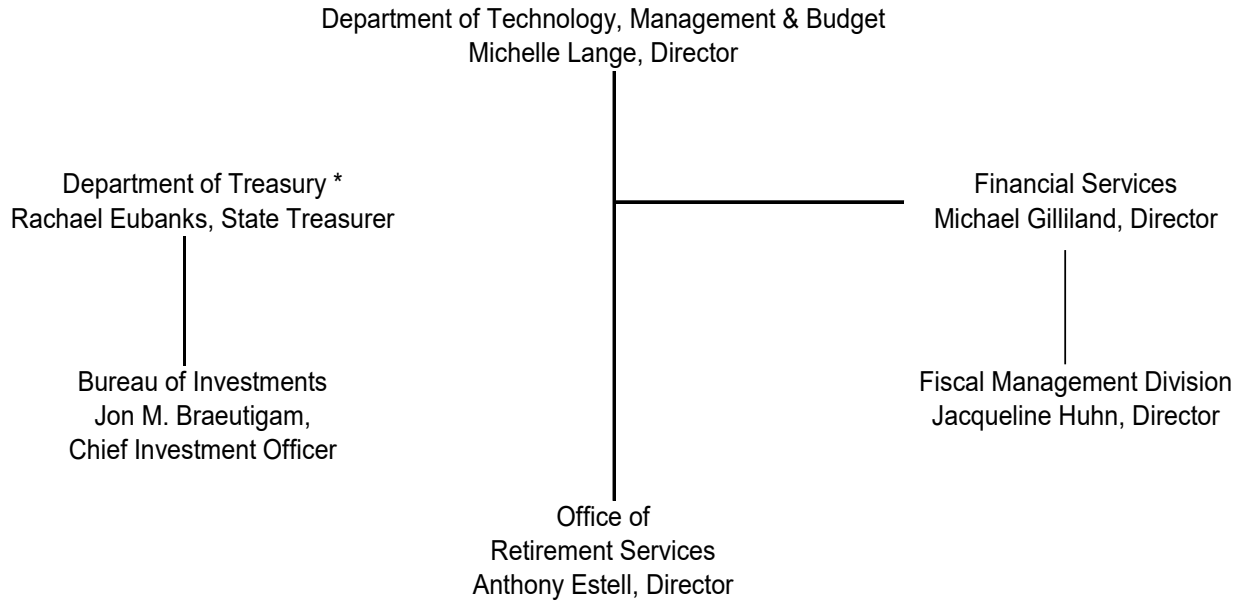
State Street Corporation
State Street Investment Analytics
Boston, MA

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

ORGANIZATION CHART

As of February 14, 2024



* The investments of the System are managed by the Michigan Department of Treasury. Information on the investments and the fiduciary, Michigan Department of Treasury, can be found in the Investment Section, Introduction. In addition, see the Investment Section, Schedule of Investment Fees (page 78) and Schedule of Investment Commissions (page 79), for information regarding the investment fees and commissions paid as well as investment professionals utilized by the System.

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

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FINANCIAL SECTION

Independent Auditor's Report
Management's Discussion and Analysis
Basic Financial Statements
Notes to Basic Financial Statements
Required Supplementary Information
Note to Required Supplementary Information
Supporting Schedules



OAG

Office of the Auditor General

201 N. Washington Square, Sixth Floor • Lansing, Michigan 48913 • Phone: (517) 334-8050 • audgen.michigan.gov

Doug A. Ringler, CPA, CIA
Auditor General

Independent Auditor's Report on the Financial Statements
and Other Reporting Required by *Government Auditing Standards*

Timothy Raymer, Chair
Michigan Public School Employees' Retirement System Board
Stevens T. Mason Building
and
Michelle Lange, Director
Department of Technology, Management, and Budget
Elliott-Larsen Building
and
Anthony J. Estell, Director
Office of Retirement Services
Stevens T. Mason Building
Lansing, Michigan

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Michigan Public School Employees' Retirement System (System), a fiduciary component unit of the State of Michigan, as of and for the fiscal year ended September 30, 2023 and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Michigan Public School Employees' Retirement System as of September 30, 2023 and the changes in fiduciary net position for the fiscal year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

Responsibilities of Management for the Financial Statements

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

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



OAG

Office of the Auditor General

Doug A. Ringler, CPA, CIA
Auditor General

Timothy Raymer, Chair
Michelle Lange, Director
Anthony J. Estell, Director
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Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our 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 System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

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

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in net pension liability, schedule of changes in net OPEB liability, schedules of contributions, schedules of investment returns, and related note, as listed 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 auditing standards generally accepted in the United States of America, which consisted of inquiries of



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Office of the Auditor General

Doug A. Ringler, CPA, CIA
Auditor General

Timothy Raymer, Chair
Michelle Lange, Director
Anthony J. Estell, Director
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management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The supporting schedules, as listed in the table of contents, are presented for purposes of additional analysis and are 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 auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and statistical sections and acknowledgments, as listed in the table of contents, but does not include the basic financial statements and our auditor's 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 audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we will also issue a report dated February 14, 2024 on our consideration of the System'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 System'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 System's internal control over financial reporting and compliance.

A handwritten signature in black ink that reads "Doug Ringler".

Doug Ringler
Auditor General
February 14, 2024

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

Our discussion and analysis of the Michigan Public School Employees' Retirement System's (System) financial performance provides an overview of the System's financial activities for the fiscal year ended September 30, 2023. Please read it in conjunction with the transmittal letter in the Introductory Section on page 4 and the basic financial statements, which follow this discussion.

FINANCIAL HIGHLIGHTS

- System assets exceeded liabilities at the close of fiscal year 2023 by \$75.7 billion (reported as *Net Position Restricted for Pension Benefits and OPEB*). Fiduciary net position is restricted to meet future benefit payments.
- Additions for the year were \$12.2 billion, which are comprised primarily of contributions of \$6.5 billion and net investment income of \$5.7 billion.
- Deductions totaled \$6.3 billion, a slight decrease of 0.4% as compared to the prior year. This decrease is primarily the result of a reduction in health benefit costs.

THE STATEMENT OF PLAN FIDUCIARY NET POSITION AND THE STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

This Annual Comprehensive Financial Report (ACFR) consists of two financial statements: *The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 20) and *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 21). These financial statements report information about the System, as a whole, and about its financial condition that should help answer the question: Is the System, as a whole, better off or worse off as a result of this year's activities? These statements include all assets and liabilities using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis of accounting, all revenues and expenses are taken into account regardless of when cash is received or paid.

The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position presents all of the System's assets and liabilities, with the difference between the two reported as fiduciary net position. Over time, increases and decreases in fiduciary net position measure whether the System's financial position is improving or deteriorating. *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* presents how the System's fiduciary net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Schedule of Changes in Net Pension Liability (page 53), the Schedule of Changes in Net OPEB Liability (page 54), and Schedules of Contributions (page 55) to determine whether the System is becoming financially stronger or weaker.

FINANCIAL ANALYSIS

System total assets as of September 30, 2023, were \$78.5 billion and were mostly comprised of investments and securities lending collateral. Total assets increased \$5.9 billion or 8.2% between fiscal years 2022 and 2023, due primarily to net investment income.

Total liabilities as of September 30, 2023, were \$2.8 billion and were comprised of accounts payable, unearned revenue, and obligations under securities lending. Total liabilities increased \$12.2 million or 0.4% between fiscal years 2022 and 2023 primarily due to an increase in accounts payable and obligations under securities lending.

System assets exceeded its liabilities at the close of fiscal year 2023 by \$75.7 billion. Total fiduciary net position restricted for pension and OPEB increased \$5.9 billion or 8.5% from the previous year, primarily due to net investment income.

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

PLAN FIDUCIARY NET POSITION

(in thousands)

	<u>2023</u>	<u>2022</u>	<u>Increase (Decrease)</u>
Assets			
Equity in common cash	\$ 276,643	\$ 248,310	11.4 %
Receivables	578,243	630,762	(8.3)
Investments	75,153,844	69,214,878	8.6
Securities lending collateral	2,540,650	2,518,454	0.9
Total assets	<u>78,549,381</u>	<u>72,612,403</u>	<u>8.2</u>
Liabilities			
Unearned revenue	6,822	18,017	(62.1)
Accounts payable and other accrued liabilities	261,775	260,612	0.4
Obligations under securities lending	2,540,650	2,518,454	0.9
Total liabilities	<u>2,809,247</u>	<u>2,797,083</u>	<u>0.4</u>
Net Position Restricted for Pension Benefits and OPEB	<u>\$ 75,740,134</u>	<u>\$ 69,815,320</u>	<u>8.5 %</u>

ADDITIONS TO PLAN FIDUCIARY NET POSITION

The reserves needed to finance pension and other postemployment benefits are accumulated through the collection of employer and employee contributions and through earnings on investments. Contributions and net investment income for fiscal year 2023 totaled approximately \$12.2 billion.

Total additions for fiscal year 2023 increased approximately \$10.2 billion or 498.6% from those of fiscal year 2022 due primarily to increased contributions and net investment income. Total member contributions increased between fiscal years 2022 and 2023 by \$12.9 million or 2.0%, while employer contributions increased \$1.0 billion or 21.9%. The Investment Section of this report reviews the results of investment activity for fiscal year 2023.

DEDUCTIONS FROM PLAN FIDUCIARY NET POSITION

The expenses of the System include the payment of pension benefits to members and beneficiaries; payment for health, dental and vision benefits; refund of contributions; and the cost of administering the System. Total deductions for fiscal year 2023 were \$6.3 billion, a decrease of 0.4% over fiscal year 2022 deductions.

The health, dental and vision care expenses during the year decreased \$150.5 million or 23.4%, from \$643.2 million to \$492.7 million. The payment of pension benefits increased \$110.6 million or 2.0% between fiscal years 2022 and 2023. In fiscal year 2023, the increase in pension retirement benefit payments resulted in an increase in the overall System's benefit expenses. In fiscal year 2023, the decrease in health, dental, and vision care expenses were a result of decreased claims cost.

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

CHANGES IN PLAN FIDUCIARY NET POSITION (in thousands)

	2023	2022	Increase (Decrease)
Additions			
Member contributions	\$ 652,879	\$ 640,007	2.0 %
Employer contributions	5,625,704	4,614,787	21.9
Other governmental contributions	214,638	251,589	(14.7)
Net investment income (loss)	5,698,975	(3,469,867)	264.2
Miscellaneous income	162	168	(4.0)
Total additions	12,192,358	2,036,685	498.6
Deductions			
Pension benefits	5,534,949	5,424,331	2.0
Health care benefits	492,671	643,218	(23.4)
Refunds and transfers to other systems	34,215	33,331	2.7
Administrative and other expenses	205,709	194,838	5.6
Total deductions	6,267,545	6,295,718	(0.4)
Net Increase (Decrease) in Net Position	5,924,813	(4,259,032)	239.1
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	69,815,321	74,074,353	(5.7)
End of Year	\$ 75,740,134	\$ 69,815,320	8.5 %

RETIREMENT SYSTEM AS A WHOLE

The System's overall Fiduciary Net Position experienced an increase in fiscal year 2023. The System's rate of return for the Pension Plan's investments increased an overall 13.1% from a (4.8)% return in fiscal year 2022 to a 8.3% return during fiscal year 2023. The System's rate of return for the OPEB Plan's investments also increased an overall 13.1% from a (4.8)% return in fiscal year 2022 to a 8.3% return during fiscal year 2023. Management believes that the System remains financially sound and positioned to meet its ongoing benefit obligations due, in part, to a prudent investment program, cost controls, and strategic planning.

CONTACTING SYSTEM FINANCIAL MANAGEMENT

This financial report is designed to provide the Retirement Board, our membership, taxpayers, investors, and creditors with a general overview of the System's finances and to demonstrate the System's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Office of Retirement Services by phone at 1-800-381-5111, or visit the website at www.michigan.gov/ors/contact-ors.

FINANCIAL SECTION

BASIC FINANCIAL STATEMENTS

STATEMENT OF PENSION PLAN AND OTHER POSTEMPLOYMENT BENEFIT PLAN FIDUCIARY NET POSITION

As of September 30, 2023
(in thousands)

	Pension Plan	OPEB Plan	Total
Assets:			
Equity in common cash	\$ 242,061	\$ 34,583	\$ 276,643
Receivables:			
Amounts due from members	433	-	433
Amounts due from employers	170,945	64,860	235,805
Amounts due from other	-	332,294	332,294
Amounts due from employer - long term	9,090	-	9,090
Amounts due from other - long term	-	-	-
Interest and dividends	522	98	620
Total receivables	180,991	397,251	578,243
Investments:			
Short term investment pools	2,554,454	498,757	3,053,211
Fixed income pools	5,640,290	1,054,101	6,694,390
Domestic equity pools	12,191,485	2,278,972	14,470,457
Real estate and infrastructure pools	6,422,748	1,200,413	7,623,161
Private equity pools	14,921,771	2,782,024	17,703,795
International equity pools	8,207,997	1,534,163	9,742,159
Absolute return pools	6,585,074	1,230,668	7,815,742
Real return and opportunistic pools	6,783,566	1,267,363	8,050,929
Total investments	63,307,384	11,846,461	75,153,844
Securities lending collateral	2,140,538	400,113	2,540,650
Total assets	65,870,973	12,678,407	78,549,381
Liabilities:			
Unearned revenue	6,201	620	6,822
Accounts payable and other accrued liabilities	1,418	260,357	261,775
Obligations under securities lending	2,140,538	400,113	2,540,650
Total liabilities	2,148,157	661,090	2,809,247
Net Position Restricted for Pension Benefits and OPEB:	\$ 63,722,817	\$ 12,017,317	\$ 75,740,134

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

FINANCIAL SECTION

BASIC FINANCIAL STATEMENTS

STATEMENT OF CHANGES IN PENSION PLAN AND OTHER POSTEMPLOYMENT BENEFIT PLAN FIDUCIARY NET POSITION

For Fiscal Year Ended September 30, 2023
(in thousands)

	Pension Plan	OPEB Plan	Total
Additions:			
Contributions:			
Member contributions	\$ 449,906	\$ 202,972	\$ 652,879
Employer contributions:			
Colleges and universities	477,913	43,725	521,637
School districts and other	4,364,643	739,424	5,104,067
Other governmental contributions	-	214,638	214,638
Total contributions	5,292,462	1,200,759	6,493,221
Investment income (loss):			
Net increase (decrease) in fair value of investments	3,824,579	685,831	4,510,409
Interest, dividends, and other	1,279,784	233,727	1,513,511
Investment expenses:			
Other investment expenses	(282,426)	(51,747)	(334,173)
Securities lending activities:			
Securities lending income	108,584	20,287	128,871
Securities lending expenses	(100,784)	(18,858)	(119,643)
Net investment income (loss)	4,829,736	869,240	5,698,975
Miscellaneous income	37	124	162
Total additions	10,122,235	2,070,123	12,192,358
Deductions:			
Benefits paid to plan members and beneficiaries:			
Retirement benefits	5,534,949	-	5,534,949
Health benefits	-	415,902	415,902
Dental/vision benefits	-	76,770	76,770
Refunds of contributions	34,083	133	34,215
Administrative and other expenses	26,941	178,768	205,709
Total deductions	5,595,973	671,572	6,267,545
Net Increase (Decrease) in Net Position	4,526,262	1,398,551	5,924,813
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	59,196,555	10,618,766	69,815,321
End of Year	\$ 63,722,817	\$ 12,017,317	\$ 75,740,134

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

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

NOTE 1 – PLAN DESCRIPTION

ORGANIZATION

The Michigan Public School Employees' Retirement System (System) is a cost-sharing, multiple employer, state-wide, defined benefit public employee retirement plan and a fiduciary component unit of the State of Michigan (State) originally created under Public Act 136 of 1945, recodified and currently operating under the provisions of Public Act 300 of 1980, as amended. Section 25 of this act establishes the board's authority to promulgate or amend the provisions of the System. The board consists of twelve members – eleven appointed by the Governor and the State Superintendent of Instruction, who serves as an ex-officio member. The Governor-appointed board members consist of:

- Two active classroom teachers or other certified school personnel
- One active member or retirant from a non-certified support position
- One active school system superintendent
- One active finance or operations (non-superintendent) member
- One retirant from a classroom teaching position
- One retirant from a finance or operations management position
- One administrator or trustee of a community college that is a reporting unit of the System
- Two from the general public, one with health insurance or actuarial science experience and one with institutional investment experience
- One elected member of a reporting unit's board of control

The System's pension plan was established by the State to provide retirement, survivor and disability benefits to public school employees. In addition, the System's health plan provides all retirees with the option of receiving health, prescription drug, dental and vision coverage under the Michigan Public School Employees' Retirement Act. There are 694 participating employers. A list of employers is provided in the Statistical Section. The System is a qualified pension trust fund under section 401(a) of the Internal Revenue Code. By statute, employees of K-12 public school districts, public school academies, district libraries, tax-supported community colleges and seven universities may be members. The seven universities are: Eastern Michigan, Central Michigan, Northern Michigan, Western Michigan, Ferris State, Michigan Technological and Lake Superior State. Employees, who first become employed by one of the seven universities on or after January 1, 1996, become members of an alternative plan.

The System is included in the pension and other employee benefit trust fund financial statements in the State of Michigan Annual Comprehensive Financial Report.

The System is administered by the Office of Retirement Services within the Michigan Department of Technology, Management & Budget. The Department Director appoints the Office Director, with whom the general oversight of the System resides. The State of Michigan Investment Board serves as the investment fiduciary and custodian for the System.

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

MEMBERSHIP

At September 30, 2023, the System's pension plan membership consisted of the following:

Inactive plan members or their beneficiaries currently receiving benefits:	
Regular benefits	200,440
Survivor benefits	20,272
Disability benefits	5,375
Total	<u>226,087</u>
Inactive plan members entitled to but not yet receiving benefits:	<u>15,247</u>
Active plan members:	
Vested	86,655
Non-vested	68,033
Total ^{1,2}	<u>154,688</u>
Total plan members	<u><u>396,022</u></u>

¹ Includes 2,452 people who elected not to continue future accruals in the DB plan as a result of PA 300.

² Excludes 6,808 records with both \$0 salary and 0 service provided as of September 30, 2023 with DB benefit plan codes.

Enrollment in the OPEB plan is voluntary. The number of participants is as follows:

Medical, Dental/Vision Eligible participants ³	
Retirees and survivors	200,683
Inactive vested	2,455
Active members	202,573
Participants receiving benefits:	
Health	151,489
Dental/Vision	166,488
Expenses for the year (in thousands) \$	178,768
Employer payroll contribution rates	0.92 - 8.07%

³ Includes individuals who participate in Personal Health Fund and may be eligible for a one time cash payment upon termination of employment.

BENEFIT PROVISIONS – PENSION

Introduction

Benefit provisions of the defined benefit pension plan are established by State statute, which may be amended. Public Act 300 of 1980, as amended, establishes eligibility and benefit provisions for the defined benefit (DB) pension plan. Retirement benefits for DB plan members are determined by final average compensation and years of service. DB members are eligible to receive a monthly benefit when they meet certain age and service requirements. The System also provides disability and survivor benefits to DB plan members.

A DB member or Pension Plus member who leaves Michigan public school employment may request a refund of his or her member contributions to the retirement system account. A refund cancels a former member's rights to future benefits. However, returning members who previously received a refund of their contributions may reinstate their service through repayment of the refund upon satisfaction of certain requirements.

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Pension Reform 2010

On May 19, 2010, the Governor signed Public Act 75 of 2010 into law. As a result, any member of the Michigan Public School Employees' Retirement System (MPSERS) who became a member of the System after June 30, 2010 is a Pension Plus member. Pension Plus is a hybrid plan that contains a pension component with an employee contribution (graded, up to 6.4% of salary) and a flexible and transferable defined contribution (DC) tax-deferred investment account that earns an employer match of 50% (up to 1% of salary) on employee contributions. Retirement benefits for Pension Plus members are determined by final average compensation and years of service. Disability and survivor benefits are available to Pension Plus members.

Pension Reform 2012

On September 4, 2012, the Governor signed Public Act 300 of 2012 into law. The legislation grants all active members who first became a member before July 1, 2010 and who earned service credit in the 12 months ending September 3, 2012, or were on an approved professional services or military leave of absence on September 3, 2012, a voluntary election regarding their pension. Any changes to a member's pension are effective as of the member's transition date, which is defined as the first day of the pay period that begins on or after February 1, 2013.

Under the reform, members voluntarily chose to increase, maintain, or stop their contributions to the pension fund.

Option 1 – members voluntarily elected to increase their contributions to the pension fund as noted below, and retain the 1.5% pension factor in their pension formula. The increased contribution would begin as of their transition date and continue until they terminate public school employment.

- Basic Plan members: 4% contribution
- Member Investment Plan (MIP)-Fixed, MIP-Graded, and MIP-Plus members: a flat 7% contribution

Option 2 – members voluntarily elected to increase their contribution to the pension fund as stated in Option 1 and retain the 1.5% pension factor in their pension formula. The increased contribution would begin as of their transition date and continue until they reach 30 years of service. If and when they reach 30 years of service, their contribution rates will return to the previous level in place as of the day before their transition date (0% for Basic Plan members, 3.9% for MIP-Fixed, up to 4.3% for MIP-Graded, or up to 6.4% for MIP-Plus). The pension formula for any service thereafter would include a 1.25% pension factor.

Option 3 – members voluntarily elected not to increase their contribution to the pension fund and maintain their current level of contribution to the pension fund. The pension formula for their years of service as of the day before their transition date will include a 1.5% pension factor. The pension formula for any service thereafter will include a 1.25% pension factor.

Option 4 – members voluntarily elected to no longer contribute to the pension fund and therefore are switched to the Defined Contribution plan for future service as of their transition date. As a DC participant they receive a 4% employer contribution to a tax-deferred 401(k) account and can choose to contribute up to the maximum amounts permitted by the IRS to a 457 account. They vest in employer contributions and related earnings in their 401(k) account based on the following schedule: 50% at 2 years, 75% at 3 years, and 100% at 4 years of service. They are 100% vested in any personal contributions and related earnings in their 457 account. Upon retirement, if they meet age and service requirements (including their *total* years of service), they would also receive a pension (calculated based on years of service and final average compensation as of the day before their transition date and a 1.5% pension factor).

Members who did not make an election before the deadline defaulted to Option 3 as described above. Deferred or nonvested public school employees on September 3, 2012, who return to public school employment on or after September 4, 2012, will be considered as if they had elected Option 3 above. Returning members who made the retirement plan election will retain whichever option they chose.

Employees who first work on or after September 4, 2012, choose between two retirement plans: the Pension Plus plan described above and a DC plan that provides a 50% employer match (up to 3% of salary) on employee contributions. New employees are automatically enrolled as members in the Pension Plus plan as of their date of hire. They have 75 days from the last day of their first pay period, as reported to ORS, to elect to opt out of the Pension Plus plan and become a qualified participant in the DC plan; if no election is made they will remain in the Pension

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Plus plan. If they elect to opt out of the Pension Plus plan, their participation in the DC plan will be retroactive to their date of hire.

Pension Reform of 2017

On July 13, 2017, the Governor signed Public Act 92 of 2017 into law. The legislation closed the Pension Plus plan to newly hired employees as of February 1, 2018 and created a new, optional Pension Plus 2 plan with similar benefit calculations but containing a 50/50 contribution share between the employee and the employer, including the cost of future unfunded liabilities. The assumed rate of return on the Pension Plus 2 plan is 6%. Further, under certain adverse actuarial conditions, the Pension Plus 2 plan will close to new employees if the actuarial funded ratio falls below 85% for two consecutive years. The law included other provisions to the retirement eligibility age, plan assumptions, and unfunded liability payment methods.

Regular Retirement

The pension benefit for DB and Pension Plus members is based on a member's years of credited service (employment) and final average compensation (FAC). The FAC is calculated based on the member's highest total wages earned during a specific period of consecutive calendar months divided by the service credit accrued during that same time period. For a MIP member, who became a member of the System prior to July 1, 2010, the averaging period is 36 consecutive months. For a Pension Plus member, who became a member of the System after June 30, 2010, the averaging period is 60 consecutive months. For a Basic Plan member, this period is the 60 consecutive months yielding the highest total wages. The annual pension is paid monthly for the lifetime of a retiree. The calculation of a member's pension is determined by their pension election under PA 300 of 2012 and is shown below:

Option 1 – $FAC \times \text{total years of service} \times 1.5\%$

Option 2 – $FAC \times 30 \text{ years of service} \times 1.5\% + FAC \times \text{years of service beyond 30} \times 1.25\%$

Option 3 – $FAC \times \text{years of service as of transition date} \times 1.5\% + FAC \times \text{years of service after transition date} \times 1.25\%$

Option 4 – $FAC \text{ as of transition date} \times \text{years of service as of transition date} \times 1.5\%$

A MIP member who became a member of the System prior to July 1, 2010 may retire at:

- age 46 with 30 or more years of credited service; or
- age 60 with 10 or more years of credited service; or
- age 60 with 5 years of credited service provided the member has worked through his or her 60th birthday and has credited service in each of the five school fiscal years immediately preceding the retirement effective date

A Pension Plus member may retire at age 60 with 10 or more years of credited service.

A Pension Plus 2 member may retire at age 60 with 10 or more years of credited service. Section 81c(5) of PA 300 as amended requires the regular retirement age to be increased in whole year increments based on the results of mortality analysis five-year actuarial experience studies performed after October 1, 2019 and the actuarial funding status of the plan. If the regular retirement age for Pension Plus 2 members is increased in accordance with this provision, members within five years of retirement from the effective date of the increase are automatically exempted and the retirement board may additionally authorize those between five and eight years of the then current retirement age to be exempted.

A Basic Plan member may retire at:

- age 55 with 30 or more years of credited service; or
- age 60 with 10 or more years of credited service

There is no mandatory retirement age.

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Early Retirement

A MIP or Basic member may retire with an early permanently reduced pension:

- after completing at least 15 but less than 30 years of credited service; and
- after attaining age 55; and
- with credited service in each of the 5 school years immediately preceding the pension effective date

The early pension is computed in the same manner as a regular pension, but is permanently reduced 0.5% for each full and partial month between the pension effective date and the date the member will attain age 60.

Deferred Retirement

If a member terminates employment before attaining the age qualification, but after accruing 10 or more years of credited service, the member becomes a deferred member and is eligible for a pension at the time the age qualification is attained.

Nonduty Disability Benefit

Any member with 10 or more years of credited service who becomes totally and permanently disabled due to any non-duty related cause, and who has not met the age requirement for a regular pension is eligible for a non-duty disability pension computed in the same manner as an age and service pension, upon recommendation from the member's personal physician and the Retirement Board physician and the approval of the Retirement Board. An Annual Certification of Disability is conducted each January. Upon prior approval, total disability benefits plus authorized outside earnings are limited to 100% of final average compensation (increased by 2% for each year retired; first year 100%, next year 102%, etc.).

Duty Disability Benefit

Any member who becomes totally and permanently disabled as a result of a duty-related cause, who has not met the age and service requirement for a regular pension, and who is in receipt of weekly workers' compensation is eligible for a duty disability pension computed in the same manner as an age and service pension (but based upon a minimum of 10 years of service) upon recommendation from the member's personal physician and the Retirement Board physician and the approval of the Retirement Board. An Annual Certification of Disability is conducted each January. Upon prior approval, total disability benefits plus authorized outside earnings are limited to 100% of final average compensation (increased by 2% for each year retired; first year 100%, next year 102%, etc.).

Pension Payment Options

The election of a pension payment option is made at the time of application. Once a member has retired, the option choice is irrevocable. The pension effective date is the first of the calendar month following the date the member has satisfied the age and service requirements, has terminated public school employment and has the completed application forms on file with the System for a period of 15 days. A retroactive pension can be paid for no more than 12 calendar months. Thus, delay in filing the application can result in a loss of some retroactive pension benefits. An applicant may select only one of the following options.

Straight Life Pension

The Straight Life Pension pays the largest level pension a retiree can receive during his or her lifetime and stops with the month of a retiree's death. There are no monthly benefits for a beneficiary. The pension benefit is computed with no beneficiary rights. If the retiree made contributions while an employee and has not received the total accumulated contributions before death, a refund of the balance of the contributions is made to the beneficiary of record. If the retiree did not make any contributions, there will not be payments to any beneficiaries.

Survivor Options

Under the Survivor Options, 100% Survivor Pension, 100% Equated, 75% Survivor Pension, 75% Equated, 50% Survivor Pension and 50% Equated, the reduction is an actuarial determination dependent upon the combined life expectancies of a retiree and a beneficiary and varies from case to case. A beneficiary may only be a spouse, brother, sister, parent or child (including an adopted child) of a retiring member. If the beneficiary predeceases a retiree, the pension will revert to either the Straight Life or Straight Life Equated amount ("pop-up" provision). If, however, a retiree was single at the time of retirement and subsequently married, the retiree can request to

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

nominate a new spouse if they elected the straight life option at retirement. Also, if a retiree was married at the time of retirement and has since been widowed and remarried, the retiree can request to nominate a new spouse as a pension beneficiary as long as they elected a survivor option for the spouse at the time of retirement.

100% Survivor Pension

Pays a reduced pension to a retiree. The month after a retiree's death, the same amount will be paid to a designated beneficiary for the remainder of his or her lifetime.

75% Survivor Pension

Pays a reduced pension to a retiree. The month after a retiree's death, 75% of the pension amount will be paid to a designated beneficiary for the remainder of his or her lifetime.

50% Survivor Pension

Pays a reduced pension to a retiree. The month after a retiree's death, 50% of the pension amount will be paid to a designated beneficiary for the remainder of his or her lifetime.

Equated Plan

For MIP and Basic members, the Equated plan may be combined with the Straight Life, 100% Survivor, 75% Survivor, or 50% Survivor Pension by any member under age 61, except a disability applicant. The Equated Plan provides a higher pension every month until age 62, at which time the monthly pension is permanently decreased to a lower amount than the Straight Life, 100%, 75%, or 50% Survivor alone would provide.

The intent of the Equated Plan is for the retiree's pension to decrease at age 62 by approximately the same amount as that person's Social Security benefit will provide. The System pension until age 62 should be about the same as the combined System pension and Social Security after age 62.

The projected Social Security pension the retiring member obtains from the Social Security Administration and furnishes to the System is used in the Equated Plan calculation. The actual Social Security pension may vary from the estimate.

NOTE: The reduction in the pension at age 62 pertains to the Equated Plan only and affects only the retiree. A beneficiary under 100% Equated, 75% Equated or 50% Equated will receive the 100%, 75%, or 50% Survivor amount the month following the retiree's death as if the Equated Plan had not been chosen. A beneficiary does not participate in the Equated Plan.

Survivor Benefit

A non-duty survivor pension is available if a MIP member has 10 years of credited service or, if age 60 or older, with five years of credited service; the date they became a MIP member does not matter. The Basic plan provides a survivor pension with 15 years of credited service or, if age 60 or older, with 10 years of credited service. The Pension Plus plan provides for a survivor pension with 10 years of credited service. An active member may nominate as a survivor beneficiary a spouse, child(ren) (including adopted child(ren)), brother, sister, or parent. If other than the spouse is nominated and a spouse exists, the spouse must waive this benefit. If no beneficiary has been nominated, the beneficiary is automatically the spouse; or, if there is no spouse, unmarried children under age 18 share the benefit equally until age 18. The benefit is computed as a regular pension but reduced in accordance with a 100% survivor pension factor. The pension begins the first of the month following the member's death. In the event of the death of a deferred member, the System begins payment to the nominated beneficiary at the time the member would have attained the minimum age qualification.

A duty survivor pension is payable if weekly workers' compensation is being paid to the eligible beneficiary due to the member's death. A spouse receives the benefit (based on a minimum of 10 years of service credit) reduced in accordance with a 100% survivor pension factor. If there is no spouse, unmarried children under age 18 share the benefit equally until age 18; if there is no spouse or child(ren), a disabled and dependent parent is eligible.

Postemployment Adjustments

A retiree who became a MIP member prior to July 1, 2010, receives an annual post-retirement non-compounded increase of 3% of the initial pension in the October following twelve months of retirement. Basic plan members do not receive an annual post-retirement increase, but are eligible to receive a supplemental payment in those years when

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investment earnings exceed actuarial assumptions. Pension Plus members do not receive an annual post-retirement increase.

On January 1, 1990, pre-October 1, 1981 retirees received an increase that ranged from 1% to 22% dependent upon the pension effective date. On October 1, 1990, the base pension of all retirees with an effective pension date of January 1, 1987, or earlier was increased to include all prior post-retirement adjustments.

On January 1, 1986, all recipients through calendar year 1985 received a permanent 8% increase that established the 1986 base pension. In addition, each October, retirees with a pension effective date of January 1, 1987, or earlier receive a fixed increase equal to 3% of the base pension. Both increases are deducted from the distribution of excess investment income, if any. Beginning in 1983, eligible recipients receive an annual distribution of excess investment income, if any.

Member Contributions

Mandatory member contributions were phased out between 1974 and 1977, with the plan remaining noncontributory until January 1, 1987, when the Member Investment Plan (MIP) was enacted. MIP members enrolled prior to January 1, 1990, contribute at a permanently fixed rate of 3.9% of gross wages. The MIP contribution rate was 4.0% from January 1, 1987, the effective date of the MIP, until January 1, 1990, when it was reduced to 3.9%. Members first hired between January 1, 1990 and June 30, 2008, and returning members who did not work between January 1, 1987, through December 31, 1989, contribute at the following graduated permanently fixed contribution rates: 3% of the first \$5,000; 3.6% of \$5,001 through \$15,000; 4.3% of all wages over \$15,000. Members first hired July 1, 2008, or later including Pension Plus plan members, contribute at the following graduated permanently fixed contribution rates: 3% of the first \$5,000; 3.6% of \$5,001 through \$15,000; 6.4% of all wages over \$15,000. Pension Plus 2 plan members contribute a flat 50% of the total calculated contribution rate including the Unfunded Actuarial Accrued Liability (UAAL) contribution rate associated with the Pension Plus 2 plan, if any.

For a limited period ending December 31, 1992, an active Basic plan member could enroll in the MIP by paying the contributions that would have been made had enrollment occurred initially on January 1, 1987, or on the date of hire, plus interest. MIP contributions at the rate of 3.9% of gross wages begin at enrollment. Actuarial rate of interest is posted to member accounts on July 1 on all MIP monies on deposit for 12 months. If a member leaves public school service and no pension is payable, the member's accumulated contributions plus interest, if any, are refundable.

Under Public Act 300 of 2012, eligible members voluntarily chose between increasing, maintaining, or stopping their contributions to the pension fund as of the transition date. Their options are described in detail under Pension Reform 2012 beginning on page 24. Members who elected to increase their level of contribution contribute 4% (Basic plan) or 7% (MIP); by doing so they maintain a 1.5% pension factor in their pension formula. Members who elected to maintain their level of contribution will receive a 1.25% pension factor in their pension formula for their years of service as of their transition date. Their contribution rates are described above. Members who elected to stop their contributions became participants in the Defined Contribution plan as of their transition date.

Employer Contributions

Each school district or reporting entity is required to contribute the full actuarial funding contribution amount to fund pension benefits.

BENEFIT PROVISIONS – OTHER POSTEMPLOYMENT

Introduction

Benefit provisions of the postemployment healthcare plan are established by State statute, which may be amended. Public Act 300 of 1980, as amended, establishes eligibility and benefit provisions. Retirees have the option of health coverage, which, through 2012, was funded on a cash disbursement basis. Beginning fiscal year 2013, it is funded on a prefunded basis. The System has contracted to provide the comprehensive group medical, prescription drug, dental and vision coverage for retirees and beneficiaries. A subsidized portion of the premium is paid by the System with the balance deducted from the monthly pension of each retiree healthcare recipient. For members who first worked before July 1, 2008, (Basic, MIP-Fixed, and MIP-Graded plan members) the subsidy is the maximum allowed by statute. To limit future liabilities of Other Postemployment Benefits, members who first worked on or after July 1, 2008, (MIP-Plus plan members) have a graded premium subsidy based on career length where they accrue

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credit towards their insurance premiums in retirement, not to exceed the maximum allowable by statute. Public Act 300 of 2012 sets the maximum subsidy at 80% beginning January 1, 2013; 90% for those Medicare eligible and enrolled in the insurances as of that date.

Public Act 75 of 2010 requires each actively employed member of MPSERS after June 30, 2010, to annually contribute 3% of their compensation to offset employer contributions for healthcare benefits of current retirees.

Dependents are eligible for healthcare coverage if they meet the dependency requirements set forth in Public Act 300 of 1980, as amended.

Applications for enrollment after retirement are accepted anytime during the year, with coverage effective six months following the receipt of the application.

Retiree Healthcare Reform of 2012

Public Act 300 of 2012 granted all active members of the Michigan Public School Employees Retirement System, who earned service credit in the 12 months ending September 3, 2012, or were on an approved professional services or military leave of absence on September 3, 2012, a voluntary election regarding their retirement healthcare. Any changes to a member's healthcare benefit are effective as of the member's transition date, which is defined as the first day of the pay period that begins on or after February 1, 2013.

Under Public Act 300 of 2012, members were given the choice between continuing the 3% contribution to retiree healthcare and keeping the premium subsidy benefit described above, or choosing not to pay the 3% contribution and instead opting out of the subsidy benefit and becoming a participant in the Personal Healthcare Fund (PHF), a portable, tax-deferred fund that can be used to pay healthcare expenses in retirement. Participants in the PHF are automatically enrolled in a 2% employee contribution into their 457 account as of their transition date, earning them a 2% employer match into a 401(k) account. Members who selected this option stop paying the 3% contribution to retiree healthcare as of the day before their transition date, and their prior contributions were deposited into their 401(k) account.

Members who did not make an election before the deadline retain the premium subsidy benefit and continue making the 3% contribution toward retiree healthcare. Deferred or nonvested members on September 3, 2012 who are rehired on or after September 4, 2012, will contribute 3% to retiree healthcare and will retain the premium subsidy benefit. Returning members who made the retirement healthcare election will retain whichever option they chose.

Those who elected to retain the premium subsidy continue to annually contribute 3% of compensation into the healthcare funding account. A member or former member age 60 or older, who made the 3% healthcare contributions but who does not meet eligibility requirements may request a refund of their contributions. Similarly, if a retiree dies before the total value of the insurance subsidy paid equals the total value of the contributions the member made, and there are no eligible dependents, the beneficiary may request a refund of unused funds. Refunds of member contributions to the healthcare funding account are issued as a supplemental benefit paid out over a 60-month period.

- Retirees with at least 21 years of service, who terminate employment after October 31, 1980, with vested deferred benefits, are eligible for subsidized employer-paid health benefit coverage.
- A delayed premium subsidy applies to retirees who became a member of the retirement system before July 1, 2008 and who purchased service credit on or after July 1, 2008. Such individuals are eligible for premium subsidy benefits at age 60 or when they would have been eligible to retire without having made a service purchase, whichever comes first. They may enroll in the insurances earlier but are responsible for the full premium until the premium subsidy begins.

Under Public Act 300 of 2012, the state no longer offers an insurance premium subsidy in retirement for public school employees who first work on or after September 4, 2012. Instead, all new employees will be placed into the Personal Healthcare Fund where they will have support saving for retirement healthcare costs in the following ways:

- They will be automatically enrolled in a 2% employee contribution into a 457 account as of their date of hire, earning them a 2% employer match into a 401(k) account.

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- They will receive a credit into a Health Reimbursement Account (HRA) at termination if they have at least 10 years of service at termination. The credit will be \$2,000 for participants who are at least 60 years of age at termination or \$1,000 for participants who are less than 60 years of age at termination.

Participants in the Personal Healthcare Fund who become disabled for any reason are not eligible for any employer-funded health insurance premium subsidy. If a PHF participant suffers a nonduty-related death, his or her health benefit dependents are not eligible to participate in any employer funded health insurance premium subsidy. If a PHF participant suffers a duty death, the state will pay the maximum health premium allowed by statute for the surviving spouse and health benefit dependents. The spouses' insurance subsidy may continue until his or her death, the dependents' subsidy may continue until their eligibility ends (through marriage, age, or other event). Upon eligibility for a duty death benefit, the 2% employer matching contributions and related earnings in the member's 401(k) are forfeited and the state will pay for the subsidy. The beneficiaries receive the member's personal contributions and related earnings in the member's 457 account.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BASIS OF ACCOUNTING AND PRESENTATION

The System's financial statements are prepared using the accrual basis of accounting. Contributions from the members and employers are recognized as revenue when due and payable. Benefits and refunds are recognized when due and payable in accordance with the terms of the System. The reserves are described below, and details are provided in the supporting schedules.

Governmental Accounting Standards Board (GASB) Statement No. 67 and Statement No. 74, which were adopted during the year ended September 30, 2014 and 2017, addresses accounting and financial reporting requirements for pension and other postemployment benefit plans, respectively. The requirements for both GASB Statement No. 67 and 74 require changes in presentation of the financial statements, notes to the financial statements, and required supplementary information. Significant changes include an actuarial calculation of total and net pension and other postemployment benefit liabilities. It also includes comprehensive note disclosures regarding the pension and other postemployment benefit liability, the sensitivity of the net pension and other postemployment benefit liability to the discount rate, and increased investment activity disclosures. The implementation of GASB Statement No. 67 and 74 did not significantly impact the accounting for accounts receivable and investment balances. The total pension and other postemployment benefit liability, determined in accordance with GASB Statement No. 67 and 74, is presented in Note 4 on page 34, Note 5 on page 38, and in the Required Supplementary Information beginning on page 53.

As of September 30, 2016, the System applied GASB Statement No. 72, *Fair Value Measurement and Application*. GASB Statement No. 72 provides guidance for determining a fair value measurement for reporting purposes and applying fair value to certain investments and disclosures related to all fair value measurements.

RESERVES

Reserve for Employee Contributions

This reserve represents active member contributions and interest less amounts transferred to the Reserve for Retired Benefit Payments for regular and disability retirement, amounts refunded to terminated members, and amounts transferred to the Reserve for Employer Contributions representing unclaimed funds. Members no longer contribute to this reserve except to purchase eligible service credit or repay previously refunded contributions. At September 30, 2023, the balance in this reserve was \$1.4 billion.

Reserve for Pension Plus Employee Contributions

This reserve represents active member contributions and interest less amounts transferred to the Reserve for Pension Plus Retired Benefit Payments for regular retirement, amounts refunded to terminated members, and amounts transferred to the Reserve for Pension Plus Employer Contributions representing unclaimed funds. This reserve was established under the provisions of Public Act 75 of 2010. At September 30, 2023, the balance in this reserve was \$728.2 million.

Reserve for Pension Plus 2 Employee Contributions

This reserve represents active member contributions and interest less amounts transferred to the Reserve for Pension Plus 2 Retired Benefit Payments for regular retirement, amounts refunded to terminated members, and amounts

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transferred to the Reserve for Pension Plus 2 Employer Contributions representing unclaimed funds. This reserve was established under the provisions of Public Act 92 of 2017. At September 30, 2023, the balance in this reserve was \$130.1 million.

Reserve for Member Investment Plan

This reserve represents MIP contributions and interest less refunds and transfers to the Reserve for Retired Benefit Payments. At September 30, 2023, the balance in this reserve was \$8.7 billion.

Reserve for Employer Contributions

This reserve represents all reporting unit contributions, except payments for health benefits. Interest from the Reserve for Undistributed Investment Income is credited annually. Amounts are transferred annually to the Reserve for Retired Benefit Payments to bring the balance of that reserve into balance with the actuarial present value of retirement allowances. At September 30, 2023, the balance in this reserve was (\$21.1) billion.

Reserve for Pension Plus Employer Contributions

This reserve represents all reporting unit contributions for Pension Plus members, except payments for health benefits. Interest from the Reserve for Undistributed Investment Income is credited annually at a rate of 7%. Amounts are transferred annually to the Reserve for Retired Pension Plus Benefit Payments to bring the balance of that reserve into balance with the actuarial present value of retirement allowances. This reserve was established under the provisions of Public Act 75 of 2010. At September 30, 2023, the balance in this reserve was \$529.6 million.

Reserve for Pension Plus 2 Employer Contributions

This reserve represents all reporting unit contributions for Pension Plus 2 members, except payments for health benefits. Interest from the Reserve for Undistributed Investment Income is credited annually at a rate of 7%. Amounts are transferred annually to the Reserve for Retired Pension Plus Benefit Payments to bring the balance of that reserve into balance with the actuarial present value of retirement allowances. This reserve was established under the provisions of Public Act 92 of 2017. At September 30, 2023, the balance in this reserve was \$133.6 million.

Reserve for Retired Benefit Payments

This reserve represents payments of future retirement benefits to current retirees. At retirement, a member's accumulated contributions plus interest are transferred into this reserve. Monthly benefits, which are paid to the retiree, reduce this reserve. At the end of each fiscal year, an amount, determined by an annual actuarial valuation, is transferred from the Reserve for Employer Contributions to bring the balance of this reserve into balance with the actuarial present value of retirement allowances. At September 30, 2023, the balance in this reserve was \$63.1 billion.

Reserve for Pension Plus Retired Benefit Payments

This reserve represents payments of future retirement benefits to current Pension Plus retirees. At retirement, a member's accumulated contributions plus interest are transferred into this reserve. Monthly benefits, which are paid to the retiree, reduce this reserve. At the end of each fiscal year, an amount, determined by an annual actuarial valuation, is transferred from the Reserve for Pension Plus Employer Contributions to bring the balance of this reserve into balance with the actuarial present value of retirement allowances. This reserve was established under the provisions of Public Act 75 of 2010. At September 30, 2023, the balance in this reserve was \$13.2 million.

Reserve for Pension Plus 2 Retired Benefit Payments

This reserve represents payments of future retirement benefits to current Pension Plus 2 retirees. At retirement, a member's accumulated contributions plus interest are transferred into this reserve. Monthly benefits, which are paid to the retiree, reduce this reserve. At the end of each fiscal year, an amount, determined by an annual actuarial valuation, is transferred from the Reserve for Pension Plus 2 Employer Contributions to bring the balance of this reserve into balance with the actuarial present value of retirement allowances. This reserve was established under the provisions of Public Act 92 of 2017. At September 30, 2023, the balance in this reserve was \$0.

Reserve for Undistributed Investment Income

This reserve represents investment earnings. Interest is transferred annually to the other reserves. Administrative expenses of the System are paid from the Reserve for Administrative Expenses, which is credited with amounts from the Reserve for Undistributed Investment Income to cover the expenses. For ease of reporting and understanding,

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the two reserves are presented as one reserve in the supporting schedules. Public Act 143 of 1997 established a stabilization subaccount within the Reserve for Undistributed Investment Income to which any over funding is credited. As of September 30, 2023, the balance in the subaccount was \$0. At September 30, 2023, the balance in this reserve was \$10.1 billion.

Reserve for Health (OPEB) Related Benefits

This reserve is credited with employee and employer contributions for retirees' benefits. Starting in fiscal year 2013, the employer contribution is based on a prefunded basis and represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liability (or funding excess) over a period not to exceed 30 years. In addition, in fiscal year 2023, this reserve includes revenue from the federal government for the Employer Group Waiver Plan (EGWP). Premiums for health, dental and vision benefits are paid from this reserve. At September 30, 2023, the balance in this reserve was \$12.0 billion.

REPORTING ENTITY

The System is a fiduciary component unit of the State of Michigan. As such, the System's financial statements are included as a pension and other employee benefit trust fund in the State of Michigan Annual Comprehensive Financial Report. The System and its Board are not financially accountable for any other entities or other organizations. Accordingly, the System is the only entity included in this financial report.

BENEFIT PROTECTION

Public Act 100 of 2002 was passed by the Michigan Legislature to protect pension benefits of public employees from alienation (being transferred). Alienation is attachment, garnishment, levy, execution, bankruptcy or other legal process except for divorce orders or eligible domestic relation orders. The statutes governing the System contained an "anti-alienation" clause to provide for this protection; however, many smaller public pension systems did not have the benefit of this protection. Therefore, Public Act 100 of 2002 was passed to establish legal protection of pension assets that encompasses all public employees.

INVESTMENTS

Generally, investments are reported at fair value, consistent with the provisions of GASB Statement No. 72. Short-term, highly liquid debt instruments including commercial paper are reported at amortized cost. Additional disclosures describing investments are provided in Note 6.

INVESTMENT INCOME

Dividend and interest income is recognized on the accrual basis. Fair value changes are recorded as investment income or loss. Purchases and sales of investments are recorded as of the trade date (the date upon which the transaction is initiated), except for purchase and sale of mortgages, real estate, and private equity investments which are recorded as of the settlement date (the date upon which the transaction is ultimately completed). The effect of recording such transactions as of the settlement date does not materially affect the financial statements.

COSTS OF ADMINISTERING THE SYSTEM

Each year a restricted general fund appropriation is requested to fund the ongoing business operations of the System. These administrative costs are ultimately funded by the System through the regular transfer of funds from the System to the State's general fund based on either a direct cost or allocation basis depending on the nature of the expense. Costs of administering the System are financed by undistributed investment income of the System.

PROPERTY AND EQUIPMENT

Office space is leased from the State on a year-to-year basis. Office equipment is capitalized if the value exceeds \$5,000. These assets are recorded at cost and are reported net of depreciation in the *Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position*. Such assets are depreciated on a straight-line basis over 10 years. As of September 30, 1998, all capitalized equipment was fully depreciated. No additional equipment has been capitalized for the System since that date.

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RELATED PARTY TRANSACTIONS

Leases and Services

The System leases operating space and purchases certain administrative, data processing, legal and investment services from the State. The space and services are not otherwise available by competitive bid. The schedule below summarizes costs incurred by the System for such services.

	2023
	(in thousands)
Building Rentals	\$ 967
Technological Support	15,202
Attorney General	381
Investment Services	13,539
Personnel Services	11,709

Cash

At September 30, 2023, the System had \$276.6 million in a common cash investment pool maintained for various State operating funds. The participating funds in the common cash pool earn interest at various rates depending upon prevailing short-term interest rates. Earnings (Losses) from these activities amounted to \$8.8 million for the year ended September 30, 2023.

NOTE 3 – CONTRIBUTIONS

The majority of the members currently participate in the pension and OPEB plans on a contributory basis. Reporting units are required by Public Act 300 of 1980, as amended, to contribute amounts necessary to finance the coverage of pension benefits and OPEB. Contribution provisions are specified by State statute and may be amended only by action of the State Legislature.

Employer contributions to the System are determined on an actuarial basis using the entry age normal actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the actuarial valuation is allocated on a level basis over the service of the individual between entry age and assumed exit age. The normal cost is the annual cost assigned under the actuarial funding method, to the current and subsequent plan years. The remainder is called the actuarial accrued liability. Normal cost is funded on a current basis.

Pension and OPEB contributions made in the fiscal year ending September 30, 2023 were determined as of the September 30, 2020 actuarial valuations. The pension and OPEB unfunded (overfunded) actuarial accrued liabilities (UAAL) as of September 30, 2020 are amortized over a 16 year period beginning October 1, 2022 and ending September 30, 2038. The schedules on the following page summarize pension and OPEB contribution rates in effect for fiscal year 2023.

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PENSION CONTRIBUTION RATES		
<u>Benefit Structure</u>	<u>Member</u>	<u>Employer</u>
Basic	0.0 – 4.0 %	13.75 – 20.16 %
Member Investment Plan	3.0 – 7.0	13.75 – 20.16
Pension Plus	3.0 – 6.4	17.24
Pension Plus 2	6.2	19.95
Defined Contribution	0.0	13.75

OPEB CONTRIBUTION RATES		
<u>Benefit Structure</u>	<u>Member</u>	<u>Employer</u>
Premium Subsidy	3.0 %	0.92 – 8.07 %
Personal Healthcare Fund	0.0	0.00 – 7.21

The System is required to reconcile with actuarial requirements annually. If the System reconciles in a year, any funding deficiency for pension benefits is smoothed over a maximum of five years, with at least one-fifth (20%) of the funding deficiency included in the subsequent year's contribution. This payment is not recognized as a receivable in the accounting records. If the System does not reconcile in a year, any funding deficiency for pension benefits is accounted for in subsequent required contributions over the remaining amortization period. For fiscal year 2023, the System reconciled.

In May 1996, the Internal Revenue Service issued a private letter ruling allowing the System's members to purchase service credit and repay refunds using tax-deferred (pre-tax) dollars. The program was implemented in fiscal year 1998, and payments began in fiscal year 1999. Public Act 92 of 2017 discontinued the option to initiate a service credit purchase for the majority of service credit types as of September 29, 2017.

The program allowed members to purchase service credit and repay refunds on a tax-deferred basis. Members sign an irrevocable agreement that identifies the contract duration, monthly payment, total contract amount and years of service credit being purchased. The duration of the contract can range from 1 to 20 years. The payment amounts are withheld from members' paychecks and are treated as employer pick-up contributions pursuant to Internal Revenue Code Section 414(h). Contracts entered into prior to the September 29, 2017 deadline remain in effect.

At September 30, 2023, there were 1,590 agreements. The agreements were discounted using the contractual interest rate of 8.00% for September 30, 2023. The average remaining length of a contract was approximately 7 years for 2023. The short-term receivable was \$3.6 million, and the discounted long-term receivable was \$9.1 million at September 30, 2023.

NOTE 4 – NET PENSION LIABILITY

MEASUREMENT OF THE NET PENSION LIABILITY

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the fair value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

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Net Pension Liability

Total Pension Liability	\$ 96,111,949,871
Plan Fiduciary Net Position	63,722,816,796
Net Pension Liability	\$ 32,389,133,075
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	66.30%
Net Pension Liability as a Percentage of Covered Payroll	313.58%
Total Covered Payroll	\$ 10,328,877,279

LONG-TERM EXPECTED RETURN ON PLAN ASSETS

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return were provided by the Bureau of Investments (BOI) for each major asset class included in the pension plan's portfolio as of September 30, 2023. These best estimates and the plan's target asset allocation are summarized in the following table:

Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Domestic Equity Pools	25.0 %	5.8 %
International Equity Pools	15.0	6.8
Private Equity Pools	16.0	9.6
Real Estate and Infrastructure Pools	10.0	6.4
Fixed Income Pools	13.0	1.3
Absolute Return Pools	9.0	4.8
Real Return / Opportunistic Pools	10.0	7.3
Short-Term Investment Pools	2.0	0.3
TOTAL	100.0 %	

* Long-term rates of return are net of administrative expenses and 2.7% inflation.

RATE OF RETURN

For the fiscal year ended September 30, 2023, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was 8.29%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

DISCOUNT RATE

The Michigan Public Schools Employees' Retirement System's Board adopted a Dedicated Gains Policy to lower the discount rate in years where investment returns exceed the current assumption. The DTMB Director and the Board modified the dedicated gains policy to limit the reduction in the discount rate to no lower than 6.00%. A single discount rate of 6.00% was used to measure the total pension liability for the fiscal year 2023. In fiscal year 2022, the single discount rate used to measure the pension liability was 6.00% (6.00% for the Pension Plus 2 Plan). This single discount rate was based on the expected rate of return on pension plan investments of 6.00% (6.00% for the Pension Plus 2 Plan). The projection of cash flows used to determine this single discount rate was based on the assumption that in the future, plan member contributions will be made at the current contribution rate and that employer

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contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

SENSITIVITY OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

As required by GASB Statement No. 67, we determined the sensitivity of the net pension liability, in thousands, to changes in the single discount rate. The following table presents the plan's net pension liability, calculated using a single discount rate of 6.00%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

1% Decrease	Current Discount Rate Assumption	1% Increase
5.00%	6.00%	7.00%
<hr/>	<hr/>	<hr/>
\$43,858,857	\$32,389,133	\$22,837,407

TIMING OF THE VALUATION

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total pension liability is required to be rolled forward from the actuarial valuation date to the pension plan's fiscal year end.

The total pension liability as of September 30, 2023, is based on the results of an actuarial valuation date of September 30, 2022 and rolled-forward using generally accepted actuarial procedures.

ACTUARIAL VALUATIONS AND ASSUMPTIONS

Actuarial valuations for the pension plan involves estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment and mortality. Amounts determined regarding the funded status of the plan and the actuarially determined contributions (ADC) are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

The Schedules of Contributions in Required Supplementary Information present trend information about the amounts contributed to the plan by employers in comparison to the ADC, an amount that is actuarially determined in accordance with the parameters of GASB Statement No. 67 for pension.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

The information presented in the Net Pension Liability schedules and notes was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

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NOTES TO BASIC FINANCIAL STATEMENTS

Summary of Actuarial Assumptions

Valuation Date	September 30, 2022
Actuarial Cost Method	Entry Age, Normal
Asset Valuation Method	Fair Value
Actuarial Assumptions	
Wage Inflation Rate	2.75%
Investment Rate of Return	
- MIP and Basic Plans	6.00% net of investment expenses
- Pension Plus Plan	6.00% net of investment expenses
- Pension Plus 2 Plan	6.00% net of investment expenses
Projected Salary Increases	2.75% - 11.55%, including wage inflation at 2.75%
Cost-of-Living Adjustments	3% annual non-compounded for MIP members
Mortality	
Retirees	PubT-2010 Male and Female Retiree Mortality Tables scaled by 116% for males and 116% for females and adjusted for mortality improvements using projection scale MP-2021 from 2010.
Actives	PubT-2010 Male and Female Employee Mortality Tables scaled 100% and adjusted for mortality improvements using projection scale MP-2021 from 2010.
Disabled Retirees	PubNS-2010 Male and Female Disabled Retiree Mortality Tables scaled 100% and adjusted for mortality improvements using projection scale MP-2021 from 2010.
Notes	Assumption changes as a result of an experience study for the period 2017 through 2022 have been adopted by the System for use in the determination of the total pension liability beginning with the September 30, 2023 valuation.

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NOTES TO BASIC FINANCIAL STATEMENTS

NOTE 5 – NET OPEB LIABILITY

MEASUREMENT OF THE NET OPEB LIABILITY

The net OPEB liability is to be measured as the total OPEB liability, less the amount of the OPEB plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the fair value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Net OPEB Liability

Total OPEB Liability	\$ 11,367,063,182
Plan Fiduciary Net Position	12,017,317,242
Net OPEB Liability	<u>\$ (650,254,060)</u>
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	105.72%
Net OPEB Liability as a Percentage of Covered Payroll	(6.30)%
Total Covered Payroll	\$ 10,328,877,279

LONG-TERM EXPECTED RETURN ON PLAN ASSETS

The long-term expected rate of return on OPEB 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 OPEB 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. Best estimates of arithmetic real rates of return were provided by the Bureau of Investments (BOI) for each major asset class that is included in the OPEB plan's target asset allocation as of September 30, 2023. These best estimates are summarized in the following table:

Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return*</u>
Domestic Equity Pools	25.0 %	5.8 %
International Equity Pools	15.0	6.8
Private Equity Pools	16.0	9.6
Real Estate and Infrastructure Pools	10.0	6.4
Fixed Income Pools	13.0	1.3
Absolute Return Pools	9.0	4.8
Real Return / Opportunistic Pools	10.0	7.3
Short-Term Investment Pools	2.0	0.3
TOTAL	<u>100.0 %</u>	

* Long-term rates of return are net of administrative expenses and 2.7% inflation.

RATE OF RETURN

For the fiscal year ended September 30, 2023, the annual money-weighted rate of return on OPEB plan investment, net of OPEB plan investment expense, was 7.94%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

DISCOUNT RATE

The Michigan Public Schools Employees' Retirement System's Board adopted a Dedicated Gains Policy to lower the discount rate in years where investment returns exceed the current assumption. The DTMB Director and the Board modified the dedicated gains policy to limit the reduction in the discount rate to no lower than 6.00%. A single discount

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NOTES TO BASIC FINANCIAL STATEMENTS

rate of 6.00% was used to measure the total OPEB liability for fiscal year 2023. In fiscal year 2022, the single discount rate used to measure the OPEB liability was 6.00%. This single discount rate was based on the expected rate of return on OPEB plan investments of 6.00%. The projection of cash flows used to determine this single discount rate was based on the assumption that in the future 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 these assumptions, the OPEB 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 OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

SENSITIVITY OF THE NET OPEB LIABILITY TO CHANGES IN THE DISCOUNT RATE

As required by GASB Statement No. 74, we have determined the sensitivity of the net OPEB liability to changes, in thousands, in the single discount rate. The following table presents the plan's net OPEB liability, calculated using a single discount rate of 6.00%, as well as what the plan's net OPEB liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

1% Decrease 5.00%	Current Discount Rate Assumption 6.00%	1% Increase 7.00%
\$514,660	\$(650,254)	\$(1,651,417)

SENSITIVITY OF THE NET OPEB LIABILITY TO HEALTHCARE COST TREND RATE

As required by GASB Statement No. 74, we have determined the sensitivity of the net OPEB liability to changes, in thousands, in the healthcare cost trend rates. The following table presents the plan's net OPEB liability, calculated using the assumed trend rates as well as what the plan's net OPEB liability would be if it were calculated using a trend rate that is 1-percentage-point lower or 1-percentage-point higher:

1% Decrease	Current Healthcare Cost Trend Rate	1% Increase
\$(1,654,541)	\$(650,254)	\$437,213

TIMING OF THE VALUATION

An actuarial valuation to determine the total OPEB liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the OPEB plan's fiscal year end.

The total OPEB liability as of September 30, 2023, is based on the results of an actuarial valuation date of September 30, 2022 and rolled-forward using generally accepted actuarial procedures.

ACTUARIAL VALUATIONS AND ASSUMPTIONS

Actuarial valuations for the OPEB plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the actuarially determined contributions (ADC) are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

The Schedules of Contributions in Required Supplementary Information present trend information about the amounts contributed to the plan by employers in comparison to the ADC, an amount that is actuarially determined in accordance with the parameters of GASB Statement No. 74 for OPEB.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in

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NOTES TO BASIC FINANCIAL STATEMENTS

actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

The information presented in the Net OPEB Liability schedules and notes was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Summary of Actuarial Assumptions

Valuation Date	September 30, 2022
Actuarial Cost Method	Entry Age, Normal
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Wage Inflation Rate	2.75%
Investment Rate of Return	6.00% net of investment expenses
Projected Salary Increases	2.75% - 11.55%, including wage inflation at 2.75%
Healthcare Cost Trend Rate ²	Pre-65: 7.50% Year 1 graded to 3.50% Year 15 Post-65: 6.25% Year 1 graded to 3.50% Year 15
Mortality	
Retirees	PubT-2010 Male and Female Retiree Mortality Tables scaled by 116% for males and 116% for females and adjusted for mortality improvements using projection scale MP-2021 from 2010.
Actives	PubT-2010 Male and Female Employee Mortality Tables scaled 100% and adjusted for mortality improvements using projection scale MP-2021 from 2010.
Disabled Retirees	PubNS-2010 Male and Female Disabled Retiree Mortality Tables scaled 100% and adjusted for mortality improvements using projection scale MP-2021 from 2010.
Other Assumptions: ¹	
Opt Out Assumption	21% of eligible participants hired before July 1, 2008 and 30% of those hired after June 30, 2008 are assumed to opt out of the retiree health plan.
Survivor Coverage	80% of male retirees and 67% of female retirees electing two-person coverage are assumed to have coverage continuing after the retiree's death.
Coverage Election at Retirement	75% of male and 60% of female future retirees who elect coverage are assumed to elect coverage for 1 or more dependents.
Notes:	Assumption changes as a result of an experience study for the period 2017 through 2022 have been adopted by the System for use in the determination of the total OPEB liability beginning with the September 30, 2023 valuation.

¹ Applies to individuals hired before September 4, 2012.

² Applies to medical, Rx and Medicare payments.

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NOTES TO BASIC FINANCIAL STATEMENTS

NOTE 6 – INVESTMENTS

INVESTMENT AUTHORITY

The State of Michigan Investment Board (Board) was created by Executive Order 2018-10 (Order) and serves as the investment fiduciary over the assets of the State sponsored defined benefit retirement systems. The Board is responsible for investing the System's assets in accordance with the duties and powers enumerated in the Order and with Public Act 380 of 1965, as amended. Investments are made subject to the Public Employee Retirement System Investment Act, Public Act 314 of 1965, as amended. The Public Employee Retirement System Investment Act authorizes, with certain restrictions, the investment of System assets in stocks, corporate and government bonds and notes, mortgages, real estate, and certain short-term and private equity investments. Investments must be made for the exclusive purposes of providing benefits to active members, retired members and beneficiaries, and for defraying the expenses of investing the assets.

DERIVATIVE INSTRUMENTS

The Board employs the use of derivative instruments in the investment of the pension and other employee benefit trust funds (the trust funds).

Derivative instruments are used in managing the trust fund portfolios, but uses do not include speculation or leverage of investments. State investment statutes limit total derivative instrument exposure to 15% of a fund's total asset value and restrict uses to replication of returns and hedging of assets. Swap agreements represent the largest category of derivative instrument investments subject to this limitation. Option and Future contracts traded daily on an exchange and settling in cash daily or having a limited and fully defined risk profile at an identified, fixed cost are not subject to the derivative instrument exposure limitation. Less than 15% of the total trust funds' portfolio has been invested from time to time in future contracts, swap agreements, structured notes, option and forward contracts.

The derivative instrument fair values are reported on the *Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* as of September 30, 2023, in their respective investment pool's fair value. Derivative instrument net increase and decrease are reported on the *Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* for fiscal year ended September 30, 2023, under "Investment income (loss)", in "Net increase (decrease) in fair value of investments". Bond interest, swap payments, and dividends are reported under "Investment income (loss)", in "Interest, dividends, and other".

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NOTES TO BASIC FINANCIAL STATEMENTS

Derivative Instrument Investment Table as of September 30, 2023 (in millions):

Investment and Investment Type	Percentage of Fair Value	Notional Value	Investments at Fair Value	Net Increase (Decrease) in Fair Value	Investment Income	Fair Value Subject to Credit Risk
Future Contracts Fixed Income and International Equity Investments	-%	\$ 35.8	\$ (0.1)	\$ 1.7	\$ -	\$ -
Option Contracts Equity, Fixed Income and International Equity Investments	0.5	59,002.8	397.1	377.1	-	-
Swap Agreements Fixed Income and International Equity Investments	1.8	2,512.8	1,341.2	537.7	(102.8)	18.7
Total		\$ 61,551.4	\$ 1,738.1	\$ 916.5	\$ (102.8)	\$ 18.7

To diversify the trust funds' portfolio, the Board will enter into international swap agreements with investment grade counterparties, which are tied to stock market indices in approximately forty-six foreign countries. Generally, the notional amount of equity swap tied to foreign stock market indices is executed via a net total return USD index. The swap agreements provide that the System will pay quarterly or at maturity over the term of the swap agreements, interest indexed to the Secured Overnight Financing Rate (SOFR) or the U.S. Federal Funds Rate, adjusted for an interest rate spread, on the notional amount stated in the agreements. International equity swap agreement maturity dates range from October 2023 to June 2024. U.S. Treasury Bonds, U.S. Corporate Bonds and other public market fixed income securities, as well as other investments are held to correspond with the notional amount of the international swap agreements. The value of the international synthetic equity structures is a combination of the value of the swap agreements and the value of the notes and other investments in the collateral portfolio. The book value represents the cost of the bonds, notes, and other investments. The current value represents the current value of the bonds, notes, and other investments and the change in the value of the underlying indices from the inception of the swap agreements. The current value is used as a representation of the fair value based on the intention to hold all swap agreements until maturity. At the maturity of the swap agreements, the trust funds will either receive the increase in the value of the equity indices from the level at the inception of the agreements or pay the decrease in the value of the indices. U.S. Treasuries, cash, publicly traded fixed income investments and private market investments are held in the collateral portfolio to correspond with the notional amount of the swap agreements. The combined swap structure generally realizes gains and losses on a rolling basis.

To reduce the risk in the Fixed Income and International Equity portfolios, the Board has entered into foreign exchange (FX) swap agreements, interest rate swap agreements and credit default swap agreements with investment grade counterparties. The FX swap agreements are tied to foreign currency forward exchange rates and are used to reduce the currency risk within the fixed income portfolio. The swap agreements are entered into on an as-needed basis and are generally tied to the maturity of a foreign government bond indenture denominated in a foreign currency. The purpose of the FX swap agreement that has a final maturity date of less than three months, is to reduce or eliminate

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NOTES TO BASIC FINANCIAL STATEMENTS

the currency risk on foreign bond transactions. U.S. Treasury securities, and portfolio cash are held to correspond with the notional amount of FX swap agreements within the Fixed Income and International Equity Portfolios. Interest rate swaps are used to adjust interest rate and yield curve exposures and substitute for physical securities. Long swap positions that receive fixed rate increase exposure to long-term interest rates; short swap positions that pay fixed rate, decrease exposure. Credit default swaps (CDS) are used to manage credit exposure without buying or selling securities outright. Written CDS increase credit exposure, selling protection, obligating the portfolio to buy bonds from counterparties in the event of a default. Purchased CDS decrease exposure, buying protection, providing the right to “Put” bonds to the counterparty in the event of a default.

Counterparty credit risk is the maximum loss amount that would be incurred if the counterparties to the derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security, or netting arrangement. For the Over-the-Counter (OTC) derivative instrument investments, the System held collateral of \$52.1 million in cash deposits and \$1.7 million in securities on behalf of counterparties. Collateral securities in the amount of \$11.2 million were held on the behalf of the System by counterparties.

The Board traded bond future contracts to manage duration, yield curve exposure, adjust interest rate exposures and replicate bond positions.

To enhance returns while limiting downside risk, the Board traded equity options in single securities and on indices in the Large Cap Core and All Cap GARP funds. Attractively priced equity options were used for the purpose of stock replacement in order to drive excess returns over the S&P 500, as well as to provide added exposure to strong equity markets while limiting principal at risk. Put options are used to protect against large negative moves in the market indices. Options traded by the Board in the Fixed Income and International Equity pools are used to manage interest rate and volatility exposures. Written options generate income in expected interest rate scenarios and may generate capital losses, if unexpected interest rate environments are realized. Both written and purchased options will become worthless at expiration if the underlying instrument does not reach the strike price of the option. However, purchased options are often sold well before expiration in order to lock in profits at prices well below listed strike prices, and thereby generate consistent returns.

SECURITIES LENDING

The System, pursuant to a Securities Lending Authorization Agreement, has authorized State Street Bank and Trust Company (“State Street”) to act as the System’s agent in lending System’s securities to approved borrowers. State Street, as agent, enters into Securities Loan Agreements with borrowers.

During the fiscal year, State Street lent, on behalf of the Board, certain securities of the System held by State Street as custodian and received cash or other collateral including securities issued or guaranteed by the United States government. The types of securities lent were equity, and fixed income, which includes government and corporate bonds and notes. State Street does not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to at least 100% of the fair value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, State Street had an obligation to indemnify the System in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration or notice of default of the Borrower.

During the fiscal year, the System and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of September 30, 2023, such investment pool had an average duration of 7 days and an average weighted final maturity of 95 days for USD. Because the loans were terminable at will their duration did not generally match the duration of the investments made with cash collateral. On September 30, 2023, the System had no credit risk exposure to borrowers. The fair value of collateral held and the fair value (USD) of securities on loan for the System as of September 30, 2023, was \$2.5 billion and \$2.5 billion, respectively.

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NOTES TO BASIC FINANCIAL STATEMENTS

RISK

In accordance with GASB Statement No. 40, *Deposit and Investment Risk Disclosures*, as amended, investments require certain disclosures regarding policies and practices and the risks associated with them. The credit risk, including custodial credit risk and concentration of credit risk the interest rate risk, and the foreign currency risk are discussed in the following paragraphs. Amounts represent the pro rata share of the underlying investments as required by GASB Statement No. 40. These investments are held in internal investment pools and reported as such in the financial statements.

Credit Risk

Credit risk is the risk that an issuer will not fulfill its obligations.

- Short-Term Fixed Income Investments – Eligible commercial paper investments must be rated within one of the two highest rating classifications (“1” or “2”) at the time of purchase from one of the nationally recognized statistical ratings organizations (NRSROs) specified in Public Act 314 of 1965, as amended. Borrowers must have at least \$400.0 million in commercial paper outstanding, and the Board may not invest in more than 10% of the borrower’s outstanding debt.
- Long-Term Fixed Income Investments – Investment grade and noninvestment grade securities may be acquired in compliance with the parameters set forth in Public Act 314 of 1965, as amended, and the Board’s Investment Policy Statement for the System. Public Act 314 defines investment grade as investments in the top four major grades, rated by one of the NRSROs. At September 30, 2023, the System was in compliance with Public Act 314 and the Investment Policy Statement in all material aspects.

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NOTES TO BASIC FINANCIAL STATEMENTS

Rated Debt Investments

(in thousands)

As of September 30, 2023

Investment Type	Fair Value	S&P	Fair Value	Moody's
Short Term	\$ 3,515,207	A-1	\$ 3,475,261	P-1
	78,037	A-2	58,058	P-2
	-	NR	59,925	NR
Money Market	102,155	AAA	102,155	Aaa
Government Securities				
U.S. Agencies - Sponsored	383	AAA	723,476	Aaa
	723,094	AA	-	Aa
Fixed Income				
	91,912	AAA	266,015	Aaa
	182,700	AA	148,441	Aa
	330,598	A	418,576	A
	784,381	BBB	622,211	Baa
	223,924	BB	203,847	Ba
	108,154	B	159,785	B
	46,556	CCC	65,676	Caa
	33,561	CC	46,952	Ca
	-	C	8,223	C
	11,197	D		
	1,519,946	NR	1,393,204	NR
Fixed Income ETF	329,312	NR	329,312	NR
Mutual Funds				
	10,489	BB	-	Ba
	121,962	NR	132,451	NR
Securities Lending Collateral				
Short Term	214,040	A-1	268,666	P-1
Fixed Income				
	127,980	AA	572,816	Aa
	2,136,166	A	857,900	A
	63,990	NR	842,794	NR
Total	<u>\$ 10,755,744</u>		<u>\$ 10,755,744</u>	

NR – Not Rated

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NOTES TO BASIC FINANCIAL STATEMENTS

Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the State will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party.

Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the government and are held by either the counterparty or the counterparty's trust department or agent, but not in the government name.

The Board does not have a policy for custodial credit risk. However, the State's custodial bank had a credit rating of A at September 30, 2023. As of September 30, 2023, no securities were exposed to custodial credit risk.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer.

Other than obligations issued, assumed or guaranteed by the United States, its agencies or United States government sponsored enterprises, the System is prohibited by Public Act 314 of 1965, as amended, from investing more than 5% of the outstanding obligations of any one issuer or investing more than 5% of a System's assets in the obligations of any one issuer. When calculating the amount of outstanding obligations, the System includes publicly issued and privately held debt.

At September 30, 2023, there were no investments in any single issuer that accounted for more than 5% of the System's assets. The System held one investment that exceeded the 5% cap in obligations of any one issuer. The System is aware of the breach and in accordance with MCL 38.1133(3)(g), is developing a prudent plan for reallocating assets to comply with the prescribed limitations.

Interest Rate Risk – Fixed Income Investments

Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment.

The Board's policy states that cash equivalents are invested in short-term fixed income securities with an average weighted maturity of less than one year to provide liquidity and safety of principal from capital market and default risk. At September 30, 2023, the fair value of the System's short term investments was \$3.7 billion with the weighted average maturity of 45 days.

The Board does not have a policy regarding interest rate risk for long-term debt investments. However, the trust funds are invested with a long-term strategy. The goal is to balance higher returns while accepting minimum risk for the return. Analyzing the yield curve on individual securities as compared to U.S. Treasuries determines, in part, what is an acceptable risk for the return. Therefore, market conditions such as lower interest rates result in shorter duration and higher interest rates result in longer duration.

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NOTES TO BASIC FINANCIAL STATEMENTS

Debt Securities

(in thousands)

As of September 30, 2023

	<u>Fair Value</u>	<u>Effective Duration in Years</u>
Government		
U. S. Treasury	\$ 1,698,691	11.1
U. S. Agencies - Backed	276,624	4.3
U. S. Agencies - Sponsored	723,476	5.0
Corporate	3,794,692	2.6
International*		
U. S. Treasury	1,128,743	0.9
Total	<u>\$ 7,622,228</u>	

Debt securities are exclusive of securities lending collateral.

* International contains Domestic Government and Corporate Debt Securities as a part of their derivative instrument strategies. The interest rates reset on a quarterly basis for these securities.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit.

The System invests in various securities denominated in foreign currencies. Authorized global securities include equities, fixed income, mutual funds, real estate, and limited partnerships. These investments are limited to 30% of the total assets of the System with additional limits of not more than 5% of the outstanding global securities of any one issuer and no more than 5% of the System's assets in the global securities of any one issuer. In addition to these limits, the Board cannot acquire securities with companies that have active business operations in the state sponsors of terror as identified by the United States Secretary of State. At September 30, 2023, the total amount of foreign investment subject to foreign currency risk was \$7.0 billion, which amounted to 9.3% of total investments (exclusive of securities lending collateral) of the System.

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NOTES TO BASIC FINANCIAL STATEMENTS

Foreign Currency Risk

(in thousands)

As of September 30, 2023

Region	Country	Currency	Equity Fair Value in U.S. \$	Fixed Income Fair Value in U.S. \$	International & Absolute Return Fair Value in U.S. \$	Private Equity, Real Estate, & Infrastructure Fair Value in U.S. \$
AMERICA						
	Brazil	Real	\$ -	\$ 9,259	\$ 28,765	\$ -
	Canada	Dollar	16,101	9,106	112,782	1,511
	Mexico	Peso	764	4,463	35,827	389
	Peru	Sol	-	719	-	-
	Chile	Peso	-	-	1,436	-
PACIFIC						
	Australia	Dollar	9,309	1,277	60,090	-
	Hong Kong	Dollar	6,588	-	106,119	-
	India	Rupee	-	90	11,092	-
	Indonesia	Rupiah	1,966	4,941	3,675	-
	Japan	Yen	2,286	11,171	180,390	-
	Malaysia	Ringgit	-	4,943	1,959	-
	Taiwan	New Dollar	-	-	17,243	-
	China	Renminbi	4,349	-	12,794	-
	Singapore	Dollar	2,058	5,045	395	-
	South Korea	Won	-	7,400	39,340	-
	Thailand	Baht	-	3,301	24,742	-
	Sri Lanka	Rupee	-	1,959	-	-
	New Zealand	Dollar	-	2,469	8,242	-
	China	Yuan	164	1,561	3,557	-
	China	Yuan Offshore	-	7,855	2,147	-
	Philippines	Peso	-	-	296	-
	United Arab Emirates	Dirham	84	-	-	-
EUROPE						
	Denmark	Krone	112	-	60,570	-
	European Union	Euro	135,450	24,201	408,987	465,692
	Hungary	Forint	-	-	1,860	-
	Norway	Krone	-	-	1,895	-
	Poland	Zloty	-	366	4,954	-
	United Kingdom	Pound Sterling	17,932	14,149	162,148	44,310
	Romania	Leu	-	325	-	-
	Sweden	Krona	11,698	1,532	100,316	-
	Switzerland	Franc	16,398	-	40,908	-
	Türkiye	Lira	-	-	3,825	-
	Czech Republic	Koruna	-	985	-	-
AFRICA						
	South Africa	Rand	107	757	3,120	-
	Liberia	Dollar	4,634	-	-	-
MIDDLE EAST						
	Israel	New Shekel	-	2,390	1,278	-
WORLD-WIDE						
	Various	Various	-	-	4,711,326	-
	Total		<u>\$ 229,999</u>	<u>\$ 120,263</u>	<u>\$ 6,152,078</u>	<u>\$ 511,902</u>

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

FAIR VALUE MEASUREMENTS

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Not all investments held by the System are recorded at fair value. GASB Statement No. 72 allows for certain investments to be recorded at cost (or amortized cost or any other valuation method), and therefore, they are not presented in the fair value hierarchy table. Equity and fixed income securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Equity Swaps and Fixed Income securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique and other significant observable inputs. Equity and fixed income securities classified as Level 3 of the fair value hierarchy are valued using third party data and reports that are unobservable. Securities reported at Net Asset Value (NAV) are valued using the most recent third party statement adjusted for cash flows as of September 30, 2023. Investments that are measured at fair value using the Net Asset Value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

In instances where inputs used to measure fair value fall into different levels in the above fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability.

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NOTES TO BASIC FINANCIAL STATEMENTS

	Fair Value Measurement Using			
	Balance at September 30, 2023	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level:				
Total cash and cash equivalents	\$ 7,902,282	\$ 7,902,282	\$ -	\$ -
Equity				
Depository Receipts	98,907,680	98,907,680	-	-
Common Stocks	13,168,699,545	13,168,531,051	-	168,493
Preferred Stocks	6,254,791	6,254,791	-	-
Real Estate Investments Trusts	523,018,040	523,018,040	-	-
Swaps	112,299,807	-	112,299,807	-
Commingled Funds, ETF's, and PTP's	3,733,775,024	3,734,172,450	(397,427)	-
Options	397,363,637	397,363,637	-	-
Warrants	1	-	-	1
Convertible Bonds	399,677	-	399,677	-
Rights	830	830	-	-
Total Equity	18,040,719,033	17,928,248,480	112,302,058	168,494
Fixed Income				
Asset Backed	1,074,086,820	-	1,074,086,820	-
Corporate Bonds	1,204,763,763	-	1,189,595,979	15,167,784
Commercial Mortgage-Backed	1,122,085,267	-	1,114,914,057	7,171,210
Government Issues	2,971,069,220	2,761,839,349	209,229,871	-
Swaps	13,053,070	-	13,053,070	-
US Agency Issues	788,059,145	-	788,059,145	-
Commingled Funds, ETF's, and PTP's	466,504,610	466,504,610	-	-
Options	1,808,573	-	1,808,573	-
Total Fixed Income	7,641,430,468	3,228,343,960	4,390,747,515	22,338,994
Total investments by fair value level	\$ 25,690,051,783	\$ 21,164,494,723	\$ 4,503,049,573	\$ 22,507,488
Investments measured at the net asset value (NAV)				
Private Equity Total	17,616,896,708			
Real Estate and Infrastructure Total	7,271,024,170			
Absolute Return Total	7,796,988,654			
Real Return Total	8,030,042,473			
Other Limited Partnership	4,913,330,547			
Total investments measured at the NAV	\$ 45,628,282,552			
Total investments measured at fair value	\$ 71,318,334,336			

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Additional disclosures for fair value measurements of investments in certain entities that calculate the Net Asset Value per Share (or its equivalent):

Private Equity Funds

(in billions)

Total investments measured at the NAV	\$ 17.6
Unfunded commitments	6.2

These types of investment includes investments in approximately 288 partnerships that invest in leveraged buyouts, venture capital, mezzanine debt, distressed debt, secondary funds and other investments. These types of investments can never be redeemed with the funds, but distributions are received through the liquidation of the underlying assets of the fund. It's expected that the underlying assets of the fund are liquidated over a period of five to eight years. However, as of September 30, 2023, it is probable that all of the investments in this group will be sold at an amount different from the NAV per share (or its equivalent). Therefore, the fair values of the investments in this type have been determined using recent observable transaction information for similar investments and nonbinding bids received from potential buyers of the investments. As of September 30, 2023, a buyer for these investments has not been identified.

Real Estate and Infrastructure

(in billions)

Total investments measured at the NAV	\$ 7.3
Unfunded commitments	2.3

Real Estate and Infrastructure funds include approximately 114 accounts (limited partnerships, limited liability companies, etc.) that invest in real estate or infrastructure related assets. The fair value of the Real Estate and Infrastructure funds have been determined in accordance with generally accepted accounting principles using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These types of investments cannot be redeemed with the funds. Distributions from these funds will be received as the underlying investments are sold and liquidated over time. It is expected that the underlying assets will be sold over the next 5 – 15 years. However, buyers have not been determined so the fair value has been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital.

Absolute Return Portfolio

(in billions)

Total investments measured at the NAV	\$ 7.8
Unfunded commitments	2.6

This type includes approximately 5 investments in hedge funds and hedge funds and approximately 57 investments in private credit strategies. These investments seek to diversify risk and reduce volatility. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. Most of the investments are redeemable or have a final fund term that is 10 years or less.

Real Return and Opportunistic Portfolio

(in billions)

Total investments measured at the NAV	\$ 8.0
Unfunded commitments	2.6

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

This type includes approximately 35 funds that invest in private credit, tangible and intangible real assets, or other real return and opportunistic strategies. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 5 to 10 years.

All Other Investments

(in billions)

Total investments measured at the NAV	\$	4.9
Unfunded commitments		0.2

The balance of plan assets reported at fair value includes 19 investments:

- LPs that invest in fixed income type investment; residential rehabilitation, middle market business loans and senior secured debt financing. These investments cannot be redeemed by limited partners. Distributions are received through the liquidation of the underlying assets of the fund.
- LPs that invest in fixed income type investments permitting partners to request redemption monthly or quarterly, after initial lock up period of 1 year or less, requiring 45 to 65 days' advance notice.
- LPs investing in global investments permitting partners to request partial redemptions quarterly or monthly, with advance notice, subject to the sole discretion of the general partner.
- LPs that invest in private equity, private credit/loans, and tangible real assets that cannot be redeemed by limited partners. Distributions from each fund will be received as the underlying investments of the funds are liquidated.

NOTE 7 – COMMITMENTS AND CONTINGENCIES

Under the Administrative Procedures Act, members may appeal a decision made by the Retirement Board. Once the administrative procedure has been exhausted, the decision may be appealed in Michigan's court system. Various cases that have exhausted the administrative procedures have been appealed in the court system. These cases are in the normal course of business and the System does not anticipate any material loss as a result of the contingent liabilities.

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

(in thousands)

	Fiscal Year									
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability										
Service Cost	\$ 1,107,104	\$ 859,233	\$ 850,016	\$ 854,272	\$ 779,545	\$ 752,589	\$ 675,804	\$ 682,608	\$ 674,943	\$ 738,574
Interest	5,693,641	5,797,601	5,728,433	5,607,512	5,561,469	5,352,730	5,348,515	5,226,021	5,137,527	4,959,187
Changes of benefit terms										
Differences between expected and actual experience	1,078,125	217,098	(163,121)	596,200	119,391	(187,289)	(120,998)	401,202	(75,932)	-
Changes of assumptions	(3,322,864)	8,139,135	-	-	2,226,621	6,588,286	3,461,025	-	-	1,054,479
Benefit payments, including refunds of member contributions	(5,569,032)	(5,457,513)	(5,336,242)	(5,211,046)	(5,087,969)	(4,963,271)	(4,833,050)	(4,695,818)	(4,555,349)	(4,417,169)
Net Change in Total Pension Liability	(1,013,026)	9,555,553	1,079,086	1,846,938	3,599,058	7,543,045	4,531,295	1,614,013	1,181,190	2,335,070
Total Pension Liability - Beginning	97,124,976	87,569,423	86,490,336	84,643,399	81,044,341	73,501,296	68,970,001	67,355,988	66,174,798	63,839,728
Total Pension Liability - Ending (a)	\$ 96,111,950	\$ 97,124,976	\$ 87,569,423	\$ 86,490,336	\$ 84,643,399	\$ 81,044,341	\$ 73,501,296	\$ 68,970,001	\$ 67,355,988	\$ 66,174,798
Plan Fiduciary Net Position										
Contributions - Employer	\$ 4,842,556	\$ 3,843,216	\$ 3,081,014	\$ 2,808,839	\$ 2,706,713	\$ 2,791,509	\$ 2,398,950	\$ 2,308,657	1,967,611	1,600,375
Contributions - Member	449,906	434,411	413,531	401,626	403,147	393,059	427,988	398,893	395,722	405,444
Net Investment Income	4,829,736	(2,932,020)	13,740,731	2,545,231	2,519,320	5,135,866	5,583,469	3,095,178	938,143	6,192,711
Benefit payments, including refunds of member contributions	(5,569,032)	(5,457,513)	(5,336,242)	(5,211,046)	(5,087,969)	(4,963,271)	(4,833,050)	(4,695,818)	(4,555,349)	(4,417,169)
Administrative and Other Expenses	(26,941)	(23,784)	(23,239)	(23,119)	(27,741)	(25,952)	(26,133)	(26,213)	(24,487)	(23,711)
Other ¹	37	89	132	77,526	202	504	(20)	(2,479)	(112,468)	-
Net Change in Plan Fiduciary Net Position	4,526,262	(4,135,601)	11,875,927	599,058	513,672	3,331,715	3,551,204	1,078,218	(1,390,828)	3,757,649
Plan Fiduciary Net Position - Beginning	59,196,555	63,332,155	51,456,229	50,857,170	50,343,498	47,011,783	43,460,579	42,382,361	43,773,189	40,015,540
Plan Fiduciary Net Position - Ending (b)	\$ 63,722,817	\$ 59,196,555	\$ 63,332,155	\$ 51,456,229	\$ 50,857,170	\$ 50,343,498	\$ 47,011,783	\$ 43,460,579	\$ 42,382,361	\$ 43,773,189
Net Pension Liability - Ending (a) - (b)	\$ 32,389,133	\$ 37,928,421	\$ 24,237,267	\$ 35,034,108	\$ 33,786,229	\$ 30,700,843	\$ 26,489,513	\$ 25,509,422	\$ 24,973,627	\$ 22,401,609
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	66.30%	60.95%	72.32%	59.49%	60.08%	62.12%	63.96%	63.01%	62.92%	66.15%
Covered Payroll	\$ 10,328,877	\$ 9,962,787	\$ 9,269,004	\$ 9,087,724	\$ 8,958,777	\$ 8,583,695	\$ 8,452,983	\$ 8,510,200	\$ 8,426,755	\$ 8,895,091
Net Pension Liability as a Percentage of Covered Payroll	313.58%	380.70%	261.49%	385.51%	377.13%	357.66%	313.37%	299.75%	296.36%	251.84%

¹ Includes an adjustment for the difference between the amount submitted as Net Position Beginning of Year for the current report and the amount submitted as Net Position End of Year for the prior report for fiscal year 2020. University employer contribution refund for fiscal years 2015 and 2016.

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN NET OPEB LIABILITY

(in thousands)

	Fiscal Year						
	2023	2022	2021	2020	2019	2018	2017
Total OPEB Liability							
Service Cost	\$ 226,739	\$ 189,806	\$ 208,171	\$ 204,703	\$ 179,016	\$ 188,707	\$ 205,693
Interest	755,305	836,978	926,740	984,753	1,003,488	1,050,293	1,015,305
Changes of benefit terms	-	-	-	-	-	-	-
Differences between expected and actual experience	(1,821,718)	(1,326,557)	(1,716,336)	(2,454,057)	(1,835,497)	(1,748,107)	(118,988)
Changes of assumptions	(43,979)	1,328,980	(234,942)	711,252	1,102,881	1,044,391	-
Benefit payments, including refunds of member contributions	(448,674)	(555,515)	(376,485)	(189,729)	(467,095)	(531,998)	(1,255,980)
Net Change in Total OPEB Liability	<u>(1,332,326)</u>	<u>473,692</u>	<u>(1,192,851)</u>	<u>(743,078)</u>	<u>(17,207)</u>	<u>3,286</u>	<u>(153,969)</u>
Total OPEB Liability - Beginning	<u>12,699,389</u>	<u>12,225,698</u>	<u>13,418,548</u>	<u>14,161,627</u>	<u>14,178,834</u>	<u>14,175,547</u>	<u>14,329,516</u>
Total OPEB Liability - Ending (a)	<u>\$ 11,367,063</u>	<u>\$ 12,699,389</u>	<u>\$ 12,225,698</u>	<u>\$ 13,418,548</u>	<u>\$ 14,161,627</u>	<u>\$ 14,178,834</u>	<u>\$ 14,175,547</u>
Plan Fiduciary Net Position							
Contributions - Employer	\$ 783,148	\$ 771,571	\$ 749,591	\$ 708,509	\$ 707,714	\$ 663,708	\$ 794,667
Contributions - Member	202,972	205,596	203,769	204,752	208,197	210,680	214,249
Net Investment Income	869,240	(537,847)	2,154,623	374,570	336,063	594,893	595,265
Benefit payments, including refunds of member contributions ¹	(448,674)	(555,515)	(376,485)	(189,729)	(467,095)	(531,998)	(1,255,980)
Administrative and Other Expenses	(8,259)	(7,315)	(8,443)	(6,214)	(4,098)	(3,912)	(2,605)
Other ²	124	79	116	35,040	75	96	-
Net Change in Plan Fiduciary Net Position	<u>1,398,551</u>	<u>(123,432)</u>	<u>2,723,171</u>	<u>1,126,929</u>	<u>780,857</u>	<u>933,467</u>	<u>345,596</u>
Plan Fiduciary Net Position - Beginning	<u>10,618,766</u>	<u>10,742,198</u>	<u>8,019,027</u>	<u>6,892,099</u>	<u>6,111,241</u>	<u>5,177,775</u>	<u>4,832,179</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 12,017,317</u>	<u>\$ 10,618,766</u>	<u>\$ 10,742,198</u>	<u>\$ 8,019,027</u>	<u>\$ 6,892,099</u>	<u>\$ 6,111,241</u>	<u>\$ 5,177,775</u>
Net OPEB Liability - Ending (a) - (b)	<u>\$ (650,254)</u>	<u>\$ 2,080,623</u>	<u>\$ 1,483,500</u>	<u>\$ 5,399,521</u>	<u>\$ 7,269,528</u>	<u>\$ 8,067,592</u>	<u>\$ 8,997,773</u>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	105.72%	83.62%	87.87%	59.76%	48.67%	43.10%	36.53%
Covered Payroll	\$ 10,328,877	\$ 9,962,787	\$ 9,269,004	\$ 9,087,724	\$ 8,958,777	\$ 8,583,695	\$ 8,452,983
Net OPEB Liability as a Percentage of Covered Payroll	(6.3)%	20.88%	16.00%	59.42%	81.14%	93.99%	106.44%

¹ Includes the \$553.8 million attributable to the refund of the 3% member contributions collected prior to the passage of Public Act 300 for fiscal year 2017. As directed by the auditor, benefit payments have been reduced by Other Governmental Contributions beginning in fiscal year 2018.

² Includes an adjustment for the difference between the amount submitted as Net Position Beginning of Year for the current report and the amount submitted as Net Position End of Year for the prior report for fiscal years 2019 and 2020.

NOTE: This schedule is required to show information for ten years, additional years will be displayed as they become available.

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULES OF CONTRIBUTIONS

PENSION BENEFITS

(in thousands)

Fiscal Year Ended Sept. 30	Actuarially Determined Contribution (ADC)	Actual Employer Contribution ²	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	2,117,097	1,600,375	516,722	8,895,091	18.0
2015	2,184,029	1,967,611	216,418	8,426,755	23.4
2016	2,312,223	2,308,657	3,566	8,510,200	27.1
2017 ¹	2,334,212	2,398,950	(64,738)	8,452,983	28.4
2018	2,474,279	2,791,509	(317,230)	8,583,695	32.5
2019	2,712,859	2,706,713	6,146	8,958,777	30.2
2020	2,818,578	2,808,839	9,739	9,087,724	30.9
2021	2,961,725	3,081,014	(119,289)	9,269,004	33.2
2022	3,181,516	3,843,216	(661,700)	9,962,787	38.6
2023	3,341,475	4,842,556	(1,501,081)	10,328,877	46.9

¹ The ADC has been recalculated for all prior years presented in order to reflect only the employer's share of the annual required contributions and current assumptions.

² Differences between the ADC and the actual contributions are the result of a timing difference between when the actuarial valuation is completed, and the contributions are made.

OPEB BENEFITS

(in thousands)

Fiscal Year Ended Sept. 30	Actuarially Determined Contribution (ADC)	Actual Employer Contributions ¹	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	944,571	1,000,032	(55,461)	8,895,091	11.2
2015	974,957	969,419	5,538	8,426,755	11.5
2016	911,687	883,943	27,744	8,510,200	10.4
2017	815,985	794,667	21,318	8,452,983	9.4
2018	673,996	663,708	10,288	8,583,695	7.7
2019	711,059	707,714	3,345	8,958,777	7.9
2020	638,385	708,509	(70,124)	9,087,724	7.8
2021	605,290	749,591	(144,300)	9,269,004	8.1
2022	500,204	771,571	(271,367)	9,962,787	7.7
2023	293,916	783,148	(489,232)	10,328,877	7.6

¹ Differences between the ADC and the actual contributions are the result of a timing difference between when the actuarial valuation is completed, and the contributions are made.

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULES OF INVESTMENT RETURNS

PENSION BENEFITS

<u>Fiscal Year</u>	<u>Annual Return¹</u>
2014	12.58 %
2015	(0.02)
2016	5.91
2017	13.24
2018	11.11
2019	5.14
2020	5.37
2021	27.30
2022	(4.18)
2023	8.29

¹ Annual money-weighted rate of return, net of investment expenses.

OPEB BENEFITS

<u>Fiscal Year</u>	<u>Annual Return¹</u>
2017	11.82 %
2018	10.75
2019	5.37
2020	5.24
2021	27.14
2022	(4.99)
2023	7.94

¹ Annual money-weighted rate of return, net of investment expenses.

NOTE: These schedules are required to show information for ten years, additional years will be displayed as they become available.

FINANCIAL SECTION

NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

NOTE A – DESCRIPTION

Ten year historical trend information designed to provide information about the System's progress made in accumulating sufficient assets to pay benefits when due is presented in the preceding schedules. Other ten year historical trend information related to the System is presented in the Statistical and Actuarial Sections of the report. This information is presented to enable the reader to assess the progress made by the System in accumulating sufficient assets to pay pension and other postemployment benefits as they become due.

The comparability of trend information is affected by changes in actuarial assumptions, benefit provisions, actuarial funding methods, accounting policies, and other changes. Those changes usually affect trends in contribution requirements and in ratios that use the pension and other postemployment benefit obligations as a factor.

The Schedules of Contributions are presented to show the responsibility of the Employer in meeting the actuarial requirements to maintain the System on a sound financial basis.

The Schedules of Changes in Net Pension and OPEB Liability, Schedules of Contributions, and Schedules of Investment Returns are schedules that are required in implementing GASB Statement No. 67 for pension and No. 74 for OPEB. These schedules are required to show information for ten years; additional years will be displayed as they becomes available. The Schedules of Changes in the Net Pension and Net OPEB Liabilities represents in actuarial terms the accrued liability less the fair value of assets. The Schedule of Contributions is a comparison of the employer's contributions to the actuarially determined contributions. The Schedule of Investment Returns represents a money-weighted rate of return that expresses investment performance, net of pension and OPEB plan investment expense, adjusted for the changing amounts actually invested.

The actuarially determined contributions presented in the Schedule of Contributions for pension and OPEB are calculated as of September 30, three years prior to the end of the fiscal year in which the contributions are reported. The following actuarial methods and assumptions were used to determine the fiscal year 2023 contributions reported in that schedule.

FINANCIAL SECTION

NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

Methods and Assumptions Used to Determine Contributions for Fiscal Year 2023:

Pension and OPEB

Valuation Date	September 30, 2020
Actuarial Cost Method	Entry Age, Normal
Amortization Method	Level percent of payroll, closed period
Remaining Amortization Period	16 years as of October 1, 2022 ending September 30, 2038
Price Inflation	2.25%
Projected Salary Increases	2.75% - 11.55%, including wage inflation at 2.75%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility conditions.
Mortality	
Retirees	RP-2014 Male and Female Healthy Annuitant Mortality Tables scaled by 82% for males and 78% for females and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Actives	RP-2014 Male and Female Employee Mortality Tables scaled by 100% and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Disabled Retirees	RP-2014 Male and Female Disabled Annuitant Mortality Tables scaled 100% and adjusted for mortality improvements using projection scale MP-2017 from 2006.

Pension

Asset Valuation Method	5 year smoothed fair value
Investment Rate of Return	
MIP and Basic Plans	6.80% net of investment expenses
Pension Plus Plan	6.80% net of investment expenses
Pension Plus 2 Plan	6.00% net of investment expenses

OPEB

Asset Valuation Method	5 year smoothed fair value
Investment Rate of Return	6.95% net of investment expenses
Health Care Trend Rates	
Medical and Prescription Drugs	Pre-65: 7.75% Year 1 graded to 3.50% Year 15; 3.00% Year 120
Medicare Payments	Post-65: 5.25% Year 1 graded to 3.50% Year 15; 3.00% Year 120
Dental/Vision	3.50% all years; 3.00% Year 120
Aging Factors	Based on the 2013 SOA Study "Health Care Costs – From Birth to Death."
Notes	Some of the assumptions used to develop the 2023 Total Pension Liability (TPL) and the 2023 Total OPEB Liability (TOL) may be different than the assumptions shown above. The assumptions used to develop the TPL are described in Note 4 (page 34) of this report and the assumptions used to develop the TOL are described in Note 5 (page 38) of this report.

FINANCIAL SECTION

SUPPORTING SCHEDULES

SUMMARY SCHEDULE OF PENSION PLAN ADMINISTRATIVE AND OTHER EXPENSES

For Fiscal Year Ended September 30, 2023

(in thousands)

Personnel Services:

Staff Salaries	\$	4,963
Staff Retirement and Social Security		2,786
Other Staff Fringe Benefits		1,045
Total		<u>8,794</u>

Professional Services:

Accounting		1,750
Actuarial		393
Attorney General		328
Audit		465
Consulting		37
Medical		256
Total		<u>3,230</u>

Building and Equipment:

Building Rentals		820
Equipment Purchase, Maintenance, and Rentals		17
Total		<u>838</u>

Miscellaneous:

Travel and Board Meetings		9
Office Supplies		5
Postage, Telephone, and Other		972
Printing		202
Technological Support		12,890
Total		<u>14,078</u>

Total Administrative and Other Expenses \$ 26,941

FINANCIAL SECTION

SUPPORTING SCHEDULES

SUMMARY SCHEDULE OF OPEB PLAN ADMINISTRATIVE AND OTHER EXPENSES

For Fiscal Year Ended September 30, 2023

(in thousands)

Personnel Services:

Staff Salaries	\$	1,645
Staff Retirement and Social Security		923
Other Staff Fringe Benefits		346
Total		<u>2,915</u>

Professional Services:

Accounting		314
Actuarial		71
Attorney General		52
Audit		83
Consulting		2,071
Medical		46
Total		<u>2,637</u>

Building and Equipment:

Building Rentals		147
Equipment Purchase, Maintenance, and Rentals		3
Total		<u>150</u>

Miscellaneous:

Travel and Board Meetings		2
Office Supplies		1
Printing		36
Postage, Telephone, and Other		206
Technological Support		2,312
Health Fees		164,813
Dental Fees		5,504
Vision Fees		191
Total		<u>173,065</u>

Total Administrative and Other Expenses \$ 178,768

FINANCIAL SECTION

SUPPORTING SCHEDULES

SCHEDULE OF INVESTMENT EXPENSES

For Fiscal Year Ended September 30, 2023
(in thousands)

Securities Lending Expenses	\$	119,642
Other Investment Expenses ¹		
ORS-Investment Expenses ²		13,539
Custody Fees		1,585
Management Fees		309,243
Research Fees		9,807
		<hr/>
Total Investment Expenses	\$	453,816

¹ Refer to the Investment Section for fees paid to investment professionals.

² Does not exclude Treasury Civil Service fees recorded as a pass through in the Schedule of Investment Fee – State Treasurer. As of September 30, 2023, fees totaled \$208,890.

SCHEDULE OF PAYMENTS FOR PROFESSIONAL SERVICES

For Fiscal Year Ended September 30, 2023
(in thousands)

Accounting	\$	2,064
Actuary		464
Attorney General		381
Independent Auditors		549
Consulting		2,107
Medical Advisor		302
		<hr/>
Total Payments	\$	5,868

FINANCIAL SECTION

SUPPORTING SCHEDULES

DETAIL OF CHANGES IN PLAN FIDUCIARY NET POSITION

(Pension and Other Postemployment Benefits)

For the Fiscal Year Ended September 30, 2023

(in thousands)

	Employee Contributions	Employee Contributions Pension Plus	Employee Contributions Pension Plus 2	Member Investment Plan	Employer Contributions
Additions:					
Contributions:					
Member contributions	\$ 9,617	\$ 75,934	\$ 45,112	\$ 319,243	\$ -
Employer contributions:					
Colleges and universities	-	-	-	-	473,171
School districts and other	-	-	-	-	4,272,448
Other governmental contributions	-	-	-	-	-
Total contributions	<u>9,617</u>	<u>75,934</u>	<u>45,112</u>	<u>319,243</u>	<u>4,745,619</u>
Investment income (loss):					
Net increase (decrease) in fair value of investments	-	-	-	-	-
Interest, dividends, and other	-	-	-	-	-
Investment expenses:					
Other investment expenses	-	-	-	-	-
Securities lending activities:					
Securities lending income	-	-	-	-	-
Securities lending expenses	-	-	-	-	-
Net investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Miscellaneous income	-	-	-	-	-
Total additions	<u>9,617</u>	<u>75,934</u>	<u>45,112</u>	<u>319,243</u>	<u>4,745,619</u>
Deductions:					
Benefits paid to plan members and beneficiaries:					
Retirement benefits	11	-	-	-	-
Health benefits	-	-	-	-	-
Dental/vision benefits	-	-	-	-	-
Refund of contributions	2,923	3,353	564	27,247	(5)
Administrative and other expenses	-	-	-	-	-
Total deductions	<u>2,934</u>	<u>3,353</u>	<u>564</u>	<u>27,247</u>	<u>(5)</u>
Net Increase (Decrease) before other changes	6,683	72,581	44,548	291,995	4,745,624
Other Changes in Net Position:					
Interest allocation	51,309	25,036	4,248	376,543	-
Transfers upon retirement	(91,668)	(2,690)	-	(550,222)	-
Transfers of employer shares	-	-	-	-	(1,818,623)
Total other changes in net position	<u>(40,359)</u>	<u>22,346</u>	<u>4,248</u>	<u>(173,680)</u>	<u>(1,818,623)</u>
Net Increase (Decrease) in Net Position	(33,675)	94,927	48,796	118,315	2,927,001
Net Position Restricted for Pension Benefits and OPEB:					
Beginning of Year	1,462,144	633,277	81,347	8,578,339	(24,072,670)
End of Year	<u>\$ 1,428,469</u>	<u>\$ 728,204</u>	<u>\$ 130,143</u>	<u>\$ 8,696,654</u>	<u>\$ (21,145,669)</u>

FINANCIAL SECTION

SUPPORTING SCHEDULES

Employer Contributions Pension Plus	Employer Contributions Pension Plus 2	Retired Benefit Payments	Retired Benefit Payments Pension Plus	Retired Benefit Payments Pension Plus 2	Undistributed Investment Income	OPEB	Total
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 202,972	\$ 652,879
3,151	1,591	-	-	-	-	43,725	521,637
48,673	43,522	-	-	-	-	739,424	5,104,067
-	-	-	-	-	-	214,638	214,638
<u>51,825</u>	<u>45,112</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1,200,759</u>	<u>6,493,221</u>
-	-	-	-	-	3,824,579	685,831	4,510,409
-	-	-	-	-	1,279,784	233,727	1,513,511
-	-	-	-	-	(282,426)	(51,747)	(334,173)
-	-	-	-	-	108,584	20,287	128,871
-	-	-	-	-	(100,784)	(18,858)	(119,643)
<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>4,829,736</u>	<u>869,240</u>	<u>5,698,975</u>
-	-	37	-	-	-	124	162
<u>51,825</u>	<u>45,112</u>	<u>37</u>	<u>-</u>	<u>-</u>	<u>4,829,736</u>	<u>2,070,123</u>	<u>12,192,358</u>
-	-	5,533,779	1,159	-	-	-	5,534,949
-	-	-	-	-	-	415,902	415,902
-	-	-	-	-	-	76,770	76,770
-	-	-	-	-	-	133	34,215
<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>26,941</u>	<u>178,768</u>	<u>205,709</u>
<u>-</u>	<u>-</u>	<u>5,533,779</u>	<u>1,159</u>	<u>-</u>	<u>26,941</u>	<u>671,572</u>	<u>6,267,545</u>
51,825	45,112	(5,533,743)	(1,159)	-	4,802,795	1,398,551	5,924,813
18,866	4,994	2,909,051	273	-	(3,390,319)	-	-
-	-	641,891	2,690	-	-	-	-
(4,666)	-	1,818,623	4,666	-	-	-	-
<u>14,200</u>	<u>4,994</u>	<u>5,369,565</u>	<u>7,629</u>	<u>-</u>	<u>(3,390,319)</u>	<u>-</u>	<u>-</u>
66,025	50,106	(164,178)	6,469	-	1,412,476	1,398,551	5,924,813
463,529	83,507	63,240,244	6,700	-	8,720,138	10,618,766	69,815,321
<u>\$ 529,554</u>	<u>\$ 133,613</u>	<u>\$ 63,076,065</u>	<u>\$ 13,169</u>	<u>\$ -</u>	<u>\$ 10,132,614</u>	<u>\$ 12,017,317</u>	<u>\$ 75,740,134</u>

FINANCIAL SECTION

SUPPORTING SCHEDULES

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INVESTMENT SECTION

**Prepared by Michigan Department of Treasury, Bureau of Investments
Jon M. Braeutigam, Chief Investment Officer**

Report on Investment Activity
Rate of Return on Investments
Largest Assets Held
Schedule of Investment Fees
Schedule of Investment Commissions
Investment Summary

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

INTRODUCTION

The State of Michigan Investment Board (Board) was created by Executive Order 2018-10 (Order) and serves as the investment fiduciary over the assets of the Michigan Public School Employees' Retirement System (System). The Board is responsible for investing the System's assets in accordance with the duties and powers enumerated in the Order and State law. Pursuant to powers provided in the Order, the Board duly authorized and delegated duties to the Department of Treasury's Bureau of Investments (BOI) to invest, prudently manage, and oversee the assets of the System and to take certain other actions that support the BOI's mandate in this regard. In furtherance of these duties, the BOI delivers quarterly investment activity reports to the Board that detail the investments, goals, and objectives of the System.

The Board is comprised of five members: three (3) public members appointed by the Governor and two (2) ex-officio members. The public members serve four (4) year terms and are limited to two (2) such terms. The State Treasurer, as the chair of the Board, and the State Budget Director are the ex-officio members. As of September 30, 2023, members of the Board were as follows: Rachael Eubanks (chair, ex-officio member), Chris Harkins (ex-officio member), Reginald G. Sanders, CFA, CAIA (public member), Dina L. Richard, CPA (public member), and Denise Ilitch (public member). The public members serve without pay but may receive reasonable reimbursement for actual and necessary travel and other expenses to attend official Board meetings.

INVESTMENT POLICY & GOALS

The Board's Investment Policy Statement states that it and the BOI will operate in accordance with Public Employee Retirement System Investment Act (Act No. 314 of 1965) and within standard investment practices of the prudent person. This includes being authorized to invest in government obligations, corporate obligations, various short-term obligations, corporate (domestic and international) stocks, private equity interests, mutual funds, real estate interests, and other investments subject to specific parameters. Above all, System assets are to be invested in a fiduciary capacity for the sole and exclusive benefit of the members of the System.

The System's Proxy Voting Policy sets forth directives on various issues as holders of publicly traded securities, including but not limited to: Boards of Directors, corporate governance, social issues, and various corporate actions. All proxies are reviewed and voted in accordance with the System's policy.

The primary function of the System is to provide retirement, survivor and disability benefits along with health and other postemployment benefits to its members. The Board is investment fiduciary and custodian of the System's investments pursuant to the Order and other State law. The goals of the System are to:

- Maintain sufficient liquidity to pay benefits.
- Meet or exceed the actuarial assumption over the long term.
- Perform in the top half of the public plan universe over the long term.
- Diversify assets to preserve capital and avoid large losses.
- Exceed individual asset class benchmarks over the long term.

The strategy for achieving these goals is supported by investing the assets of the System according to a five-year asset allocation model. The System currently invests in eight different asset classes, which provides for a well-diversified portfolio.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

ASSET ALLOCATION

(Excludes Collateral on Loaned Securities)

Investment Category	As of 9/30/23 Actual	Five-Year Target
Domestic Equity Pools	19.2%	25.0%
International Equity Pools	12.9	15.0
Private Equity Pools	23.5	16.0
Real Estate and Infrastructure Pools	10.1	10.0
Fixed Income Pools	8.9	13.0
Absolute Return Pools	10.3	9.0
Real Return and Opportunistic Pools	10.7	10.0
Short-Term Investment Pools	4.4	2.0
TOTAL	100.0%	100.0%

INVESTMENT AUTHORITY

Pursuant to State law (Executive Order 2018-10, which in part transferred to the Board the powers enumerated in (i) Section 91 of Act No. 380 of the Public Acts of 1965, as amended, and (ii) Section 12c of Act No. 314 of 1965), the Board is the investment fiduciary for the System, which is comprised of the State sponsored defined benefit retirement systems: Michigan Public School Employees' Retirement System, State Employees' Retirement System, Michigan State Police Retirement System, Michigan Judges Retirement System, and the Michigan Military Retirement Provisions. The State Treasurer, State of Michigan, is custodian and ex officio treasurer of the retirement system for the Legislators, State of Michigan (Section 47 of Act no. 261 of the Public Acts of 1957, as amended).

Act No. 314 of the Public Acts of 1965, as amended, authorizes the investment of assets of public employee retirement systems or plans created and established by the State or any political subdivision.

INVESTMENT RESULTS

TOTAL PORTFOLIO RESULTS

For the fiscal year ended September 30, 2023, the total System's rate of return was 8.3% for the Pension and OPEB Plans as compiled by State Street Investment Analytics. Annualized rates of return for the Pension Plan for the three, five, and ten year periods ending September 30, 2023 were: 9.4%, 7.7%, and 8.7% respectively.

Investment return calculations are prepared using a Time-Weighted rate of return.

DOMESTIC EQUITY POOLS

The objective for investments made in domestic equities is to meet or exceed the total return of the S&P Composite 1500 index for one, three, and five-year periods and a market cycle.

For active management strategies, the objective is to earn returns that exceed the most relevant S&P Index, adjusting for market capitalization and style, for one, three, and five-year periods and a market cycle. Another objective is to rank above median in a universe of managers possessing a similar market cap and style characteristics.

The pools are invested primarily in equities or equity-related securities of U.S. companies through internal and externally managed strategies. The goal is to build a portfolio of strategies that will provide excess returns relative to the S&P Composite 1500 index while providing a prudent measure of tracking error to the index. At times a portion of these pools may be invested in exchange traded funds (ETFs) and fixed-income short-term securities with maturities of less than one year.

The pools invest in equities and equity related securities that are listed on U.S. national securities exchanges, including American Depository Receipts (ADRs). They may also invest in stocks that are traded over-the-counter.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

The pools diversify their investments by allocating their equity strategies with consideration of the capitalization weightings of the S&P Composite 1500 Index.

The following summarizes the weightings of the pools as of September 30, 2023:

Active	38.9 %
Passive	61.1
Total	<u>100.0 %</u>

Large-Cap	73.0 %
Multi-Cap	21.8
Mid-Cap	3.5
Small-Cap	<u>1.7</u>
Total	<u>100.0 %</u>

The System's Domestic Equity pools total rate of return was 22.7% for the Pension and OPEB Plans for fiscal year 2023. This compared with 21.0% for the S&P Composite 1500 Index.

At the close of fiscal year 2023, the Domestic Equity pools represented 19.2% of total investments. The following summarizes the System's 77.8% ownership share of the Domestic Equity pools at September 30, 2023:

Domestic Equity Pools

(in thousands)

Short-Term Pooled Investments	\$ 454,310
Equities	13,888,224
Settlement Principal Payable	(6,527)
Settlement Proceeds Receivable	119,141
Accrued Dividends	<u>15,309</u>
Total	<u>\$ 14,470,457</u>

INTERNATIONAL EQUITY POOLS

The objective for investments made in International Equity pools is to meet or exceed the total return of the MSCI ACWI ex-USA index for one, three, and five-year periods and a market cycle.

For active management strategies, the objective is to earn returns that exceed the most relevant MSCI Index, adjusting for market capitalization, style and geography for one, three, and five-year periods and a market cycle. Another objective is to rank above median in a universe of managers possessing a similar market capitalization, style and geography characteristics.

Active exposure is invested primarily in equities or equity-related securities of non-U.S. companies through externally managed strategies.

The pools diversify their investments by allocating their equity strategies with consideration of the economic development status weightings of the MSCI ACWI ex USA Index.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

The following summarizes the weightings of the pool as of September 30, 2023:

Active	66.8 %
Passive	33.2
Total	<u>100.0 %</u>

Developed	97.9 %
Emerging	2.1
Total	<u>100.0 %</u>

The System's International Equity pools total rate of return was 21.5% for the Pension and OPEB Plans for fiscal year 2023. This compared with 20.4% for the MSCI ACWI ex US Index.

At the close of fiscal year 2023, the International Equity pools represented 12.9% of total investments. The following summarizes the System's 77.9% ownership share of the International Equity Pools at September 30, 2023:

International Equity Pools

(in thousands)

Short-Term Pooled Investments	\$ 155,262
Equities	8,409,790
Fixed Income Securities	1,128,743
Market Value of Equity Contracts	43,190
Settlement Principal Payable	(308)
Settlement Principal Receivable	334
Accrued Dividends and Interest	5,148
Total	<u>\$ 9,742,159</u>

PRIVATE EQUITY POOLS

The Private Equity pools objective is to meet or exceed the benchmark for all private equity investments over long time periods. The benchmark is the S&P 500 Index plus 300 basis points net of fees, lagged by three months over three, five, seven and ten-year periods and a market cycle.

Private Equity Investments are investments in the private equity market, primarily through limited partnerships. The following summarizes the weightings of the pools as of September 30, 2023:

Buyout Funds	45.3 %
Fund of Funds	29.6
Venture Capital Funds	12.2
Special Situation Funds	5.9
Liquidation Portfolio	7.0
Total	<u>100.0 %</u>

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

The Private Equity pools had a return of (1.3)% for the Pension and OPEB Plans for the fiscal year ended September 30, 2023, versus the benchmark of 23.1%.

At the close of fiscal year 2023, the Private Equity pools represented 23.5% of total investments. The following summarizes the System's 77.9% ownership share of the Private Equity pools at September 30, 2023:

Private Equity Pools

(in thousands)

Short-Term Pooled Investments	\$ 5,158
Equities	17,698,122
Settlement Proceeds Receivable	475
Accrued Interest	40
Total	<u>\$ 17,703,795</u>

REAL ESTATE AND INFRASTRUCTURE POOLS

The objective of the Real Estate and Infrastructure pools is to provide diversification and favorable risk adjusted returns primarily through income and appreciation of investments. Investments are typically held through investment entities, such as limited partnerships or limited liability companies, established for the specific purpose of owning, leasing, managing, financing, or developing real estate and infrastructure related investments.

The Real Estate and Infrastructure pools diversify its holdings by:

- **Geography** – The pools are invested globally and are diversified geographically so that it is not concentrated in a limited number of markets or geographic areas.
- **Size and Value** – The pools diversify its holdings by size so that it is not concentrated in a limited number of large investments.
- **Investment Type** – The pools are diversified by investment type as summarized below.

Multi-family apartments	34.4 %
Commercial office buildings	8.2
Hotel	8.5
Infrastructure	9.0
Industrial warehouse buildings	29.1
Single Family	3.3
Retail shopping centers	3.2
Land	0.5
REITs	2.9
Short Term Investments	0.9
Total	<u>100.0 %</u>

The Real Estate and Infrastructure pools generated a return of 1.4% for the Pension Plan and 1.5% for the OPEB Plan for fiscal year 2023. The Real Estate and Infrastructure pools compare performance with two benchmark returns from the National Council of Real Estate Investment Fiduciaries (NCREIF): the NCREIF Property Index (less 130 basis points) was (9.6)% and the NCREIF Fund Index – Open-End Diversified Core Equity (NFI-ODCE) was (12.9)%.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

At the close of fiscal year 2023, the Real Estate and Infrastructure pools represented 10.1% of total investments. The following summarizes the System's 77.9% ownership share of the Real Estate and Infrastructure pools at September 30, 2023:

Real Estate and Infrastructure Pools

(in thousands)

Real Estate Equities	\$	6,925,900
Infrastructure Equities		697,261
Total	\$	<u>7,623,161</u>

FIXED INCOME POOLS

The objective for investments made in the Fixed Income pools is to meet or exceed the Bloomberg U.S. Aggregate Bond Index over one, three, and five-year periods and market cycles. Another objective is to rank above median in a nationally recognized universe of managers possessing a similar style. For Fixed Income sub-strategies, the objective return is to meet or exceed the most relevant Bloomberg benchmark index.

The pools invest in fixed income and related securities in a diversified portfolio of investment grade corporate issues, mortgage-backed and asset-backed securities, U.S. Treasuries, Agencies, government sponsored enterprises and government guaranteed mortgages. The pools diversify its investments by allocating its strategies with consideration of credit risk. The goal is to build a portfolio of strategies that will provide excess returns relative to the blended benchmark while providing minimal tracking error to the index. At times a portion of the pools may be invested in exchange traded funds (ETFs) and fixed-income short-term securities with maturities of less than one year.

The System's Fixed Income pools total rate of return was 2.2% for the Pension and OPEB Plans for fiscal year 2023. This compared with 0.6% for the Bloomberg U.S. Aggregate Bond Index.

At the close of fiscal year 2023, the Fixed Income pools represented 8.9% of total investments. The following summarizes the System's 77.5% ownership share of the Fixed Income pools at September 30, 2023:

Fixed Income Pools

(in thousands)

Short-Term Pooled Investments	\$	77,064
Fixed Income Securities		6,590,092
Accrued interest		27,234
Total	\$	<u>6,694,390</u>

ABSOLUTE RETURN POOLS

The primary investment objective of the Absolute Return Pool is to generate a rate of return that meets or exceeds T-bills by 400 basis points net of fees over the one, three, and five-year periods and a market cycle. Another objective is to exceed the appropriate HFRI Fund of Funds Conservative Index median net of fees over one, three, and five-year periods and a market cycle.

The Absolute Return pool rate of return for the fiscal year was 8.4% for the Pension and OPEB Plans versus the benchmark's 4.1%.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

At the close of fiscal year 2023, the Absolute Return Pools represented 10.3% of total investments. The following summarizes the System's 77.9% ownership share of the Absolute Return Pools at September 30, 2023:

Absolute Return Pools

(in thousands)

Equities	\$ 7,815,742
Total	\$ 7,815,742

REAL RETURN AND OPPORTUNISTIC POOLS

The primary investment objective of the Real Return and Opportunistic Pool is to generate a rate of return that meets or exceeds the increase in the Consumer Price Index (CPI) by at least four percent (4%) annually net of fees over one, three, and five-year periods and a market cycle. Opportunistic investments are targeted to earn a return that exceeds the current actuarial assumed rate of return, with the overall Real Return and Opportunistic Pool's benchmark an equal blend between the two benchmarks. If a peer universe is available, the objective is to rank above median in a nationally recognized universe of managers possessing a similar style.

The Real Return and Opportunistic Investments pool rate of return for the fiscal year was 4.3% for the Pension and OPEB Plans versus the benchmark's 6.9%.

At the close of fiscal year 2023, the Real Return and Opportunistic Pools represented 10.7% of total investments. The following summarizes the System's 77.9% ownership share of the Real Return and Opportunistic Pools at September 30, 2023:

Real Return and Opportunistic Pools

(in thousands)

Equities	\$ 8,050,929
Total	\$ 8,050,929

SHORT-TERM INVESTMENT POOLS

The objective of the Short-Term Investment pools is to closely match the return performance of its benchmark, the 30 day Treasury bill. The Short-Term Investment pools return for the fiscal year was 4.5% for the Pension Plan and 4.4% for the OPEB plan versus the benchmark's 4.6%.

Potential areas of investment are:

- Obligations of the United States or its agencies
- Banker's acceptances, commercial accounts, certificates of deposit or depository receipts
- Repurchase agreements for the purchase of securities issued by the US government or its agencies
- Commercial paper rated at the time of purchase within the two highest classifications established by not less than two national rating services as determined by the State Treasurer
- Short duration investment grade corporate issues

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

At the close of fiscal year 2023, the Short-Term Investment pools represented 4.4% of total investments. The following summarizes the System's ownership share of the Short-Term Investment pools at September 30, 2023:

Short-Term Investment Pools

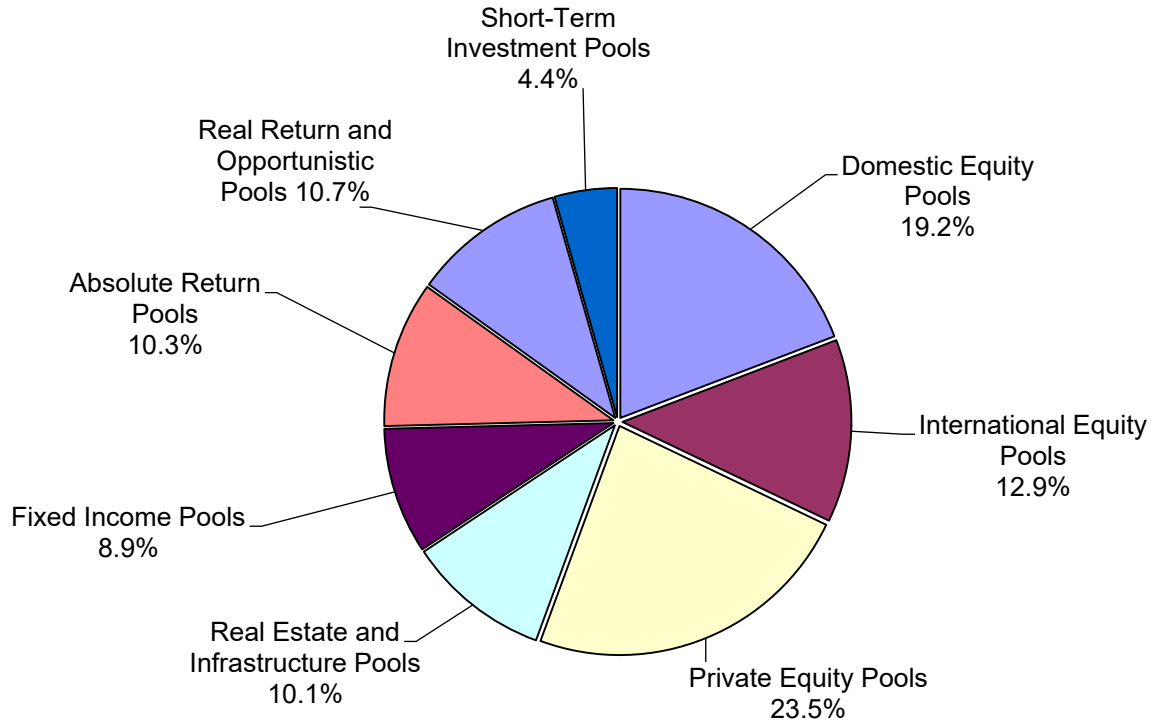
(in thousands)

Short-Term Pooled Investments	\$ 2,985,294
Fixed Income Securities	331,042
Accrued interest	<u>15,496</u>
Total	<u><u>\$ 3,331,833</u></u>

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

ASSET ALLOCATION – SECURITY TYPE ONLY



INVESTMENT SECTION

RATE OF RETURN ON INVESTMENTS

PENSION PLAN INVESTMENT RESULTS

For the Period Ending September 30, 2023

Investment Category	Current Year	Annualized Rate of Return ¹		
		3 Years	5 Years	10 Years
Total Portfolio	8.3 %	9.4 %	7.7 %	8.7 %
Domestic Equity Pools	22.7	8.8	7.8	10.9
S&P Composite 1500 Index	21.0	10.3	9.5	11.6
International Equity Pools	21.5	3.4	2.9	4.1
International Blended Benchmark ²	20.4	3.7	2.6	3.4
Private Equity Pools	(1.3)	18.2	14.0	14.0
Private Equity Benchmark ³	23.1	18.0	15.7	16.2
Real Estate and Infrastructure Pools	1.4	12.6	7.3	9.4
NCREIF Property Blended Index ⁴	(9.6)	4.7	3.9	6.0
Fixed Income Pools	2.2	(2.3)	1.1	2.3
Bloomberg US Aggregate Bond Index	0.6	(5.2)	0.1	1.1
Absolute Return Pools	8.4	8.9	6.6	5.6
HFRI Fund of Funds Conservative Aggregate Index	4.1	5.5	4.1	3.5
Real Return and Opportunistic	4.3	12.7	10.9	11.4
Real Return and Opportunistic Benchmark ⁵	6.9	8.1	7.4	7.4
Short-Term Investment Pools	4.5	1.8	1.9	1.3
30-Day Treasury Bill	4.6	1.7	1.7	1.1

¹ Calculations used a time-weighted rate of return based on the market rate of return in accordance with industry standards. Excludes income and investment gains and losses from securities lending.

² As of 7/1/14 index is MSCI ACWI Ex-US Net. History 10/1/10 to 6/30/14 is MSCI ACWI Ex US Gross. History 1/1/10 to 9/30/10 is S&P Developed BMI-EPAC Net 75/25. History prior to 1/1/10 is S&P Developed BMI-EPAC Net 50/50.

³ Index is blend of S&P 500 plus 300 bps with a 3 month lag.

⁴ As of 10/1/05, index is NCREIF less 130 bp. History prior to 10/1/05 reflects NCREIF less 75 bp.

⁵ As of 12/1/18 Real Return Benchmark is CPI + 400 bps net. Opportunistic is current Actuarial Rate of Return. History prior to 12/1/18 reflects 50% (CPI + 5%) and 50% (actuarial rate 8%).

INVESTMENT SECTION

RATE OF RETURN ON INVESTMENTS

OPEB INVESTMENT RESULTS

For the Period Ending September 30, 2023

Investment Category	Current Year	Annualized Rate of Return ¹		
		3 Years	5 Years	10 Years
Total Portfolio	8.3 %	9.4 %	7.6 %	8.6 %
Domestic Equity Pools	22.7	8.8	7.8	10.9
S&P Composite 1500 Index	21.0	10.3	9.5	11.6
International Equity Pools	21.5	3.4	2.9	4.1
International Blended Benchmark ²	20.4	3.7	2.6	3.4
Private Equity Pools	(1.3)	18.3	14.0	14.0
Private Equity Benchmark ³	23.1	18.0	15.7	16.2
Real Estate and Infrastructure Pools	1.5	12.7	7.3	9.4
NCREIF Property Blended Index ⁴	(9.6)	4.7	3.9	6.0
Fixed Income Pools	2.2	(2.3)	1.1	2.3
Bloomberg US Aggregate Bond Index	0.6	(5.2)	0.1	1.1
Absolute Return Pools	8.4	8.9	6.6	5.6
HFRI Fund of Funds Conservative Aggregate Index	4.1	5.5	4.1	3.5
Real Return and Opportunistic	4.3	12.7	10.9	11.4
Real Return and Opportunistic Benchmark ⁵	6.9	8.1	7.4	7.4
Short-Term Investment Pools	4.4	1.8	1.9	1.3
30-Day Treasury Bill	4.6	1.7	1.7	1.1

¹ Calculations used a time-weighted rate of return based on the market rate of return in accordance with industry standards. Excludes income and investment gains and losses from securities lending.

² As of 7/1/14, index is MSCI ACWI Ex-US Net. History 10/1/10 to 6/30/14 is MSCI ACWI Ex-US Gross. History 1/1/10 to 9/30/10 is S&P Developed BMI-EPAC Net 75/25. History prior to 1/1/10 is S&P Developed BMI-EPAC Net 50/50.

³ Index is blend of S&P 500 plus 300 bps with a 3 month lag.

⁴ As of 10/1/05, index is NCREIF less 130 bp. History prior to 10/1/05 reflects NCREIF less 75 bp.

⁵ As of 12/1/18 Benchmark is 50% (CPI + 4%) and 50% (actuarial rate 7.05%). History prior to 12/1/18 reflects 50% (CPI + 5%) and 50% (actuarial rate 8%).

INVESTMENT SECTION

LARGEST ASSETS HELD

LARGEST STOCK HOLDINGS

(By Fair Value)
September 30, 2023

Rank	Shares	Stocks	Fair Value
1	3,833,021	Apple Inc.	\$ 656,251,564
2	2,064,185	Microsoft Corp.	651,766,259
3	866,472	Nvidia Corp.	376,906,489
4	2,490,413	Amazon.com Inc.	316,581,304
5	2,015,245	Alphabet Inc. CL A	263,714,910
6	14,669,433	AT&T Inc.	220,334,888
7	6,363,477	Verizon Communications Inc.	206,240,297
8	637,917	Meta Platforms Inc. Class A	191,509,033
9	1,235,080	Alphabet Inc. CL C	162,845,298
10	1,732,159	Apollo Global Management Inc.	155,478,627

A complete list of holdings is available from the Michigan Department of Treasury.

The System's investments are commingled in various pooled accounts. Amounts, par value and number of shares represent the System's pro-rata share based on its ownership of the investment pools.

LARGEST BOND HOLDINGS

(By Fair Value)
September 30, 2023

Rank	Par Amount	Bonds & Notes	Fair Value
1	551,592,275	US Treasury N/B 2.875% Due 05/15/2052	\$ 390,617,825
2	233,968,940	US Treasury N/B .25% Due 05/31/2025	215,744,954
3	219,702,729	US Treasury N/B 2.875% Due 05/15/2032	192,883,549
4	229,085,052	US Treasury N/B 3.25% Due 05/15/2042	182,417,920
5	139,283,655	US Treasury N/B 4.125% Due 11/15/2032	134,354,320
6	116,984,470	US Treasury N/B .25% Due 11/15/2023	116,260,548
7	116,984,470	US Treasury N/B .25% Due 03/15/2024	114,306,623
8	110,115,298	US Treasury N/B 3.25% Due 06/30/2027	104,639,643
9	101,386,541	US Treasury N/B 1.00% Due 12/15/2024	96,281,570
10	97,487,058	US Treasury N/B 2.5% Due 05/15/2024	95,704,873

A complete list of holdings is available from the Michigan Department of Treasury.

Largest Bond Holdings are exclusive of securities lending collateral.

The System's investments are commingled in various pooled accounts. Amounts, par value and number of shares represent the System's pro-rata share based on its ownership of the investment pools.

INVESTMENT SECTION

SCHEDULE OF INVESTMENT FEES

The State of Michigan Investment Board (Board) is the investment fiduciary and custodian of the System's funds pursuant to State law. Outside advisors are utilized to augment the State of Michigan's internal staff. 72.4% of the total investment portfolio is managed by fully discretionary outside advisors. The Michigan Department of Treasury's cost of operations applicable to the retirement system for the fiscal year end amounted to \$13.5 million or six and five tenths basis points (0.065%) of the fair value of the Assets under Management by the Board.

Investment Manager's Fees:

	<u>Management (in thousands)</u>	<u>Fees (in thousands)</u>	<u>Basis Points*</u>
State of Michigan	\$ 20,786,822	\$ 13,539	6.5
Outside Advisors for			
Fixed Income	3,829,519	12,356	32.3
Absolute Return	7,815,742	46,124	59.0
Real Return and Opportunistic	8,050,929	31,423	39.0
International Equity	7,725,640	17,401	22.5
Domestic Equity	1,896,859	4,340	22.9
Private Equity	17,703,795	142,578	80.5
Real Estate and Infrastructure	7,623,161	55,021	72.2
Total	\$ 75,432,467	\$ 322,782	

Other Investment Services Fees:

Assets in Custody	\$ 75,153,844	\$ 11,392
Securities Lending Collateral	2,540,687	1,628

* Private Equity partnership agreements that define the management fees, the asset management fees range from 0 to 250 basis points of the committed capital. For Real Estate/Infrastructure, the asset management fees range from 12 to 150 basis points. For Absolute Return and Real Return and Opportunistic, the asset management fees range from 0 to 200 basis points. These fees, in most cases, are netted against income.

INVESTMENT SECTION

SCHEDULE OF INVESTMENT COMMISSIONS

Fiscal Year Ended September 30, 2023

	Actual Commissions Paid ¹	Actual Number of Shares Traded ¹	Average Commission Per Share	Estimated Trade Costs Per Share	Estimated Research Costs Per Share	Estimated Trade Costs	Estimated Research Costs
Investment Brokerage Firms:							
BTIG LLC	\$ 286,472	23,093,371	\$ 0.01	\$ 0.01	\$ -	\$ 115,467	\$ -
Capital Institutional Services Inc.	106,183	21,232,781	0.01	0.01	-	212,328	-
Cowen & Company LLC	33,585	1,679,355	0.02	0.01	0.01	16,794	16,794
Drexel Hamilton LLC	11,707	2,341,256	0.01	0.01	-	23,413	-
J. P. Morgan Securities Inc.	62,920	3,145,897	0.02	0.01	0.01	31,459	31,459
Merrill Lynch,Pierce,Fenner & Smith Inc.	8,658	346,196	0.03	0.01	0.02	3,462	6,924
MKM Partners LLC	167,992	10,883,186	0.02	0.01	0.01	108,832	108,832
National Financial	14	1,941	0.01	0.01	-	19	-
Raymond James and Associates Inc.	10,382	415,295	0.02	0.01	0.01	4,153	7,659
Roberts & Ryan Inv.	23,815	1,190,734	0.02	0.01	0.01	11,908	11,908
Wayne & Company	205,988	50,861,762	-	0.01	-	254,309	-
Glen Eagle Wealth	6,203	620,285	0.01	0.01	-	6,203	-
Total	\$ 923,919	115,812,059	\$ 0.01 ²	\$ 0.01	\$ 0.01	\$ 788,347	\$ 183,576

¹ Commissions are included in purchase and sale prices of investments. The commissions and shares represent the System's pro-rata share based on ownership of commission and share transactions in the investment pools.

² The average commission per share for all brokerage firms.

INVESTMENT SECTION

INVESTMENT SUMMARY

Fiscal Year Ended September 30, 2023

	<u>Fair Value ¹</u>	<u>Percent of Fair Value</u>	<u>Investment & Interest Income²</u>	<u>Percent of Total Investment & Income</u>
Fixed Income Pools	\$ 6,694,390,383	8.9 %	\$ 157,704,173	2.6 %
Domestic Equity Pools	14,470,456,812	19.2	2,782,759,323	46.2
Real Estate and Infrastructure Pools	7,623,160,834	10.1	164,439,419	2.7
Private Equity Pools	17,703,794,652	23.5	(81,244,315)	(1.3)
International Equity Pools	9,742,159,248	12.9	1,873,376,500	31.1
Absolute Return Pools	7,815,741,852	10.3	653,043,423	10.8
Real Return and Opportunistic Pool	8,050,929,237	10.7	357,912,291	6.0
Short Term Investment Pools	<u>3,331,833,306 ³</u>	<u>4.4</u>	<u>115,929,423</u>	<u>1.9</u>
Total	<u>\$ 75,432,466,324</u>	<u>100.0 %</u>	<u>\$ 6,023,920,237</u>	<u>100.0 %</u>

¹ Fair value excludes \$2,540,686,800 in securities lending collateral for fiscal year 2023.

² Total Investment & Interest Income excludes net security lending income of \$9,228,362 for securities lending collateral.

³ Short term investment pools fair value includes \$278,621,916 of equity in common cash.

ACTUARIAL SECTION

Actuary's Certification
Summary of Actuarial Assumptions and Methods
Schedules of Active Member Valuation Data
Prioritized Solvency Test
Analysis of System Experience – Pension
Analysis of System Experience – OPEB
Summary of Plan Provisions
Schedules of Funding Progress

ACTUARIAL SECTION

ACTUARY'S CERTIFICATION



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Ms. Michelle Lange, Director
Department of Technology, Management and Budget
and
The Retirement Board
Michigan Public School Employees' Retirement System
P.O. Box 30171
Lansing, Michigan 48909

Ladies and Gentlemen:

The basic financial objective of the Michigan Public School Employees' Retirement System (MPERS) is to establish and receive contributions which when combined with present assets and future investment return will be sufficient to meet the financial obligations of the System to present and future benefit recipients. The progress toward meeting these financial objectives is illustrated in the Schedules of Funding Progress and the Schedules of Employer Contributions.

We performed actuarial funding valuations and issued actuarial funding reports for the MPERS pension and retiree health (i.e., OPEB) plans as of September 30, 2022. The purpose of the September 30, 2022 annual actuarial valuations was to determine the annual required contributions for the fiscal year ending September 30, 2025, to measure the System's funding progress, and to provide actuarial information in connection with applicable Governmental Accounting Standards Board Statements. The valuations should not be relied upon for any other purpose. The valuation process develops employer contributions that are sufficient to fund the System's normal cost (i.e., the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund any unfunded accrued liabilities over a reasonable period. The valuation was completed based upon population data, asset data and plan provisions in effect on September 30, 2022.

In addition to the funding valuation reports, separate reports are issued to provide financial reporting information for MPERS in accordance with Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 (pension benefits) and Nos. 74 and 75 (retiree health benefits, or OPEB). Reports containing the actuarial results of the financial reporting valuations are produced annually after the publication of this letter. The GASB Statement Nos. 67, 68, 74 and 75 financial reporting valuations are based upon a measurement date of September 30, 2023.

The valuations were based upon information provided by the System's administrative staff concerning System benefit provisions, financial transactions, and individual members, terminated members, retirees and beneficiaries. We checked the data for internal and year to year consistency, but did not audit the data. As a result, we do not assume responsibility for the accuracy or completeness of the data provided by the System's administrative staff. The actuary summarizes and tabulates population data in order to analyze long term trends. The System's auditor audits the actuarial data annually.

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ACTUARIAL SECTION

ACTUARY'S CERTIFICATION

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Annual actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rate of investment return and payroll growth, eligibility for the various classes of benefits and longevity among retired lives. These assumptions are adopted by the Board and the Department after considering the advice of the actuary and other professionals. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution requirements as needed.

The following schedules in the Financial Section, the Actuarial Section, and the Statistical Section of the Annual Comprehensive Financial Report (ACFR) were prepared by the Department of Financial Services based upon certain information presented in the previously mentioned funding and financial reporting valuation reports:

Financial Section

- Note 1 – Table of System's Membership
- Note 4 – Net Pension Liability; Summary of Actuarial Assumptions and Methods
- Note 5 – Net OPEB Liability; Summary of Actuarial Assumptions and Methods
- Note A – Methods and Assumptions Used to Determine Contributions for Fiscal Year 2023
- Schedules of Changes in the Net Pension Liability (NPL) and the Net OPEB Liability and Related Ratios
- Schedules of Contributions Multiyear
- Sensitivity of the NPL to Changes in the Discount Rate
- Sensitivity of the Net OPEB Liability to Changes in the Discount Rate
- Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate Assumption

Actuarial Section

- Summary of Actuarial Assumptions and Methods used in the September 30, 2022 Pension Funding Valuation
- Percent of Eligible Active Members Retiring Within Next Year
- Separation from Active Employment Before Age and Service Retirement, Disability and Individual Pay Increase Assumptions
- Schedule of Active Member Pension Valuation Data
- Schedule of Changes in the Retirement Rolls
- Prioritized Solvency Tests
- Schedule of Active Member OPEB Valuation Data
- Schedule of Changes in the OPEB Rolls
- Analyses of System Experience
- Schedules of Funding Progress

Statistical Section

- Schedule of Retired Members by Type of Retirement and Type of Pension Benefit
- Schedule of Retired Members by Type of Health Benefit
- Schedules of Average Benefit Payments – Pension, Medical/Rx and Dental/Vision



ACTUARIAL SECTION

ACTUARY'S CERTIFICATION

Ms. Michelle Lange
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The September 30, 2022 funding valuations were based upon assumptions that were recommended in connection with a study of System experience covering the period from October 1, 2012 through September 30, 2017. The pension investment return assumptions for the Non-Hybrid and Pension Plus Plan groups and the retiree health investment return assumption were updated beginning with the September 30, 2018 funding valuations in accordance with the Dedicated Gains Policy adopted by the Board of Trustees. The pension investment return assumptions for the Non-Hybrid and the Pension Plus Plan groups and the retiree health investment return assumption were further updated beginning with the September 30, 2021 funding valuations in accordance with the Dedicated Gains Policy. The September 30, 2023 financial reporting valuations are based upon assumptions that were recommended in connection with a study of System experience covering the period from October 1, 2017 through September 30, 2022. Future actuarial measurements may differ significantly from those presented in the annual valuations due to such factors as experience differing from that anticipated by actuarial assumptions, or changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of the assignment, we did not perform an analysis of the potential range of future measurements.

The signing actuaries are independent of the plan sponsor.

The actuarial valuations of MPSERS were performed by qualified actuaries in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with applicable State statutes. The assumptions and methods used for funding and financial reporting purposes are in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Mita D. Drazilov and Louise M. Gates are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the calculated employer contribution meets the financial objective of the Retirement System.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Mita D. Drazilov, ASA, FCA, MAAA



Louise M. Gates, ASA, FCA, MAAA



ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

1. The investment return rate used in the pension valuations of the MIP, Basic and Pension Plus plans was 6.00% per year net of investment expenses, compounded annually. This rate of return is not the assumed real rate of return. Considering a wage inflation assumption of 2.75%, the nominal rate of investment return translates to a real rate of return of 3.25% over wage inflation. Adopted 2021.
2. The healthy life mortality table used in evaluating allowances to be paid were the RP-2014 Male and Female Healthy Annuitant Mortality Tables, scaled by 82% for males and 78% for females, adjusted for mortality improvements using projection scale MP-2017 from 2006. Adopted 2018.
3. Sample probabilities of regular, unreduced retirement are shown in Schedule 1 on the next page. Adopted 2018.
4. Sample probabilities of withdrawal from service and disability, together with individual pay increase assumptions, are shown in Schedule 2 on the next page. Adopted 2018.
5. Total active member payroll is assumed to increase 2.75% per year. This represents the portion of the individual pay increase assumptions attributable to inflation. In effect, this assumes no change in the number of active members. Adopted 2018.
6. An individual entry age actuarial cost method of valuation was used in determining actuarial liabilities and normal cost. Adopted 1975. Unfunded actuarial accrued liabilities are financed over a declining 14-year period ending September 30, 2038 for the Non-Pension Plus 2 pension portions of the unfunded actuarial accrued liabilities. Adopted 2012. Pension Plus 2 Plan pension unfunded actuarial accrued liabilities are financed using 10-year layered, level dollar amortization.
7. The Department of Technology, Management and Budget approved the use of market value of assets as of September 30, 2006 for valuation purposes. For investment gains and losses that occur after that date, a 5-year smoothing technique will be used. Specifically, the excess (shortfall) of actual investment income (including interest, dividends, realized and unrealized gains or losses) over the imputed-income at the valuation interest rate is considered the gain (loss), which is spread over five years. Adopted 2007.
8. The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.
9. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). The assumptions used in the actuarial valuations were adopted by the System's Board and the Department of Technology, Management and Budget after consulting with the State Treasurer and the actuary.
10. A 5-year experience investigation, covering the period from October 1, 2012 through September 30, 2017 was completed in 2018. The purpose of the study was to analyze the actual experience of the System versus that anticipated by actuarial assumptions then in use.
11. Gabriel, Roeder, Smith & Company was awarded the actuarial and consulting services contract beginning October 4, 2006.

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

SCHEDULE 1

PERCENT OF ELIGIBLE ACTIVE MEMBERS RETIRING WITHIN NEXT YEAR

Retirement Ages	Basic		MIP ¹ and Pension Plus		Years of Service	MIP ²	
	Teachers	Non-Teachers	Teachers	Non-Teachers		Teachers	Non-Teachers
55	25 %	20 %	- %	- %	30	25 %	25 %
58	16	18	-	-	32	20	20
61	20	18	20	17	34	19	20
64	25	24	23	20	36	21	20
67	25	28	25	20	38	24	20
70	25	20	25	16	40	30	25
71	21	20	25	16	42	30	30
72	21	20	25	16	44	30	30
73	21	20	20	16	46	30	30
74	21	20	20	16	48	30	30
75 and over	100	100	100	100	50 and over	100	100

¹ Applies to MIP members with fewer than 30 years of service.

² Applies to MIP members with 30 or more years of service.

SCHEDULE 2

SEPARATION FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT & INDIVIDUAL PAY INCREASE ASSUMPTIONS

Sample Ages	Years of Service	Percent of Active Members Withdrawing Within Next Year				Percent Becoming Disabled Within Next Year	Percent Increase in Pay During Next Year
		Pay More than \$20,000		Pay Less than \$20,000			
		Teachers	Non-Teachers	Teachers	Non-Teachers		
All	0	15.00 %	35.00 %	30.00 %	40.00 %	- %	- %
	1	10.00	14.00	25.00	26.00	-	-
	2	6.50	8.20	22.00	19.00	-	-
	3	6.00	6.80	22.00	16.00	-	-
	4	4.50	5.70	22.00	14.00	-	-
25	5 & Over	3.00	4.76	22.00	14.00	.01	11.55
35	"	1.82	2.78	20.80	13.40	.02	5.85
45	"	1.08	1.88	16.40	9.80	.10	3.89
55	"	1.00	1.80	16.00	8.00	.26	2.93
60	"	1.00	1.80	16.00	8.00	.36	2.75

ACTUARIAL SECTION

SCHEDULES OF ACTIVE MEMBER VALUATION DATA

SCHEDULE OF ACTIVE MEMBER PENSION VALUATION DATA

Valuation Date Sept. 30	Number	Reported Annual Payroll*	Average Annual Pay	Increase (Decrease)	Average Age	Average Service
2013	212,525	\$ 8,225,140	\$ 38,702	0.1 %	46.0	12.3
2014	199,674	7,943,922	39,784	2.8	46.1	12.7
2015	194,957	8,005,009	41,060	3.2	46.1	12.8
2016	189,761	7,912,565	41,698	1.6	46.2	13.0
2017	187,735	7,880,041	41,974	0.7	46.2	13.0
2018	182,930	7,884,550	43,101	2.7	46.4	13.1
2019	174,189	8,039,478	46,154	7.1	47.0	13.6
2020	165,015	7,979,260	48,355	4.8	47.3	14.0
2021	157,021	8,032,377	51,155	5.8	47.4	14.3
2022	155,229	8,431,712	54,318	6.2	47.5	14.2

* In thousands of dollars.

SCHEDULE OF ACTIVE MEMBER OPEB VALUATION DATA

Valuation Date Sept. 30	Number	Reported Annual Payroll*	Average Annual Pay	Increase (Decrease)	Average Age	Average Service
2013	214,906	\$ 8,273,017	\$ 38,496	(0.4) %	46.0	12.3
2014	191,551	7,618,224	39,771	3.3	45.7	12.6
2015	191,403	7,780,961	40,652	2.2	45.6	12.5
2016	189,458	7,745,962	40,885	0.6	45.6	12.5
2017	190,537	7,778,000	40,821	(0.2)	45.5	12.3
2018	190,291	7,873,900	41,378	1.4	45.6	12.2
2019	192,750	8,255,900	42,832	3.5	45.6	11.9
2020	188,765	8,301,200	43,976	2.7	45.8	12.0
2021	183,096	8,496,800	46,406	5.5	45.7	12.1
2022	191,351	9,184,200	47,997	3.4	45.4	11.5

* In thousands of dollars.

ACTUARIAL SECTION

SCHEDULES OF ACTIVE MEMBER VALUATION DATA

SCHEDULE OF CHANGES IN RETIREMENT ROLLS

Year Ended Sept. 30	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*		
2013	9,182	\$ 244,937	4,891	\$ 89,874	200,952	\$ 4,289,281	3.8 %	\$ 21,345
2014	8,852	241,473	5,292	99,689	204,512	4,431,065	3.3	21,667
2015	8,761	244,010	5,622	106,223	207,651	4,568,852	3.1	22,003
2016	8,836	248,739	5,480	107,923	211,007	4,709,668	3.1	22,320
2017	8,793	247,289	5,811	117,543	213,989	4,839,414	2.8	22,615
2018	8,741	254,248	6,112	126,607	216,618	4,967,055	2.6	22,930
2019	8,477	252,140	6,158	131,828	218,937	5,087,367	2.4	23,237
2020	9,351	272,951	6,810	148,212	221,478	5,212,106	2.5	23,533
2021	9,885	289,637	7,596	167,114	223,767	5,334,628	2.4	23,840
2022	8,910	280,711	7,462	167,687	225,215	5,447,652	2.1	24,189

* In thousands of dollars.

SCHEDULE OF CHANGES IN THE OPEB ROLLS

Year Ended Sept. 30	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		
2013	6,996	\$ 59,203	4,695	\$ 156,890	159,752	\$ 880,156	(10.0) %	\$ 5,510
2014	6,634	57,331	5,042	88,058	161,344	849,429	(3.5)	5,265
2015	6,617	65,670	5,159	69,497	162,802	845,602	(0.5)	5,194
2016	6,633	74,740	5,072	68,879	164,363	851,463	0.7	5,180
2017	6,572	65,051	5,382	69,797	165,553	846,717	(0.6)	5,114
2018	5,927	58,668	5,559	99,257	165,921	806,128	(4.8)	4,859
2019	6,981	62,342	5,645	116,702	167,257	751,768	(6.7)	4,495
2020	6,736	67,843	6,069	96,185	167,924	723,426	(3.8)	4,308
2021	7,262	80,517	6,642	113,134	168,544	690,810	(4.5)	4,099
2022	6,626	59,144	6,644	97,049	168,526	652,904	(5.5)	3,874

* In thousands of dollars.

¹ Based on the illustrative premiums reported for the indicated valuation.

Notes:

No. refers to number of retiree health contracts.

Annual allowances added to rolls includes increases due to health inflation and contract changes.

Annual allowances removed from rolls includes decreases due to contract changes.

ACTUARIAL SECTION

PRIORITIZED SOLVENCY TEST

The System's funding objective is to meet long-term benefit promises through contributions that remain approximately level from year to year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System will pay all promised benefits when due, the ultimate test of financial soundness. Testing for level contribution rates is the long-term solvency test.

A prioritized solvency test is another means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with: (1) active member contributions on deposit; (2) the liabilities for future benefits to present retired lives; and (3) the liabilities for service already rendered by active and inactive members. In a system that has been following the discipline of level percent of payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) are normally partially covered by the remainder of present assets. Generally, if the System has been using level-cost financing, the funded portion of liability 3 will increase over time. Liability 3 being fully funded is not necessarily a by-product of level percent of payroll funding methods.

The schedules that follow illustrate the history of the liabilities of the System and are indicative of the System's policy of following the discipline of level percent of payroll financing.

PENSION BENEFITS

(in millions)

Valuation Date	Actuarial Accrued Liability (AAL)			Valuation Assets	Portion of AAL Covered by Assets			
	(1)	(2)	(3)		(1)	(2)	(3)	(4) ¹
	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)					
Sept. 30								
2013	\$ 4,909	\$ 43,198	\$ 15,733	\$ 38,044	100%	76.7%	0.0%	59.6%
2014	5,225	44,126	15,699	39,626	100	78.0	0.0	60.9
2014 ²	5,225	45,545	15,335	39,626	100	75.5	0.0	59.9
2015	5,738	46,538	15,452	41,006	100	75.8	0.0	60.5
2016	6,189	47,431	15,238	43,204	100	78.0	0.0	62.7
2016 ²	6,189	49,299	16,822	43,204	100	75.1	0.0	59.7
2017	6,730	50,069	16,528	45,397	100	77.2	0.0	61.9
2017 ²	6,730	51,878	18,085	47,255	100	78.1	0.0	61.6
2018	7,479	52,633	17,753	49,313	100	79.5	0.0	63.3
2018 ²	7,479	56,834	19,062	50,630	100	75.9	0.0	60.7
2019	8,106	57,716	19,380	51,422	100	75.1	0.0	60.4
2020	8,329	58,699	19,310	52,587	100	75.4	0.0	60.9
2021	8,550	59,769	19,454	55,985	100	79.4	0.0	63.8
2021 ²	8,550	64,089	23,264	61,480	100	82.6	0.0	64.1
2022	8,851	65,070	24,221	63,075	100	83.3	0.0	64.3

¹ Percent funded on a total valuation asset and total actuarial accrued liability basis.

² Revised actuarial assumptions and/or methods.

ACTUARIAL SECTION

PRIORITIZED SOLVENCY TEST

OTHER POSTEMPLOYMENT BENEFITS

(in millions)

Valuation Date	Actuarial Accrued Liability (AAL)			Valuation Assets	Portion of AAL Covered by Assets			
	(1)	(2)	(3)		(1)	(2)	(3)	(4) ¹
	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)					
Sept. 30								
2013	\$ 691	\$ 8,766	\$ 5,077	\$ 2,041	100%	15.4%	0.0%	14.0%
2014 ²	874	8,829	4,458	2,982	100	23.9	0.0	21.1
2015	1,042	7,867	3,923	3,531	100	31.6	0.0	27.5
2016 ²	1,186	8,548	5,592	4,279	100	36.2	0.0	31.1
2017	1,320	7,879	3,594	5,178	100	49.0	0.0	40.5
2017 ²	1,320	8,279	3,989	5,178	100	46.6	0.0	38.1
2018	1,441	7,794	3,638	5,944	100	57.8	0.0	46.2
2018 ²	1,441	8,505	3,803	6,089	100	54.7	0.0	44.3
2019	1,254	7,841	3,915	6,958	100	72.7	0.0	53.5
2020	1,372	6,895	3,618	8,179	100	98.7	0.0	68.8
2021	1,470	6,517	3,090	9,606	100	100	52.4	86.7
2021 ³	1,470	7,134	3,773	10,548	100	100	51.5	85.1
2022	1,566	6,472	3,470	11,420	100	100	97.5	99.2

¹ Percent funded on a total valuation asset and total actuarial accrued liability basis.

² Revised actuarial assumptions and/or methods.

³ Change in assumptions shown for years where assumptions other than the trend assumption have changed. Beginning with the September 30, 2021 valuation, results as of the same valuation date prior to the assumption change reflect expected trend from the prior year's valuation.

ACTUARIAL SECTION

ANALYSIS OF SYSTEM EXPERIENCE – PENSION

GAINS/(LOSSES) IN ACCRUED LIABILITIES

During Year Ended September 30, 2022

Resulting from Differences Between Assumed Experience & Actual Experience

<u>Type of Activity</u>	<u>Gain/(Loss)</u>
1. Retirements (including Disability Retirement). If members retire at ages or with lower final average pay than assumed, there is a gain. If younger ages or higher average pays, a loss.	\$ 24,322,753
2. Withdrawal From Employment (including death-in-service). If more liabilities are released by withdrawals and deaths than assumed, there is a gain. If smaller releases, a loss.	47,105,121
3. Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(1,029,100,807)
4. Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(853,854,999)
5. Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	120,168,746
6. Rehires.	1,690,149
7. Other. Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	144,206
8. Composite Gain (or Loss) During Year.	<u>\$ (1,783,735,073)</u>

ACTUARIAL SECTION

ANALYSIS OF SYSTEM EXPERIENCE – OPEB

GAINS/(LOSSES) IN ACCRUED LIABILITIES

During Year Ended September 30, 2022

Resulting from Differences Between Assumed Experience & Actual Experience

<u>Type of Activity</u>	<u>Gain/(Loss)</u>
1. Premiums. Gains and losses resulting from actual premiums in valuation year versus that assumed from prior valuation.	\$1,568,983,993
2. Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	(188,051,967)
3. Demographic and Other. Gains and losses resulting from demographic experience, data adjustments, timing of financial transactions, etc.	82,119,342
4. Composite Gain (or Loss) During Year.	<u>\$1,463,051,368</u>

ACTUARIAL SECTION

SUMMARY OF PLAN PROVISIONS

Our actuarial valuation of the System as of September 30, 2022, is based on the present provisions of the Michigan Public School Employees' Retirement Act (Act 300 of 1980. As amended).

REGULAR RETIREMENT

(No reduction factor for age)

- **Eligibility** – Age 55 with 30 years credited service; or age 60 with 10 years credited service. For Member Investment Plan (MIP) members, any age with 30 years credited service; or age 60 with 10 years credited service; or age 60 with 5 years of credited service provided member worked through 60th birthday and has credited service in each of the last 5 years. For Pension Plus and Pension Plus 2 members, age 60 with 10 years of credited service.
- **Mandatory Retirement Age** – None.
- **Transition Date** – February 1, 2013 (Basic and MIP members only).
- **Annual Amount, Basic and MIP** – Total credited service as of the Transition Date \times 1.5% of final average compensation (FAC).

PENSION PLUS

An amount determined by the member's election of Option 1, 2, 3, or 4 described below.

Option 1 – Credited Service after the Transition Date \times 1.5% \times FAC.

Option 2 – Credited Service after the Transition Date (until total service reaches 30 years) \times 1.5% \times FAC, PLUS Credited Service after the Transition Date and over 30 years \times 1.25% \times FAC.

Option 3 – Credited Service after the Transition Date \times 1.25% \times FAC.

Option 4 – None (Member will receive benefit through a Defined Contribution plan).

- **Annual Amount, Pension Plus and Pension Plus 2 Plans** – Credited service \times 1.5% \times FAC.
- **Final Average Compensation** – Average of highest 60 consecutive months (36 months for MIP members). FAC is calculated as of the last day worked unless the member elected option 4, in which case the FAC is calculated at the Transition Date.

EARLY RETIREMENT

(Age reduction factor used)

- **Eligibility** – Age 55 with 15 or more (but less than 30) years credited service and earned credited service in each of the last 5 years. At least 10 of the 15 years of credited service has to be earned service. Pension Plus and Pension Plus 2 members are not eligible for early retirements.
- **Annual Amount** – Regular retirement benefit reduced by 0.5% for each month by which the commencement age is less than 60.

DEFERRED RETIREMENT

(Vested benefit)

- **Eligibility** – 10 years of credited service. Benefit commences at the time age qualification is met.
- **Annual Amount** – Regular retirement benefit based on service and final average compensation at time of termination.

DUTY DISABILITY RETIREMENT

- **Eligibility** – No age or service requirement; in receipt of workers' disability compensation.
- **Annual Amount** – Computed as regular retirement benefit with minimum benefit based on 10 years credited service. Additional limitation such that disability benefits plus authorized outside earnings limited to 100% of final average compensation (increased by 2% each year retired).

ACTUARIAL SECTION

SUMMARY OF PLAN PROVISIONS

NONDUTY DISABILITY RETIREMENT

- **Eligibility** – 10 years of credited service.
- **Annual Amount** – Computed as regular retirement benefit based on credited service and final average compensation at time of disability. Additional limitation such that disability benefits plus authorized outside earnings limited to 100% of final average compensation (increased by 2% each year retired).

DUTY DEATH BEFORE RETIREMENT

- **Eligibility** – No age or service requirement. Beneficiary is in receipt of workers' compensation. Also applies to "duty disability" retirees during first three years of disability.
- **Annual Amount** – Spouse benefit computed as regular retirement benefit with minimum benefit based on ten years of credited service, reduced for 100% joint and survivor election. If no surviving spouse, children under 18 share in benefit; if no spouse or children, a disabled and dependent parent is eligible.

NONDUTY DEATH BEFORE RETIREMENT

- **Eligibility** – For Basic plan members, 15 years of credited service, or age 60 and 10 years of credited service. For MIP members, 10 years of credited service, or age 60 and 5 years of credited service. For Pension Plus and Pension Plus 2 members, 10 years of credited service.
- **Annual Amount** – Computed as regular retirement benefit, reduced in accordance with a 100% joint and survivor election, with payments commencing first of month following death. For the beneficiary of a deferred member, benefit commences at the time a member would have attained the minimum age qualification.

POST-RETIREMENT COST-OF-LIVING ADJUSTMENTS

One-time upward adjustments have been made in 1972, 1974, 1976 and 1977 for members retired on or after July 1, 1956, and prior to July 1, 1976, who were eligible for Social Security benefits. For members who retired prior to July 1, 1956, and not eligible for Social Security benefits based upon membership service, the minimum base pension was increased in 1965, 1971, 1972, 1974 and 1981, and in 1976 and 1977 one-time upward adjustments were made.

Beginning in 1983, eligible recipients received an annual distribution of investment earnings in excess of 8% (supplemental payment). On January 1, 1986, all members who retired prior to January 1, 1986, were given a permanent 8% increase. On January 1, 1990, a one-time upward adjustment for members who retired prior to October 1, 1981, was made.

Currently members receive annual increases based on the following schedule:

- Retired before January 1, 1987: greater of supplemental payment or automatic 3% increase.
- Retired on or after January 1, 1987 under MIP: automatic 3% increase only.
- Retired on or after January 1, 1987 not under MIP: supplemental payment only.
- Retired under Pension Plus or Pension Plus 2: no increases.

POST-RETIREMENT HEALTHCARE BENEFITS

Members hired before July 1, 2008 are eligible for 80% System paid Master Health Plan and Dental and Vision coverage for themselves and their dependents. However, those retirees Medicare eligible at January 1, 2013 receive 90% System-paid coverage.

Members hired before July 1, 2008 who retired from deferred vested status with less than 30 years of service, who terminate employment after October 31, 1980 with vested deferred benefits, are eligible for partially System-paid health benefit coverage (no payment if less than 21 years of service, 10% of maximum employer payment for each year of service over 20 up to 100% for 30 or more years of service). Members who retire from deferred status and terminated employment before October 31, 1980, are entitled to 100% of the subsidy allowed by law.

ACTUARIAL SECTION

SUMMARY OF PLAN PROVISIONS

Members hired after June 30, 2008, but before September 4, 2012, are eligible for 80% System paid Master Health Plan and Dental and Vision coverage for themselves and their dependents, but the premium subsidy is graded based on career length as described below:

- a. Member is age 60 or older at retirement
 - If member has 10 or more years of total service, the System pays 30% of the monthly premium for the first 10 years of total service, plus 4% for each additional year of service, up to a maximum of 80% of the monthly premium if 23 years of total service or more.
 - If a member has fewer than 10 years of total service, there is no System paid coverage.
- b. Member is under age 60 at retirement
 - If member has 25 years of actual service, the System pays 80% of the monthly premium.
 - If the member has under 25 years of actual service, upon attainment of age 60 the member may apply for System paid coverage (as described by the schedule above in a.).

Dependents are eligible for 80% System paid employer health benefits (partial payments for dependents of deferred vested members who had 21 or more years of service and dependents of members hired on or after July 1, 2008, as per the above schedule).

Members hired on or after September 4, 2012 will become participants of the Personal Healthcare Fund (PHF) and will not be eligible for insurance premium subsidy in retirement. For members hired on or after September 4, 2012, the maximum insurance subsidy is payable to the surviving spouse and health dependents of members who die as a result of injury or illness resulting from job activities. For all other members hired on or after September 4, 2012, the defined benefit portion of their post-retirement health benefits coverage is limited to a credit to a Health Reimbursement Account at termination if they have at least 10 years of service. The credit will be \$2,000 for participants who are at least age 60 at termination or \$1,000 for participants who are less than age 60 at termination.

Public Act 300 of 2012 granted all members of the Michigan Public School Employees Retirement System, who earned service credit in the 12 months ending September 4, 2012 or were on an approved professional services or military leave of absence on September 4, 2012, a voluntary election regarding their retirement healthcare. Any changes to a member's healthcare benefit are effective as of the member's transition date, which is defined as the first day of the pay period that begins on or after February 1, 2013.

MEMBER CONTRIBUTIONS BEFORE TRANSITION DATE

(February 1, 2013)

- **Basic Participants** – None.
- **MIP Participants hired before January 1, 1990** – 3.9% of pay.
- **MIP Participants hired on or after January 1, 1990 and before July 1, 2008** – 3.0% of first \$5,000 of pay, plus 3.6% of next \$10,000 of pay, plus 4.3% pay in excess of \$15,000.
- **MIP Participants hired on or after July 1, 2008** – 3.0% of first \$5,000 of pay, plus 3.6% of next \$10,000 of pay, plus 6.4% pay in excess of \$15,000.

MEMBER CONTRIBUTIONS ATTRIBUTABLE TO THE RETIREE HEALTH PLANS

Under Public Act 300 of 2012, members were given the choice between i. and ii. below:

- i. Maintaining eligibility for premium subsidy retiree medical coverage, and contributing 3% of their compensation while still working, or
- ii. Entering the Personal Healthcare Fund (PHF).

Members not making an election defaulted into the premium subsidy arrangement.

If a member who elected the subsidy terminates prior to becoming eligible for the subsidy, dies before the total value of the subsidy received equals the total value of contributions made, or retires and declines coverage, the member or beneficiary may request a refund of unused funds. Refunds of member contributions to the healthcare

ACTUARIAL SECTION

SUMMARY OF PLAN PROVISIONS

funding account are issued as a supplemental pension benefit (payable at age 60 and payable from the pension plan) paid out over a 60-month period.

A delayed subsidy applies to retirees who became a member of the retirement system before July 1, 2008 and who purchased service credit on or after July 1, 2008. Such individuals are eligible for premium subsidy benefits at age 60 or when they would have been eligible to retire without having made a service purchase, whichever comes first. They may enroll in the insurances earlier but are responsible for the full premium until the premium subsidy begins.

MEMBER CONTRIBUTIONS ON OR AFTER TRANSITION DATE

(February 1, 2013)

BASIC AND MIP MEMBERS

Contributions depend on member election of Option 1, 2, 3. Members electing Option 4 will not contribute to the Plan.

Option 1 – Basic plan members – 4%.
All MIP members – 7%.

Option 2 – Contributions as in Option 1 until member reaches 30 years of service. At 30 years of service, contribution reverts to pre-transition date level.

Option 3 – Post-transition date contribution is the same as the pre-transition date contribution.

Option 4 – None (Member will receive a benefit through a Defined Contribution plan).

Pension Plus Members – 3% of first \$5,000 of pay, plus 3.6% of next \$10,000 of pay, plus 6.4% of pay in excess of \$15,000.

Pension Plus 2 Members – The member contribution rate will be based upon a 50/50 cost sharing arrangement with the employer with respect to the normal cost and the financing of any unfunded actuarial accrued liabilities associated with PPP2 participants.

ACTUARIAL SECTION

SCHEDULES OF FUNDING PROGRESS

SCHEDULE OF FUNDING PROGRESS – PENSION PLAN

Last Ten Years
(in millions)

Valuation Date Sept. 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio (a/b)	Active ¹ Payroll (c)	UAAL as a % of Active Payroll ((b-a)/c)
2013	\$ 38,044	\$ 63,840	\$ 25,796	59.6 %	\$ 8,273	311.8 %
2014	39,626	65,050	25,424	60.9	8,167	311.3
2014 ²	39,626	66,105	26,479	59.9	8,167	324.2
2015	41,006	67,728	26,721	60.5	8,264	323.3
2016	43,204	68,858	25,654	62.7	8,206	312.6
2016 ²	43,204	72,310	29,107	59.7	8,206	354.7
2017	45,397	73,327	27,930	61.9	8,221	339.7
2017 ²	47,255	76,693	29,438	61.6	8,221	358.1
2018	49,313	77,865	28,552	63.3	8,300	344.0
2018 ²	50,630	83,375	32,745	60.7	8,300	394.5
2019	51,422	85,202	33,780	60.4	8,691	388.7
2020	52,587	86,338	33,750	60.9	8,716	387.2
2021	55,985	87,773	31,788	63.8	8,901	357.1
2021 ³	61,480	95,903	24,424	64.1	8,901	386.7
2022	63,075	98,142	35,067	64.3	9,607	365.0

¹ Payroll for UAAL purposes

² Revised actuarial assumptions and/or methods

³ Change in assumptions shown for years where assumptions other than the trend assumption have changed. Beginning with the September 30, 2021 valuation, results as of the same valuation date prior to the assumption change reflect expected trend from the prior year's valuation.

Source: Gabriel, Roeder, Smith & Co.

ACTUARIAL SECTION

SCHEDULES OF FUNDING PROGRESS

SCHEDULE OF FUNDING PROGRESS – OPEB PLAN

Last Ten Years
(in millions)

Valuation Date	Actuarial Value of Assets	Actuarial Liability (AAL) Entry Age	Unfunded (Overfunded) Accrued Liability (UAAL)		Funded Ratio	Active Payroll ¹	UAAL as a % of Active Payroll ((b-a)/c)
			(a)	(b)			
Sept. 30							
2013	\$ 2,041	\$ 14,534	\$ 12,493	14.0 %	\$ 8,273	151.0 %	
2014 ²	2,982	14,161	11,180	21.1	8,167	136.9	
2015	3,531	12,832	9,302	27.5	8,264	112.6	
2016 ²	4,279	13,776	9,497	31.1	8,206	115.7	
2017	5,178	13,116	7,938	39.5	8,221	96.6	
2017 ²	5,178	15,588	8,410	38.1	8,221	102.3	
2018	5,944	12,873	6,928	46.2	8,300	83.4	
2018 ²	6,089	13,749	7,659	44.3	8,300	92.3	
2019	6,958	13,010	6,052	53.5	8,691	69.6	
2020	8,179	11,885	3,706	68.8	8,716	42.5	
2021	9,606	11,077	1,471	86.7	8,901	16.5	
2021 ³	10,548	12,377	1,829	85.2	8,901	20.6	
2022	11,420	11,508	89	99.2	9,607	0.9	

¹ Payroll for UAAL purposes

² Revised actuarial assumptions and/or methods

³ Change in assumptions shown for years where assumptions other than the trend assumption have changed. Beginning with the September 30, 2021 valuation, results as of the same valuation date prior to the assumption change reflect expected trend from the prior year's valuation.

Source: Gabriel, Roeder, Smith & Co.

STATISTICAL SECTION

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Schedule of Participating Employers

STATISTICAL SECTION

CONTENTS

This part of the System's annual comprehensive financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the System's overall financial health.

FINANCIAL TRENDS

These schedules contain trend information to help the reader understand how the System's financial performance and fiscal health has changed over time. The schedules are presented for the last ten fiscal years. Schedules included are:

- Schedule of Pension Plan Additions by Source
- Schedule of OPEB Plan Additions by Source
- Schedule of Pension Plan Deductions by Type
- Schedule of OPEB Plan Deductions by Type
- Schedule of Changes in Fiduciary Net Position – Pension Plan
- Schedule of Changes in Fiduciary Net Position – OPEB Plan
- Schedule of Pension Benefit and Refunds by Type
- Schedule of OPEB Benefits and Refunds by Type

OPERATING INFORMATION

These schedules contain contextual information to assist the reader's understanding of how the System's financial information relates to the combination of participating members and the benefits it provides. Schedules are presented for the last ten fiscal years, except where noted. Schedules included are:

- Schedule of Retired Members by Type of Pension Benefit
- Schedule of Retired Members by Type of Other Postemployment Benefits
- Schedule of Other Postemployment Benefits
- Schedule of Average Benefit Payments – Pension
- Schedule of Average Benefit Payments – Medical/Rx
- Schedule of Average Benefit Payments – Dental/Vision
- Schedule of Principal Participating Employers
- Ten Year History of Membership
- Schedule of Participating Employers

STATISTICAL SECTION

SCHEDULES OF ADDITIONS BY SOURCE

SCHEDULE OF PENSION PLAN ADDITIONS BY SOURCE

Last Ten Years

Employer Contributions

Fiscal Year Ended Sept. 30	Member Contributions	Dollars	% of Annual Reported Payroll	Net Investment & Other Income	Total
2014	\$ 405,443,771	\$ 1,600,375,132	19.60 %	\$ 6,192,710,861	\$ 8,198,529,764
2015	395,722,292	1,967,610,696	23.81	938,143,040	3,301,476,028
2016	398,893,138	2,308,657,030	28.13	3,095,177,500	5,802,727,668
2017	427,988,238	2,398,950,106	28.38	5,583,470,138	8,410,408,482
2018	393,059,173	2,791,508,863	32.52	5,136,369,857	8,320,937,893
2019	403,146,565	2,706,712,537	30.21	2,519,522,310	5,629,381,412
2020	401,626,288	2,808,839,412	30.91	2,545,305,150	5,755,770,850
2021	413,530,505	3,081,013,949	33.24	13,740,863,392	17,235,407,846
2022	434,411,307	3,843,216,331	38.58	(2,931,930,719)	1,345,696,919
2023	449,906,364	4,842,555,721	46.88	4,829,772,737	10,122,234,821

SCHEDULE OF OPEB PLAN ADDITIONS BY SOURCE

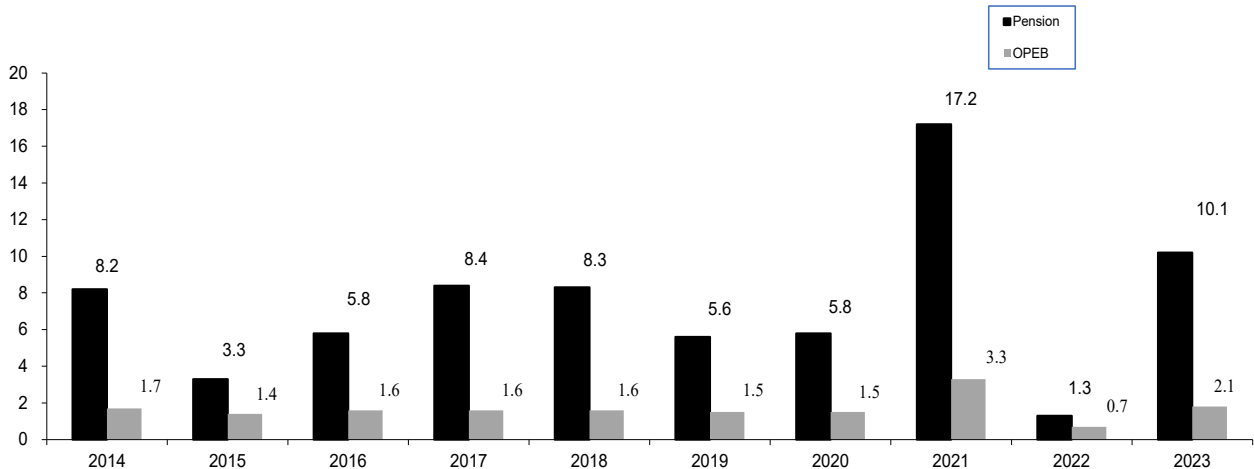
Last Ten Years

Employer Contributions

Fiscal Year Ended Sept. 30	Member Contributions	Dollars	% of Annual Reported Payroll	Net Investment & Other Income	Total
2014	\$ 390,844,206	\$ 1,000,031,808	12.24 %	\$ 353,732,646	\$ 1,744,608,660
2015	381,630,848	969,418,632	11.73	52,443,410	1,403,492,890
2016	382,257,166	883,943,202	10.77	292,214,037	1,558,414,405
2017	214,248,867	794,661,944	9.40	595,269,533	1,604,180,344
2018	210,679,842	663,708,218	7.73	691,696,835	1,566,084,896
2019	208,197,137	707,714,340	7.90	569,334,003	1,485,245,480
2020	204,752,249	708,508,889	7.80	629,036,142	1,542,297,280
2021	203,769,106	749,590,728	8.09	2,390,906,011	3,344,265,844
2022	205,596,047	771,570,875	7.74	(286,178,984)	690,987,937
2023	202,972,230	783,148,294	7.58	1,084,002,533	2,070,123,057

TOTAL ADDITIONS

Year Ended September 30
(in billions)



STATISTICAL SECTION

SCHEDULES OF DEDUCTIONS BY TYPE

SCHEDULE OF PENSION PLAN DEDUCTIONS BY TYPE

Last Ten Years

Fiscal Year Ended Sept. 30	Benefit Payments	Refunds and Transfers	Administrative and Other Expenses	Total
2014	\$ 4,388,328,517	\$ 28,840,650	\$ 23,711,249	\$ 4,440,880,415
2015	4,530,914,738	136,902,057	24,487,325	4,692,304,120
2016	4,671,299,698	26,996,969	26,213,125	4,724,509,792
2017	4,806,958,754	26,112,046	26,133,359	4,859,204,159
2018	4,934,638,368	28,632,230	25,951,960	4,989,222,559
2019	5,058,624,097	29,344,631	27,740,993	5,115,709,721
2020	5,183,129,306	27,916,861	23,118,595	5,234,164,762
2021	5,309,513,888	26,727,739	23,239,301	5,359,480,928
2022	5,424,330,791	33,182,357	23,784,361	5,481,297,509
2023	5,534,949,342	34,082,873	26,940,693	5,595,972,908

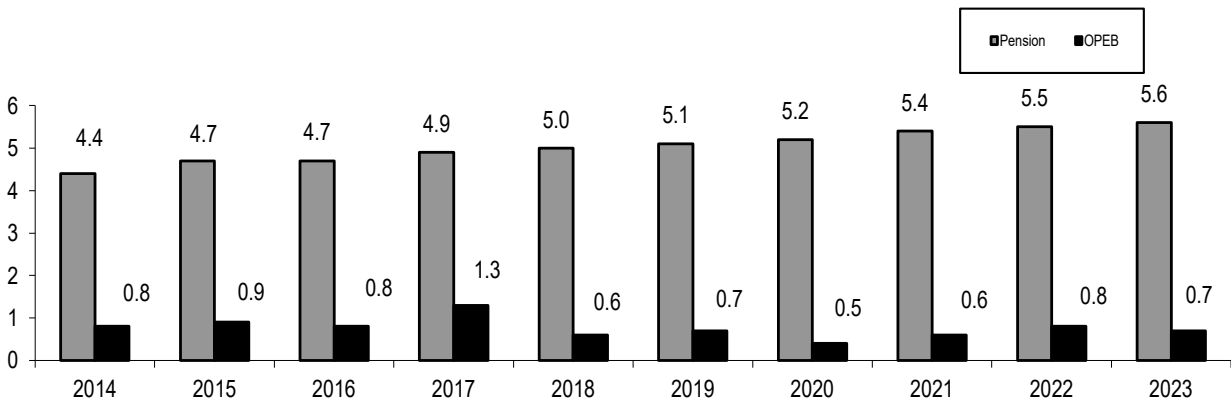
SCHEDULE OF OPEB PLAN DEDUCTIONS BY TYPE

Last Ten Years

Fiscal Year Ended Sept. 30	Benefit Payments	Refunds and Transfers	Administrative and Other Expenses	Total
2014	\$ 669,240,164	\$ 68,930	\$ 133,623,320	\$ 802,932,413
2015	700,904,663	95,860	153,410,971	854,411,494
2016	653,086,198	93,387	156,358,057	809,537,642
2017	548,269,421	553,960,659	156,354,596	1,258,584,675
2018	477,124,380	344,297	155,149,286	632,617,963
2019	542,033,925	33,591	162,320,970	704,388,486
2020	286,464,930	112,571	163,713,058	450,290,559
2021	449,557,569	107,541	171,430,145	621,095,255
2022	643,217,829	148,344	171,053,373	814,419,546
2023	492,671,422	132,607	178,767,955	671,571,983

TOTAL DEDUCTIONS

Year Ended September 30
(in billions)



STATISTICAL SECTION

SCHEDULES OF DEDUCTIONS BY TYPE

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STATISTICAL SECTION

SCHEDULES OF CHANGES IN FIDUCIARY NET POSITION

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION – PENSION PLAN

Last Ten Years
(in thousands)

	Fiscal Year			
	2014	2015	2016	2017
Member contributions	\$ 405,444	\$ 395,722	\$ 398,893	\$ 427,988
Employer contributions	1,600,375	1,967,611	2,308,657	2,398,950
Net investment income	6,190,449	937,663	3,094,694	5,582,660
Miscellaneous income	2,262	480	484	811
Total Additions	<u>8,198,530</u>	<u>3,301,476</u>	<u>5,802,728</u>	<u>8,410,408</u>
Pension benefits	4,388,329	4,530,915	4,671,300	4,806,959
Refunds of contributions	28,841	136,901	26,994	26,092
Transfer to other systems	-	1	3	20
Administrative and other expenses	23,711	24,487	26,213	26,133
Total Deductions	<u>4,440,880</u>	<u>4,692,304</u>	<u>4,724,510</u>	<u>4,859,204</u>
Changes in net position	<u>\$ 3,757,650</u>	<u>\$ (1,390,828)</u>	<u>\$ 1,078,218</u>	<u>\$ 3,551,204</u>

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION – OPEB PLAN

Last Ten Years
(in thousands)

	Fiscal Year			
	2014	2015	2016	2017
Member contributions	\$ 390,844	\$ 381,631	\$ 382,257	\$ 214,249
Employer contributions	1,000,032	969,419	883,943	794,662
Other governmental contributions	138	213	2,411	5
Net investment income	353,064	52,064	289,644	595,089
Miscellaneous income	531	166	159	176
Total Additions	<u>1,744,609</u>	<u>1,403,493</u>	<u>1,558,414</u>	<u>1,604,180</u>
Health care benefits	699,240	700,904	653,086	548,269
Refunds of contributions	68	96	93	553,961
Transfers to other systems	1	-	-	-
Administrative and other expenses	133,623	153,411	156,358	156,355
Total Deductions	<u>832,932</u>	<u>854,411</u>	<u>809,538</u>	<u>1,258,585</u>
Changes in net position	<u>\$ 941,676</u>	<u>\$ 549,081</u>	<u>\$ 748,877</u>	<u>\$ 345,596</u>

STATISTICAL SECTION

SCHEDULES OF CHANGES IN FIDUCIARY NET POSITION

Fiscal Year (continued)					
2018	2019	2020	2021	2022	2023
\$ 393,059	\$ 403,147	\$ 401,626	\$ 413,531	\$ 434,411	\$ 449,906
2,791,509	2,706,713	2,808,839	3,081,014	3,843,216	4,842,556
5,135,866	2,519,320	2,545,231	13,740,731	(2,932,020)	4,829,736
504	202	74	132	89	37
<u>8,320,938</u>	<u>5,629,381</u>	<u>5,755,771</u>	<u>17,235,408</u>	<u>1,345,697</u>	<u>10,122,235</u>
4,934,638	5,058,624	5,183,129	5,309,514	5,424,331	5,534,949
28,632	29,345	27,917	26,728	33,182	34,083
-	-	-	-	-	-
25,952	27,741	23,119	23,239	23,784	26,941
<u>4,989,223</u>	<u>5,115,710</u>	<u>5,234,165</u>	<u>5,359,481</u>	<u>5,481,297</u>	<u>5,595,973</u>
<u>\$ 3,331,715</u>	<u>\$ 513,672</u>	<u>\$ 521,606</u>	<u>\$ 11,875,927</u>	<u>\$ (4,135,601)</u>	<u>\$ 4,526,262</u>

Fiscal Year (continued)					
2018	2019	2020	2021	2022	2023
\$ 210,680	\$ 208,197	\$ 204,752	\$ 203,769	\$ 205,596	\$ 202,972
663,708	707,714	708,509	749,591	771,571	783,148
96,708	233,196	254,348	236,168	251,589	214,638
594,893	336,063	374,570	2,154,623	(537,847)	869,240
96	74	118	116	79	124
<u>1,566,085</u>	<u>1,485,245</u>	<u>1,542,297</u>	<u>3,344,266</u>	<u>690,988</u>	<u>2,070,123</u>
477,124	542,034	286,465	449,558	643,218	492,671
344	34	113	108	148	133
-	-	-	-	-	-
155,149	162,321	163,713	171,430	171,053	178,768
<u>632,618</u>	<u>704,388</u>	<u>450,291</u>	<u>621,095</u>	<u>814,420</u>	<u>671,572</u>
<u>\$ 933,467</u>	<u>\$ 780,857</u>	<u>\$ 1,092,007</u>	<u>\$ 2,723,171</u>	<u>\$ (123,432)</u>	<u>\$ 1,398,551</u>

STATISTICAL SECTION

SCHEDULES OF BENEFITS AND REFUNDS BY TYPE

SCHEDULE OF PENSION BENEFITS AND REFUNDS BY TYPE

Last Ten Years

Fiscal Year Ended Sept. 30	Regular Benefits*	Disability Benefits	Survivor Benefits	Refunds			Total
				Employer	Employee	Retired Benefits	
2014	\$ 4,052,801,025	\$ 68,329,595	\$ 267,197,897	\$ 459,114	\$ 28,380,803	\$ 732	\$ 4,417,169,166
2015	4,179,445,527	70,240,170	281,229,041	112,468,242	24,416,139	17,016	4,667,816,135
2016	4,303,690,804	71,924,352	295,684,541	2,478,596	24,507,177	7,771	4,698,293,241
2017	4,422,445,301	73,317,357	311,196,097	126,312	25,971,639	14,096	4,833,070,801
2018	4,532,304,321	74,811,652	327,522,395	217,568	28,375,762	38,900	4,963,270,599
2019	4,642,670,631	74,985,320	340,968,146	109,747	29,218,328	16,556	5,087,968,728
2020	4,750,068,120	75,601,669	357,459,517	434,172	27,480,393	2,297	5,211,046,168
2021	4,859,635,421	75,358,933	374,519,534	117,240	26,610,436	63	5,336,241,627
2022	4,958,403,240	74,286,106	391,641,445	(66,970)	33,244,014	5,313	5,457,513,148
2023	5,053,004,447	74,052,009	407,882,294	(5,206)	34,087,637	442	5,569,021,623

* Includes prior post-retirement adjustments

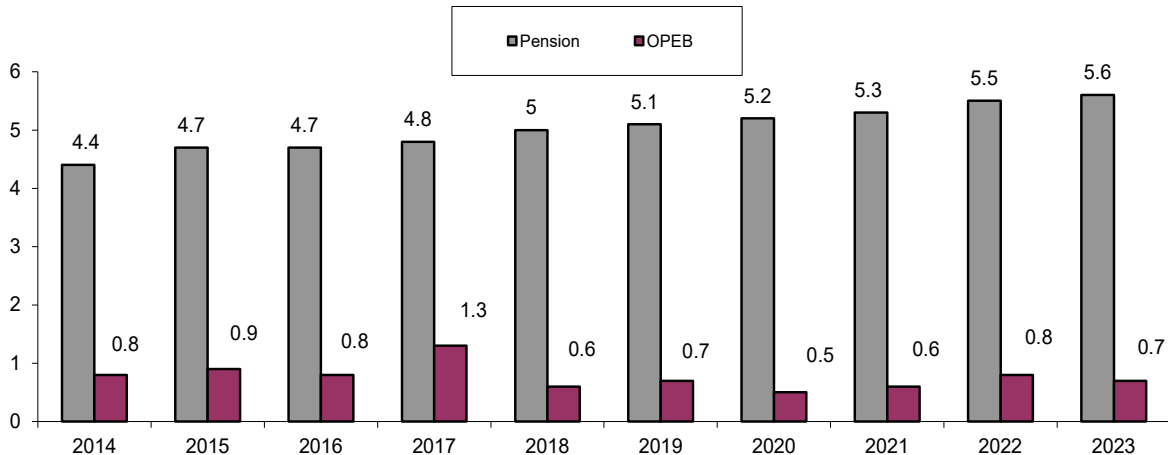
SCHEDULE OF OPEB BENEFITS AND REFUNDS BY TYPE

Last Ten Years

Fiscal Year Ended Sept. 30	Health Benefits	Dental/Vision Benefits	Administrative Expenses	OPEB Refunds	Total
2014	\$ 582,398,966	\$ 86,841,198	\$ 133,623,320	\$ 68,141	\$ 802,931,624
2015	617,493,539	83,411,124	153,410,971	95,860	854,411,494
2016	567,230,086	85,856,112	156,358,057	93,387	809,537,642
2017	474,032,868	74,236,553	156,354,596	553,960,659	1,258,584,675
2018	402,747,129	74,377,251	155,149,286	344,297	632,617,963
2019	469,017,033	73,016,892	162,320,970	33,591	704,388,486
2020	226,140,881	60,324,050	163,713,058	112,571	450,290,559
2021	377,043,402	72,514,167	171,430,145	107,541	621,095,255
2022	568,673,539	74,544,290	171,053,373	148,344	814,419,546
2023	415,901,788	76,769,634	178,767,955	132,607	671,571,984

TOTAL BENEFIT DEDUCTIONS

Year Ended September 30
(in billions)



STATISTICAL SECTION

SCHEDULES OF RETIRED MEMBERS BY TYPE OF BENEFIT

SCHEDULE OF RETIRED MEMBERS BY TYPE OF PENSION BENEFIT

September 30, 2022

Monthly Pension Benefit Amt	Number of Retirees	Type of Retirement *						Selected Option**				Opt.1E
		1	2	3	4	5	6	Opt. 1	Opt. 2	Opt. 3	Opt. 4	2E,3E,4E
\$ 1 - 400	33,156	28,926	2,645	120	1,078	5	382	17,228	8,509	5,105	864	1,450
401 - 800	33,612	28,842	2,142	150	1,893	3	582	17,109	7,507	6,162	1,332	1,502
801 - 1,200	22,465	18,968	1,654	71	1,251	3	518	10,426	5,002	4,573	1,122	1,342
1,201 - 1,600	17,629	14,645	1,746	24	788	1	425	7,431	3,991	3,576	1,141	1,490
1,601 - 2,000	15,662	13,053	1,663	15	576	3	352	6,068	3,548	3,269	1,100	1,677
2,001 - 2,400	16,375	14,358	1,279	3	458	3	274	6,064	3,795	3,299	1,312	1,905
2,401 - 2,800	17,373	15,797	1,051	5	278	-	242	6,415	4,103	3,422	1,528	1,905
2,801 - 3,200	17,341	16,123	928	2	147	-	141	6,826	3,926	3,510	1,543	1,536
3,201 - 3,600	15,299	14,408	717	2	74	1	97	6,534	3,227	3,126	1,333	1,079
3,601 - 4,000	11,675	11,069	517	-	22	-	67	5,490	2,239	2,295	982	669
over 4,000	24,628	23,642	865	-	14	-	107	13,215	3,893	4,528	2,133	859
Totals	225,215	199,831	15,207	392	6,579	19	3,187	102,806	49,740	42,865	14,390	15,414

*** Type of Retirement**

- 1 – Normal retirement for age and service
- 2 – Survivor payment – normal retirement
- 3 – Duty disability retirement (including survivors)
- 4 – Nonduty disability retirement (including survivors)
- 5 – Survivor payment – duty death in service
- 6 – Survivor payment – nonduty death in service

**** Selected Option**

- Opt. 1 – Straight life allowance
- Opt. 2 – 100% survivor option
- Opt. 3 – 50% survivor option
- Opt. 4 – 75% survivor option
- Opt. 1E, 2E, 3E, 4E – equated retirement plans

Source: Gabriel, Roeder, Smith & Co.

SCHEDULE OF RETIRED MEMBERS BY TYPE OF OPEB BENEFIT

September 30, 2022

Monthly Pension Benefit Amt	Type of Other Postemployment Benefits	
	Medical/Rx	Dental/Vision
\$ 1 - 400	13,026	16,140
401 - 800	17,799	21,182
801 - 1,200	14,201	16,330
1,201 - 1,600	12,346	13,814
1,601 - 2,000	11,788	12,876
2,001 - 2,400	12,809	13,801
2,401 - 2,800	13,856	14,933
2,801 - 3,200	13,902	14,881
3,201 - 3,600	12,518	13,278
3,601 - 4000	9,662	10,233
Over 4,000	20,919	21,788
Totals	152,826	169,256

Source: Gabriel, Roeder, Smith & Co.

STATISTICAL SECTION

SCHEDULE OF OTHER POSTEMPLOYMENT BENEFITS

For Year Ended September 30, 2023

Claims	
Health Insurance	\$ 229,120,142
Vision Insurance	4,002,725
Dental Insurance	70,842,843
	<hr/>
Total Claims	303,965,710
	<hr/>
Estimated Claims Liability	
Health Insurance	186,781,646
Vision Insurance	517,785
Dental Insurance	1,406,281
	<hr/>
Total Estimated Claims Liability	188,705,712
	<hr/>
Administrative Fees	
Staff Salaries	1,645,226
Retirement and Social Security	923,416
Other Fringe Benefits	346,460
Accounting	313,975
Actuarial	70,563
Attorney General	52,498
Audit	83,454
Consulting	2,070,616
Medical	45,999
Building Rentals	147,146
Equipment Purchase, Maintenance, and Rentals	3,114
Travel and Board Meetings	1,665
Office Supplies	894
Printing	36,186
Postage, Telephone, and Other	205,690
Technological Support	2,312,281
Health Insurance	164,813,135
Vision Insurance	5,504,307
Dental Insurance	191,329
	<hr/>
Total Administrative Fees	178,767,955
	<hr/>
Subtotal	671,439,377
	<hr/>
Refunds	132,607
	<hr/>
Grand Total	\$ 671,571,983
	<hr/>

STATISTICAL SECTION

SCHEDULES OF AVERAGE BENEFIT PAYMENTS

SCHEDULE OF AVERAGE BENEFIT PAYMENTS – PENSION

Payment Periods	Last Ten Years							Total
	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+	
Period 10/1/12 to 9/30/13:								
Average Monthly Benefit	\$ 1,266	\$ 234	\$ 390	\$ 687	\$ 1,122	\$ 1,671	\$ 2,808	\$ 1,779
Average Final Average Salary	35,857	21,024	22,588	29,490	36,703	43,385	59,676	44,771
Number of Active Retirants	832	7,145	22,991	28,363	27,684	21,754	92,183	200,952
Period 10/1/13 to 9/30/14:								
Average Monthly Benefit	\$ 141	\$ 219	\$ 396	\$ 699	\$ 1,139	\$ 1,689	\$ 2,846	\$ 1,806
Average Final Average Salary	10,750	20,617	23,263	30,235	37,612	44,258	60,156	45,423
Number of Active Retirants	200	6,971	23,668	29,017	28,219	22,022	94,415	204,512
Period 10/1/14 to 9/30/15:								
Average Monthly Benefit	\$ 140	\$ 223	\$ 405	\$ 715	\$ 1,162	\$ 1,718	\$ 2,891	\$ 1,834
Average Final Average Salary	10,985	20,900	23,773	30,934	38,452	45,125	60,759	46,045
Number of Active Retirants	187	7,021	24,081	29,535	28,853	22,465	95,509	207,651
Period 10/1/15 to 9/30/16:								
Average Monthly Benefit	\$ 126	\$ 228	\$ 414	\$ 729	\$ 1,183	\$ 1,741	\$ 2,933	\$ 1,860
Average Final Average Salary	11,346	21,161	24,205	31,512	39,139	45,895	61,328	46,613
Number of Active Retirants	178	7,100	24,401	30,106	29,407	22,989	96,826	211,007
Period 10/1/16 to 9/30/17:								
Average Monthly Benefit	\$ 129	\$ 233	\$ 423	\$ 743	\$ 1,203	\$ 1,762	\$ 2,974	\$ 1,885
Average Final Average Salary	11,825	21,365	24,663	32,032	39,890	46,663	61,894	47,166
Number of Active Retirants	176	7,163	24,784	30,551	29,998	23,461	97,856	213,989
Period 10/1/17 to 9/30/18:								
Average Monthly Benefit	\$ 127	\$ 237	\$ 432	\$ 756	\$ 1,222	\$ 1,785	\$ 3,013	\$ 1,911
Average Final Average Salary	12,020	21,612	25,128	32,528	40,512	47,435	62,500	47,754
Number of Active Retirants	170	7,172	25,043	30,860	30,559	23,873	98,941	216,618
Period 10/1/18 to 9/30/19:								
Average Monthly Benefit	\$ 136	\$ 243	\$ 440	\$ 769	\$ 1,241	\$ 1,808	\$ 3,051	\$ 1,936
Average Final Average Salary	11,966	21,911	25,515	32,959	41,069	48,209	63,064	48,292
Number of Active Retirants	165	7,111	25,398	31,109	31,044	24,233	99,877	218,937
Period 10/1/19 to 9/30/20:								
Average Monthly Benefit	\$ 126	\$ 248	\$ 448	\$ 783	\$ 1,259	\$ 1,830	\$ 3,088	\$ 1,961
Average Final Average Salary	12,166	22,151	25,939	33,410	41,614	48,903	63,687	48,853
Number of Active Retirants	154	7,029	25,905	31,371	31,441	24,613	100,965	221,478
Period 10/1/20 to 9/30/21:								
Average Monthly Benefit	\$ 126	\$ 253	\$ 456	\$ 798	\$ 1,277	\$ 1,852	\$ 3,126	\$ 1,987
Average Final Average Salary	12,297	22,401	26,378	33,920	42,169	49,622	64,418	49,479
Number of Active Retirants	148	6,914	26,435	31,548	31,801	24,965	101,956	223,767
Period 10/1/21 to 9/30/22:								
Average Monthly Benefit	\$ 133	\$ 258	\$ 465	\$ 814	\$ 1,298	\$ 1,875	\$ 3,163	\$ 2,016
Average Final Average Salary	12,661	22,715	26,865	34,463	42,726	50,315	65,135	50,152
Number of Active Retirants	140	6,768	26,650	31,621	31,984	25,199	102,853	225,215

Source: Gabriel, Roeder, Smith & Co.

STATISTICAL SECTION

SCHEDULES OF AVERAGE BENEFIT PAYMENTS

SCHEDULE OF AVERAGE BENEFIT PAYMENTS – MEDICAL/Rx*

Payment Periods	Last Ten Years							Total
	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+	
Period 10/1/12 to 9/30/13:								
Average Monthly Benefit	\$ 1,430	\$ 257	\$ 452	\$ 738	\$ 1,178	\$ 1,931	\$ 2,921	\$ 1,968
Average Final Average Salary	41,834	21,668	24,615	30,728	37,590	46,550	60,458	47,289
Number of Active Retirants	534	4,677	11,071	18,375	20,387	24,342	67,874	147,260
Period 10/1/13 to 9/30/14:								
Average Monthly Benefit	\$ 137	\$ 242	\$ 459	\$ 750	\$ 1,201	\$ 1,964	\$ 2,965	\$ 2,009
Average Final Average Salary	19,937	21,414	25,426	31,541	38,682	47,376	61,032	48,129
Number of Active Retirants	180	4,477	10,953	18,562	20,546	24,482	69,273	148,473
Period 10/1/14 to 9/30/15:								
Average Monthly Benefit	\$ 143	\$ 247	\$ 472	\$ 769	\$ 1,229	\$ 1,997	\$ 3,013	\$ 2,049
Average Final Average Salary	20,324	21,674	26,017	32,333	39,632	48,032	61,695	48,900
Number of Active Retirants	173	4,379	10,840	18,687	20,835	24,764	70,063	149,741
Period 10/1/15 to 9/30/16:								
Average Monthly Benefit	\$ 138	\$ 253	\$ 485	\$ 787	\$ 1,256	\$ 2,026	\$ 3,057	\$ 2,088
Average Final Average Salary	19,783	22,021	26,590	33,032	40,491	48,659	62,296	49,636
Number of Active Retirants	168	4,304	10,690	18,791	21,025	24,987	71,001	150,966
Period 10/1/16 to 9/30/17:								
Average Monthly Benefit	\$ 142	\$ 259	\$ 499	\$ 805	\$ 1,278	\$ 2,056	\$ 3,100	\$ 2,124
Average Final Average Salary	20,030	22,248	27,216	33,716	41,304	49,312	62,902	50,339
Number of Active Retirants	162	4,255	10,581	18,890	21,292	25,221	71,753	152,154
Period 10/1/17 to 9/30/18:								
Average Monthly Benefit	\$ 146	\$ 265	\$ 513	\$ 819	\$ 1,300	\$ 2,088	\$ 3,143	\$ 2,161
Average Final Average Salary	20,088	22,594	27,854	34,257	41,980	49,988	63,534	51,048
Number of Active Retirants	161	4,166	10,442	18,843	21,521	25,389	72,412	152,934
Period 10/1/18 to 9/30/19:								
Average Monthly Benefit	\$ 151	\$ 272	\$ 525	\$ 837	\$ 1,323	\$ 2,120	\$ 3,184	\$ 2,199
Average Final Average Salary	20,389	22,967	28,368	34,809	42,641	50,682	64,136	51,756
Number of Active Retirants	155	4,032	10,279	18,747	21,652	25,516	73,006	153,387
Period 10/1/19 to 9/30/20:								
Average Monthly Benefit	\$ 161	\$ 278	\$ 537	\$ 853	\$ 1,347	\$ 2,149	\$ 3,221	\$ 2,238
Average Final Average Salary	21,166	23,192	28,901	35,326	43,309	51,314	64,779	52,490
Number of Active Retirants	150	3,915	10,091	18,595	21,667	25,522	73,689	153,629
Period 10/1/20 to 9/30/21:								
Average Monthly Benefit	\$ 166	\$ 282	\$ 550	\$ 873	\$ 1,371	\$ 2,178	\$ 3,263	\$ 2,280
Average Final Average Salary	21,561	23,419	29,607	35,980	44,066	52,048	65,582	53,373
Number of Active Retirants	140	3,765	9,822	18,334	21,686	25,525	74,149	153,421
Period 10/1/21 to 9/30/22:								
Average Monthly Benefit	\$ 174	\$ 290	\$ 564	\$ 892	\$ 1,396	\$ 2,210	\$ 3,303	\$ 2,323
Average Final Average Salary	22,114	23,884	30,218	36,635	44,772	52,713	66,318	54,221
Number of Active Retirants	132	3,570	9,599	18,012	21,561	25,405	74,547	152,826

* Average monthly benefits shown are pension benefits
Source: Gabriel, Roeder, Smith & Co.

STATISTICAL SECTION

SCHEDULES OF AVERAGE BENEFIT PAYMENTS

SCHEDULE OF AVERAGE BENEFIT PAYMENTS – DENTAL/VISION*

Payment Periods	Last Ten Years							Total
	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+	
Period 10/1/12 to 9/30/13:								
Average Monthly Benefit	\$ 1,350	\$ 253	\$ 441	\$ 724	\$ 1,159	\$ 1,918	\$ 2,904	\$ 1,917
Average Final Average Salary	40,355	21,515	24,190	30,282	37,083	46,244	60,205	46,448
Number of Active Retirants	597	5,363	13,021	20,696	22,399	26,065	71,011	159,152
Period 10/1/13 to 9/30/14:								
Average Monthly Benefit	\$ 136	\$ 238	\$ 449	\$ 737	\$ 1,181	\$ 1,948	\$ 2,948	\$ 1,955
Average Final Average Salary	20,147	21,195	24,997	31,104	38,155	47,009	60,778	47,262
Number of Active Retirants	220	5,161	12,983	20,960	22,660	26,333	72,599	160,916
Period 10/1/14 to 9/30/15:								
Average Monthly Benefit	\$ 141	\$ 244	\$ 461	\$ 755	\$ 1,208	\$ 1,981	\$ 2,995	\$ 1,994
Average Final Average Salary	20,322	21,538	25,579	31,868	39,101	47,659	61,425	48,020
Number of Active Retirants	208	5,090	12,883	21,114	23,037	26,641	73,532	162,505
Period 10/1/15 to 9/30/16:								
Average Monthly Benefit	\$ 144	\$ 250	\$ 473	\$ 773	\$ 1,233	\$ 2,009	\$ 3,038	\$ 2,030
Average Final Average Salary	20,388	21,837	26,085	32,530	39,877	48,255	62,021	48,717
Number of Active Retirants	206	5,025	12,743	21,322	23,304	26,977	74,629	164,206
Period 10/1/16 to 9/30/17:								
Average Monthly Benefit	\$ 149	\$ 256	\$ 486	\$ 790	\$ 1,256	\$ 2,037	\$ 3,081	\$ 2,065
Average Final Average Salary	20,719	22,078	26,677	33,178	40,686	48,880	62,629	49,409
Number of Active Retirants	201	4,958	12,655	21,460	23,578	27,235	75,445	165,532
Period 10/1/17 to 9/30/18:								
Average Monthly Benefit	\$ 154	\$ 262	\$ 499	\$ 805	\$ 1,276	\$ 2,067	\$ 3,121	\$ 2,101
Average Final Average Salary	21,083	22,461	27,269	33,734	41,325	49,520	63,233	50,095
Number of Active Retirants	199	4,880	12,520	21,459	23,884	27,482	76,327	166,751
Period 10/1/18 to 9/30/19:								
Average Monthly Benefit	\$ 157	\$ 269	\$ 510	\$ 822	\$ 1,297	\$ 2,097	\$ 3,161	\$ 2,137
Average Final Average Salary	21,251	22,782	27,766	34,278	41,940	50,189	63,814	50,763
Number of Active Retirants	194	4,749	12,414	21,389	24,108	27,656	77,022	167,532
Period 10/1/19 to 9/30/20:								
Average Monthly Benefit	\$ 161	\$ 274	\$ 521	\$ 839	\$ 1,319	\$ 2,125	\$ 3,197	\$ 2,173
Average Final Average Salary	21,383	23,018	28,272	34,778	42,547	50,775	64,446	51,462
Number of Active Retirants	186	4,631	12,283	21,298	24,213	27,766	77,983	168,360
Period 10/1/20 to 9/30/21:								
Average Monthly Benefit	\$ 165	\$ 279	\$ 534	\$ 857	\$ 1,340	\$ 2,152	\$ 3,236	\$ 2,210
Average Final Average Salary	21,628	23,283	28,922	35,378	43,187	51,430	65,191	52,245
Number of Active Retirants	176	4,487	12,149	21,219	24,390	27,923	78,812	169,156
Period 10/1/21 to 9/30/22:								
Average Monthly Benefit	\$ 175	\$ 288	\$ 547	\$ 875	\$ 1,363	\$ 2,181	\$ 3,273	\$ 2,249
Average Final Average Salary	22,208	23,764	29,496	35,979	43,794	52,041	65,897	53,024
Number of Active Retirants	164	4,324	11,961	21,001	24,383	27,921	79,502	169,256

*Average monthly benefits shown are pension benefits

Source: Gabriel, Roeder, Smith & Co.

STATISTICAL SECTION

SCHEDULE OF PRINCIPAL PARTICIPATING EMPLOYERS

For Fiscal Years Ending September 30, 2022 and 2013

Participating Employer	2022		2013	
	Employees	Percentage of Total System	Employees *	Percentage of Total System
Detroit Public Schools Community District	8,042	3.56 %	9,124	3.68 %
Dearborn Public Schools	3,088	1.37	2,717	1.10
Ann Arbor Public Schools	2,859	1.27	2,738	1.10
Utica Community Schools	2,814	1.25	3,322	1.34
Plymouth-Canton Community S D	2,117	0.94	2,369	0.96
Grand Rapids Public Schools	2,099	0.93	3,144	1.27
Kalamazoo Public Schools	2,051	0.91	2,324	0.94
Livonia Public Schools	1,935	0.86	2,082	0.84
Warren Consolidated Schools	1,883	0.83	2,089	0.84
Chippewa Valley Schools	1,866	0.83	1,920	0.77
All other	197,229	87.28	216,131	87.16
Total	225,983	100.00 %	247,960	100.00 %

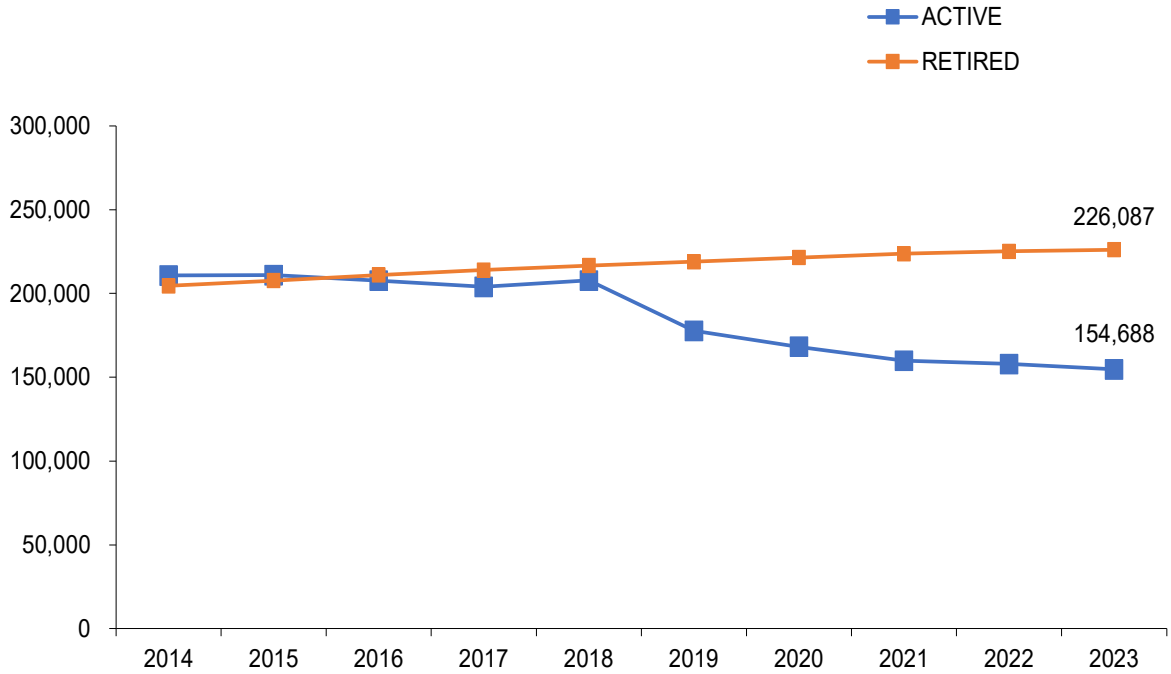
* Employee counts for 2013 adjusted to current available data.

NOTE: Employers and their eligible employees participate in both the pension and OPEB plans.

STATISTICAL SECTION

TEN YEAR HISTORY OF MEMBERSHIP

Fiscal Year Ended September 30



Source: Gabriel, Roeder, Smith & Co.

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

At 9/30/2023

Universities:

Central Michigan University
Eastern Michigan University
Ferris State University
Lake Superior State University
Michigan Technological University
Northern Michigan University
Western Michigan University

Community Colleges:

Alpena Community College
Bay De Noc Community College
Charles S Mott Community College
Delta College
Glen Oaks Community College
Gogebic Community College
Grand Rapids Community College
Henry Ford College
Jackson College
Kalamazoo Valley Community College
Kellogg Community College
Kirtland Community College
Lake Michigan College
Lansing Community College
Macomb Community College
Mid-Michigan Community College
Monroe County Community College
Montcalm Community College
Muskegon Community College
North Central Michigan College
Northwestern Michigan College
Oakland Community College
Schoolcraft Community College
Southwestern Michigan College
St Clair County Community College
Washtenaw Community College
Wayne County Community College
West Shore Community College

Intermediate School Districts:

Allegan Area Educational Service Agency
Alpena-Montmorency-Alcona ESD
Barry Intermediate School District
Bay-Arenac Intermediate School District
Berrien RESA
Branch Intermediate School District
Calhoun Intermediate School District
Charlevoix-Emmet Intermediate School District
Cheboygan-Otsego-Presque Isle ESD
Clare-Gladwin Intermediate School District
Clinton County RESA
COOR Intermediate School District
Copper Country Intermediate School District
Delta-Schoolcraft Intermediate School District

Dickinson-Iron Intermediate School District
Eastern U P Intermediate School District
Eaton Intermediate School District
Genesee Intermediate School District
Gogebic-Ontonagon Intermediate School District
Gratiot-Isabella RESD
Heritage Southwest Intermediate School District
Hillsdale Intermediate School District
Huron Intermediate School District
Ingham Intermediate School District
Ionia Intermediate School District
Iosco RESA
Jackson Intermediate School District
Kalamazoo RESA
Kent Intermediate School District
Lapeer Intermediate School District
Lenawee Intermediate School District
Livingston ESA
Macomb Intermediate School District
Manistee Intermediate School District
Marquette-Alger Intermediate School District
Mecosta-Osceola Intermediate School District
Menominee Intermediate School District
Midland County Educational Service Agency
Monroe Intermediate School District
Montcalm Area Intermediate School District
Muskegon Area Intermediate School District
Newaygo County RESA
Northwest Education Services
Oakland Intermediate School District
Ottawa Area Intermediate School District
Saginaw Intermediate School District
Sanilac Intermediate School District
Shiawassee Regional Educational Service District
St Clair County RESA
St Joseph Intermediate School District
Tuscola Intermediate School District
Van Buren Intermediate School District
Washtenaw Intermediate School District
Wayne RESA
West Shore Educational Service District
Wexford-Missaukee Intermediate School District

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

K-12 School Districts:

Adams Township School District	Big Jackson School District
Adams-Sigel #3 School	Big Rapids Public Schools
Addison Community Schools	Birch Run Area Schools
Adrian Public Schools	Birmingham Public Schools
Airport Community Schools	Blissfield Community School District
Akron-Fairgrove Schools	Bloomfield Hills School District
Alanson Public Schools	Bloomington Public Schools
Alba Public Schools	Bois Blanc Pines School District
Alcona Community Schools	Boyne City Public Schools
Algonac Community Schools	Boyne Falls Public Schools
Allegan Public Schools	Brandon School District
Allen Park Public Schools	Brandywine Public Schools
Allendale Public Schools	Breckenridge Community Schools
Alma Public Schools	Breitung Township Schools
Almont Community Schools	Bridgeport-Spaulding Community School District
Alpena Public Schools	Bridgman Public Schools
Anchor Bay School District	Brighton Area Schools
Ann Arbor Public Schools	Brimley Public Schools
Armada Area Schools	Britton-Deerfield Schools
Arvon Township Schools	Bronson Community Schools
Ashley Community Schools	Brown City Community Schools
Athens Area Schools	Buchanan Community Schools
Atherton Community Schools	Buckley Community Schools
Atlanta Community Schools	Bullock Creek School District
Au Gres-Sims School District	Burr Oak Community Schools
Autrain-Onota Public Schools	Burt Township School District
Avondale School District	Byron Area Schools
Bad Axe Public Schools	Byron Center Public Schools
Baldwin Community Schools	Cadillac Area Public Schools
Bangor Public Schools	Caledonia Community Schools
Bangor Township Schools	Calumet Public Schools
Baraga Township Schools	Camden-Frontier School
Bark River-Harris Schools	Capac Community Schools
Bath Community Schools	Carman-Ainsworth Community School District
Battle Creek Public Schools	Carney-Nadeau Public Schools
Bay City Public Schools	Caro Community Schools
Beal City Schools	Carrollton School District
Bear Lake School District	Carson City-Crystal Area Schools
Beaver Island Community Schools	Carsonville-Port Sanilac School
Beaverton Rural School District	Caseville Public Schools
Bedford Public Schools	Cass City Public Schools
Beecher Community School District	Cassopolis Public Schools
Belding Area Schools	Cedar Springs Public Schools
Bellaire Public Schools	Center Line Public Schools
Bellevue Community Schools	Central Lake-Antrim County Public Schools
Bendle Public Schools	Central Montcalm Public Schools
Bentley Community Schools	Centreville Public Schools
Benton Harbor Area Schools	Charlevoix Public Schools
Benzie County Central Schools	Charlotte Public Schools
Berkley School District	Chassell Township Schools
Berrien Springs Public Schools	Cheboygan Area School District
Bessemer Area School District	Chelsea School District
Big Bay De Noc School District	Chesaning-Union Schools
Big Burning-Colfax School District #1F	

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

K-12 School Districts (continued):

Chippewa Hills School District	Edwardsburg Public Schools
Chippewa Valley Schools	Elk Rapids Schools
Church School	Ellsworth Community Schools
Clare Public Schools	Elm River Township Schools
Clarenceville School District	Engadine Consolidated School District #4
Clarkston Community Schools	Escanaba Area Public Schools
Clawson City School District	Essexville-Hampton Public Schools
Climax-Scotts Community Schools	Evart Public Schools
Clinton Community Schools	Ewen-Trout Creek Consolidated School District
Clintondale Community Schools	Fairview Area Schools
Clio Area School District	Farmington Public Schools
Coldwater Community Schools	Farwell Area Schools
Coleman Community Schools	Fennville Public Schools
Coloma Community Schools	Fenton Area Public Schools
Colon Community School	Ferndale City School District
Columbia School District	Fitzgerald Public Schools
Comstock Park Public Schools	Flat Rock Community Schools
Comstock Public Schools	Flint Community Schools
Concord Community Schools	Flushing Community Schools
Constantine Public Schools	Forest Area Schools
Coon-Berlin Township School District #3	Forest Hills Public Schools
Coopersville Public Schools	Forest Park School District
Corunna Public Schools	Fowler Public Schools
Covert Public Schools	Fowlerville Community Schools
Crawford-AuSable School District	Frankenmuth School District
Crawford-Excelsior School District #1	Frankfort-Elberta Area Schools
Crestwood School District	Fraser Public Schools
Croswell-Lexington Schools	Freeland Community Schools
Dansville Schools	Fremont Public Schools
Davison Community Schools	Fruitport Community Schools
Dearborn Heights School District #7	Fulton Schools
Dearborn Public Schools	Galesburg-Augusta Community School District
Decatur Public Schools	Garden City Public Schools
Deckerville Community School District	Gaylord Community Schools
Delton-Kellogg Schools	Genesee School District
DeTour Area Schools	Gibraltar School District
Detroit Public Schools Community District	Gladstone Area Schools
Dewitt Public Schools	Gladwin Community Schools
Dexter Community Schools	Glen Lake Community Schools
Dollar Bay-Tamarack School District	Glenn-Ganges School District #4
Dowagiac-Union School District	Gobles Public Schools
Dryden Community Schools	Godfrey-Lee Public Schools
Dundee Community Schools	Godwin Heights Public Schools
Durand Area Schools	Goodrich Area Schools
East China School District	Grand Blanc Community Schools
East Grand Rapids Public Schools	Grand Haven Public Schools
East Jackson Public Schools	Grand Ledge Public Schools
East Jordan Public Schools	Grand Rapids Public Schools
East Lansing Public Schools	Grandville Public Schools
Eastpointe Community Schools	Grant Public Schools
Eaton Rapids Public Schools	Grant Township School
Eau Claire Public Schools	Grass Lake Community Schools
Eccles-Sigel #4 School	Greenville Public Schools
Ecorse Public Schools	Grosse Ile Township Schools
	Grosse Pointe Public Schools

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

K-12 School Districts (continued):

Gull Lake Community Schools	Kenowa Hills Public Schools
Gwinn Area Community Schools	Kent City Community Schools
Hale Area Schools	Kentwood Public Schools
Hamilton Community Schools	Kingsley Area Schools
Hamtramck Public Schools	Kingston Community Schools
Hancock Public Schools	Laingsburg Community Schools
Hanover Horton School District	Lake City Area Schools
Harbor Beach Community School District	Lake Fenton Community School District
Harbor Springs Public Schools	Lake Linden-Hubbell Public Schools
Harper Creek Community Schools	Lake Orion Community School #3
Harper Woods Public Schools	Lake Shore Public Schools
Harrison Community Schools	Laker Schools
Hart Public Schools	Lakeshore Public Schools
Hartford Public Schools	Lakeview Community Schools
Hartland Consolidated Schools	Lakeview Public Schools
Haslett Public Schools	Lakeview School District
Hastings Area School District	Lakeville Community Schools
Haynor Easton Township School District #6	Lakewood School District
Hazel Park Public Schools	Lamphere Public Schools
Hemlock Public Schools	L'Anse Creuse Public Schools
Hesperia Community Schools	L'Anse Public Schools
Hillman Community Schools	Lansing Public Schools
Hillsdale Community Schools	Lapeer Public Schools
Holland Public Schools	Lawrence Public Schools
Holly Area Schools	Lawton Community Schools
Holt Public Schools	Leland Public Schools
Holton Public Schools	Les Cheneaux Community Schools
Homer Community Schools	Leslie Public Schools
Hopkins Public Schools	Lincoln Consolidated Schools
Houghton Lake Community Schools	Lincoln Park Public Schools
Houghton-Portage Township School District	Linden Community Schools
Howell Public Schools	Litchfield Community Schools
Hudson Area Schools	Livonia Public Schools
Hudsonville Public Schools	Lowell Area Schools
Huron School District	Ludington Area Schools
Huron Valley School District	Mackinaw City Public Schools
Ida Public Schools	Mackinac Island Public Schools
Imlay City Community Schools	Madison District Public Schools
Inland Lakes Schools	Madison School District #2
Ionia Public Schools	Mancelona Public Schools
Iron Mountain Public Schools	Manchester Community Schools
Ironwood-Gogebic City Area Schools	Manistee Public Schools
Ishpeming Public Schools	Manistique Area Schools
Ithaca Public Schools	Manton Consolidated School District
Jackson Public Schools	Maple Valley Schools
Jefferson Schools	Mar Lee School District
Jenison Public Schools	Marcellus Community Schools
Johannesburg-Lewiston Area Schools	Marion Public Schools
Jonesville Community Schools	Marlette Community Schools
Kalamazoo Public Schools	Marquette Area Public Schools
Kaleva Norman Dickson School District	Marshall Public Schools
Kalkaska Public Schools	Martin Public Schools
Kearsley Community Schools	Marysville Public Schools
Kelloggsville Public Schools	Mason Co.-Eastern-Custer #5 School District

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

K-12 School Districts (continued):

Mason Consolidated Schools	Nottawa Community Schools
Mason County Central School District	Novi Community School District
Mason Public Schools	Oak Park School District
Mattawan Consolidated Schools	Oakridge Public Schools
Mayville Community Schools	Okemos Public Schools
McBain Rural Agricultural School	Olivet Community Schools
Melvindale-Northern Allen Park School District	Onaway Area Community Schools
Memphis Community Schools	Onkama Consolidated Schools
Mendon Community School	Onsted Community Schools
Menominee Area Public Schools	Ontonagon Area School District
Meridian Public Schools	Orchard View Schools
Merrill Community Schools	Oscoda Area Schools
Mesick Consolidated Schools	Otsego Public Schools
Michigan Center School District	Ovid-Elsie Area Schools
Mid Peninsula Schools	Owendale-Gagetown Area Schools
Midland City Schools	Owosso Public Schools
Milan Area Schools	Oxford Area Community Schools
Millington Community School District	Parchment School District
Mio-AuSable Schools	Paw Paw Public Schools
Mona Shores School District #29	Peck Community Schools
Monroe Public Schools	Pellston Public Schools
Montabella Community Schools	Pennfield Public Schools
Montague Area Public Schools	Pentwater Public Schools
Montrose Community Schools	Perry Public Schools
Moran Township School District	Petoskey Public Schools
Morenci Area Schools	Pewamo-Westphalia Community School District
Morley-Stanwood Community Schools	Pickford Public Schools
Morrice Area Schools	Pinckney Community Schools
Mt Clemens Community Schools	Pinconning Area Schools
Mt Morris Consolidated Schools	Pine River Area Schools
Mt Pleasant Public Schools	Pittsford Area Schools
Munising Public Schools	Plainwell Community Schools
Muskegon City Public Schools	Plymouth-Canton Community School District
Muskegon Heights City Public Schools	Pontiac City School District
Napoleon Community School District	Port Huron Area Schools
Negaunee Public Schools	Portage Public Schools
New Buffalo Area Schools	Portland Public Schools
New Haven Community Schools	Posen Consolidated Schools
New Lothrop Area Public Schools	Pottersville Public Schools
Newaygo Public Schools	Powell Township School District
Nice Community Schools	Quincy Community Schools
Niles Public Schools	Rapid River Public Schools
North Adams-Jerome Public Schools	Ravenna Public Schools #24
North Branch Area Schools	Reading Community Schools
North Central Area Schools	Redford-Union School District #1
North Dickinson School	Reed City Public School District
North Huron Schools	Reese Public Schools
North LeValley School #2	Reeths-Puffer Schools
North Muskegon Public Schools	Republic-Michigamme Schools
Northport Public Schools	Richmond Community Schools
Northview Public Schools	River Rouge Public Schools
Northville Public Schools	River School
Northwest School District	River Valley School District
Norway-Vulcan Area Schools	Riverside-Hagar School District #6

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

K-12 School Districts (continued):

Riverview Public Schools	Trenton Public Schools
Rochester Community Schools	Tri-County Area Schools
Rockford Public Schools	Troy City School District
Rogers City Area Schools	Uby Community Schools
Romeo Community Schools	Union City Community Schools
Romulus Community Schools	Unionville-Sebewaing Area Schools
Roscommon Area Public Schools	Utica Community Schools
Roseville Community Schools	Van Buren Public Schools
Royal Oak City School District	Vanderbilt Area Schools
Rudyard Public Schools	Vandercook Lake Public Schools
Saginaw City Schools	Van Dyke Public Schools
Saginaw Township Community Schools	Vassar Public Schools
Saline Area Schools	Verona Mills School
Sand Creek Community Schools	Vestaburg Community Schools
Sandusky Community Schools	Vicksburg Community Schools
Saranac Community Schools	Wakefield-Marenisco School District
Saugatuck Public Schools	Waldron Area Schools
Sault Ste Marie Public Schools	Walkerville Public Schools
Schoolcraft Community Schools	Walled Lake Consolidated Schools
Shelby Public Schools	Warren Consolidated Schools
Shepherd Public Schools	Warren Woods Public Schools
South Haven Public Schools	Waterford School District
South Lake Public Schools	Watersmeet Township School District
South Lyon Community Schools	Watervliet Public Schools
South Redford School District	Waverly Community Schools
Southfield Public Schools	Wayland Union Schools
Southgate Community School District	Wayne-Westland Community Schools
Sparta Area Schools	Webberville Community Schools
Spring Lake Public Schools	Wells Township School #18
Springport Public Schools	West Bloomfield Schools
St Charles Community Schools	West Branch-Rose City Area Schools
St Ignace Public Schools	West Iron County Public Schools
St Johns Public Schools	West Ottawa Public Schools
St Joseph Public Schools	Western School District
St Louis Public Schools	Westwood Community Schools
Standish-Sterling Community School District	Westwood Heights Schools
Stanton Township Public Schools	White Cloud Public Schools
Stephenson Area Public Schools	White Pigeon Community Schools
Stockbridge Community Schools	Whitefish Township School
Strange-Oneida School #3	Whiteford Agricultural School
Sturgis Public Schools	Whitehall District Schools
Summerfield Schools	Whitmore Lake Public Schools
Superior Central School District	Whittemore-Prescott Area Schools
Suttons Bay Public Schools	Williamston Community Schools
Swan Valley School District	Wolverine Community Schools
Swartz Creek Community Schools	Wood School District #8, Bangor Township
Tahquamenon Area School District	Woodhaven-Brownstown School District
Tawas Area Schools	Wyandotte Public Schools
Taylor School District	Wyoming Public Schools
Tecumseh Public Schools	Yale Public School District
Tekonsha Community Schools	Ypsilanti Community
Thornapple-Kellogg School	Zeeland Public Schools
Three Rivers Community Schools	
Traverse City Public Schools	

STATISTICAL SECTION

SCHEDULE OF PARTICIPATING EMPLOYERS

Libraries:

Ann Arbor District Library
Bacon Memorial District Library
Flint Public Library
Grosse Pointe Public Library
Hackley Public Library
Kalamazoo Public Library
Mt Clemens Public Library
Public Libraries of Saginaw
Willard District Library

Rising Stars Academy
Summit Academy North
Three Lakes Academy
Virtual Learning Academy of St Clair
Walden Green Day School
Washington Parks Academy
Washtenaw Technical Middle College
Waterford Montessori Academy
West Michigan Aviation Academy
West Village Academy
Will Carleton Academy
Woodland Park Academy
WSC Academy

Public School Academies:

AGBU Alex & Marie Manoogian School
Academic and Career Education Academy
Academy for Business & Technology
Arts Academy in the Woods
Battle Creek Area Learning Center
Bay-Arenac Community High School
Blue Water Middle College Academy
Charlevoix Montessori Academy for the Arts
Cornerstone Jefferson-Douglass Academy
Countryside Charter School
Covenant House Academy Detroit
Creative Technologies Academy
Da Vinci Institute
Dearborn Academy
Detroit Edison Public School Academy
Detroit Leadership Academy
Detroit Public Safety Academy
Discovery Creative Pathways
Flat River Academy
Flint Cultural Center Academy
Francis Reh Public School Academy
George Washington Carver Academy
Grand Rapids Child Discovery Center
Henry Ford Academy
Holly Academy
Honey Creek Community School
Hope of Detroit Academy
Joseph K. Lumsden Public School Academy
Macomb Academy
Madison Academy
Madison-Carver Academy
Martin Luther King, Jr. Public School Academy
Michigan Great Lakes Virtual Academy
Michigan International Prep School
Michigan Online School
Muskegon Heights Public School Academy
Nah Tah Wahsh Public School Academy
North Star Academy
Northridge Academy
Outlook Academy
Presque Isle Academy II
Pontiac Academy Of Excellence
Richfield Public School Academy

ACKNOWLEDGMENTS

ACKNOWLEDGMENTS

The *Michigan Public School Employees' Retirement System Annual Comprehensive Financial Report* is prepared by Financial Services, Fiscal Management Division. Staff of the division for the fiscal year 2023 report included:

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This report may be viewed online at: www.michigan.gov/ors