



ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR THE FISCAL YEAR ENDING
12.31.2023

1134 Municipal Way | Lansing, Michigan 48917 | 800.767.6377 | www.mersofmich.com

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ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR THE FISCAL YEAR ENDING
DECEMBER 31, 2023

PREPARED BY
The Finance Department of the
Municipal Employees' Retirement System of Michigan
1134 Municipal Way
Lansing, MI 48917

Contact MERS of Michigan
800.767.6377
www.mersofmich.com

Kerrie Vanden Bosch
Chief Executive Officer

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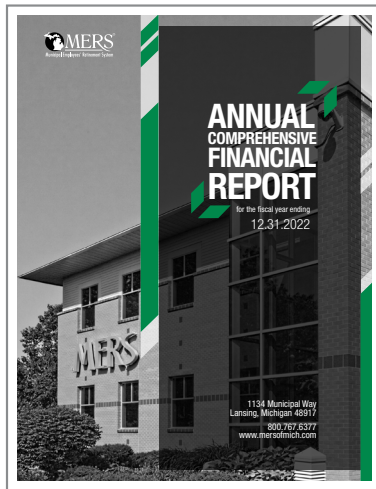
INTRODUCTION

2023

annual comprehensive financial report

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2023 ACHIEVEMENTS



Certificate of Achievement for Excellence in Financial Reporting

The Municipal Employees' Retirement System of Michigan (MERS) received the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association for the December 31, 2022 Annual Comprehensive Financial Report. This marks the 35th consecutive year MERS has received this honor.



Public Pension Standards Award

MERS also received the Public Pension Standards Award for 2023 in recognition of meeting the professional standards for plan design and administration as set forth in the Public Pension Standards. This award is presented by the Public Pension Coordinating Council (PPCC), a confederation of the National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee retirement Systems (NCPERS), and the National Council on Teacher Retirement (NCTR).



INTRODUCTION

2023 annual comprehensive financial report

Municipal Employees' Retirement System



LETTER OF TRANSMITTAL, MAY 16, 2024

Dear MERS Customers and Board Members:

We are pleased to submit the Annual Comprehensive Financial Report for the Municipal Employees' Retirement System of Michigan (MERS) for the fiscal year ending December 31, 2023. In 2023, MERS completed its second year of a long-range strategic plan that reaches out to 2030, tracking accomplishments, identifying priorities, and continuing to focus on established objectives.

Our vision is:

Through exceptional service and comprehensive solutions, MERS will deliver a seamless experience that engages and enables customers to achieve their financial goals.

In order to help us accomplish this vision, the MERS 2030 Strategic Plan focuses on the following objectives:

- Transform the customer experience through SEAMLESS SERVICE DELIVERY.
- Evolve our suite of products and services to help customers ESTABLISH and ACHIEVE FINANCIAL GOALS.
- POSITION OUR WORKFORCE to achieve business results.
- MAKE IT EASY to work with MERS.
- INCREASE OUR MARKET SHARE and diversify our customer base.

Some highlights of accomplishments made in 2023 include:

- Surpassing all customer satisfaction goals, including feedback showing consistently high scores in providing excellent service and meeting customer needs.
- Creating the MERS Impact Awards to recognize municipalities who have shown outstanding commitment to helping employees achieve financial security.
- Expanding availability and efficiency of online transactions to improve the ease and accuracy of customers' access to services they need.

MERS Profile

MERS is a statutory public corporation that serves local units of government across the state of Michigan. We are one of the largest, most established, and most successful shared services stories in Michigan, providing administration, investment expertise, fiduciary responsibility, and oversight for benefit plans. Our approach to efficiently managing retirement and other post-employment plans allows local governments to focus on their core services, leaving day-to-day plan administration and long-range management to us. Services we provide include: administration of benefits, investments, plan governance, internal auditing, legal counsel, actuarial services, financial management, fiduciary responsibility, information technology support, and legislative advocacy. The MERS Retirement Board (Board) serves as the fiduciary of the funds and has oversight responsibilities.

Report Structure and Contents

MCMCL 38.1536 requires the Board to prepare this annual report in accordance with U.S. Generally Accepted Accounting Principles. The financial information shown throughout this report meets that requirement. The MERS management team, under the oversight of the Board, is responsible for the preparation, integrity, and fairness of the financial statements and other information presented in this report.

Section 38.1536 also requires the Board to arrange for an annual audit of the MERS financial statements. Plante Moran, PLLC, MERS external auditor, conducted an independent audit of the financial statements in accordance with Generally Accepted Auditing Standards. This audit is described in the Independent Auditor's Report in the Financial Section following this letter. MERS management provides the external auditors with unrestricted access to records and staff. This external audit is conducted annually to ensure the sufficiency of the internal controls and that our financial statements are fairly stated.

As a part of our financial statement process, we have identified necessary internal controls and have them in place to ensure that transactions are authorized, assets are safeguarded, and all supporting records are properly retained and managed. The cost of a control should not exceed the benefits to be derived. The internal control objective is to provide reasonable assurance that the financial statements are free of any material misstatements. We have an internal auditor on staff to help ensure we meet high standards for internal control. As part of continually strengthening internal controls, MERS completed a Service Organizational Control Audit (SOC 1, Type II audit) that indicated controls were suitably designed and operating effectively.

This Annual Comprehensive Financial Report is divided into five sections:

- **Introduction** – Achievements and structure of MERS
- **Financial** – Financial statements, notes, required supplementary information, other supplementary information, and Management's Discussion and Analysis (MD&A), which is the MERS management team's narrative and overview of the financial statements
- **Investment** – Investment activities and performance information
- **Actuarial** – Actuarial assumptions and methods as well as the actuary's certification letter
- **Statistical** – Various schedules on member data and ten-year trends

Financial Summary

Like many investors, MERS has benefited from strong investment markets in most years since 2008. In the final quarter of the year, the U.S. equity markets surged, nearing all-time highs. In line with markets, customers across MERS programs saw solid investment returns. The Defined Benefit portfolio returned 11.92%, significantly outperforming our actuarial assumed rate of return of 7.0%. More information regarding our investment management performance, policies and processes is found with the Schedule of Fees and Commissions in the Investments Section.

MERS ended the year with a net position of \$16.1 billion for all plan types, up \$2.0 billion from 2022. The increase in asset size occurred primarily due to the investment gains for the year. The Defined Benefit Program saw an increase in contributions as a result of the Protecting MI Pension Grant Program, which totaled \$464 million. Total deductions from the plans remained fairly level from the prior year.

One measure of a defined benefit retirement system's financial health is the percentage of its actuarial liabilities owed that is covered by its available actuarial assets. Using this ratio, 87% of MERS' municipalities were funded at 60% or higher (648 municipalities).

More detail on these financial metrics is included in the Management Discussion & Analysis document. A complete copy of the Annual Comprehensive Financial Report is provided to the Governor, the members of both the State House and Senate, and the Office of the State Treasurer, as required by law. The Annual Comprehensive Financial Report is available on our website at www.mersofmich.com.

Acknowledgements

We are honored that for the 35th consecutive year, the Government Finance Officers Association awarded MERS its Certificate of Achievement for Excellence in Financial Reporting for our 2022 Annual Comprehensive Financial Report.

We are very grateful to our Board members for their time and dedication. Their diligence and conscientious oversight of our well-run system is greatly appreciated.

We also express our deep gratitude to the entire staff for their hard work and attention to detail in ensuring successful MERS operations. Our staff applies their energy, innovation, skill and a commitment to excellent service every day to deliver the security of a retirement plan for all of our participants.

Respectfully submitted,

Kerrie Vanden Bosch
Chief Executive Officer

INTRODUCTION

2023 annual comprehensive financial report

MERS RETIREMENT BOARD

Officer Members



Michael Brown
(Chairperson)
Barry County



Keith Van Beek
City of Holland



Kirk Harrier
Otsego County
Road Commission

Employee Members



Jason Sarata
Delta Township



Lisa Rauch
Gerald R. Ford
Airport Authority



Kyle Lewis
Northville
Township

Expert Members



Michael Gilmore
The 4100 Group,
Inc., Lansing



James Wiersma
Family Investment
& Resource
Management, LLC,
Holland



John Ogden
City of Port Huron
(Retired)

Retiree Member

MERS OFFICERS



Kerrie Vanden Bosch
MERS Chief Executive Officer



Erin Boertman
Chief Strategic and
External Affairs Officer

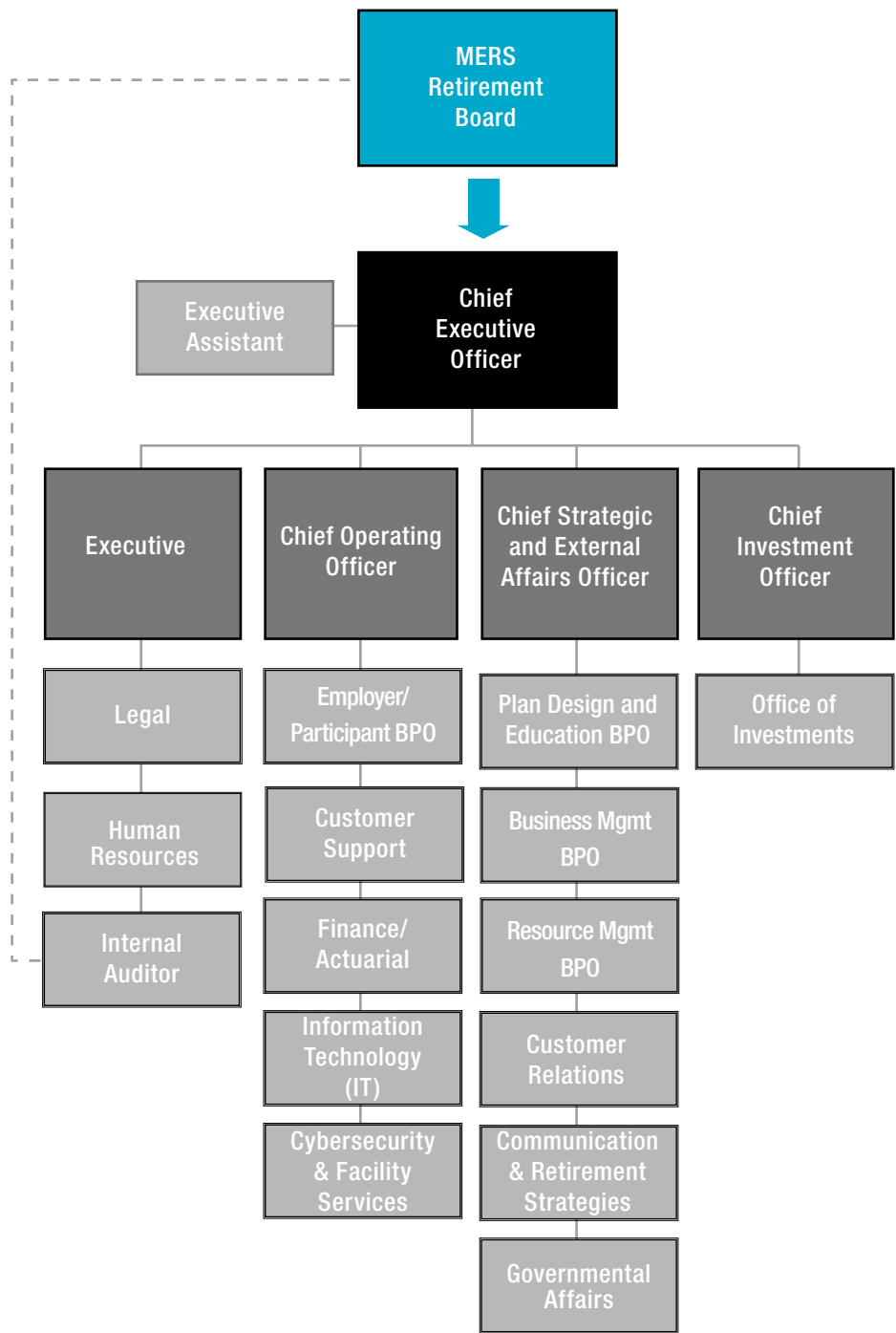


Jeb Burns
Chief Investment Officer



Brom Stibitz
Chief Operating Officer

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ORGANIZATIONAL STRUCTURE – 2023



The Schedule of Fees and Commissions is found in the Investment Section on page 71.

INTRODUCTION

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OUTSIDE PROFESSIONAL SERVICES

Actuarial

Gabriel, Roeder, Smith & Company

Auditing

Plante & Moran, PLLC

Banking

Commerce

JP Morgan Chase

Business Consulting

Accurint

Byrum & Fisk Advocacy

Callan, LLC

LexisNexis

Martin Commercial Properties, Inc.

Pension Benefit Information

Human Resource Consulting

Advisa Arbinger

American Society of Employers

Droste Group

Gallagher Benefit Services, Inc.

Korn Ferry (US)

McLagan Partners, Inc.

Verus Advisory, Inc.

Insurance

Marsh USA Inc.

Custodial Banking and Securities Lending

BNY Mellon

Investment Consulting/Research

Backstop Solutions BCA Research BDO USA, LLC

Bloomberg Finance LP Evestment Alliance

Gavekal Capital

Global Financial Data, Inc. Informa Investment

Solutions Morningstar

MSCI

Ned Davis Research

NEPC NYSE

Russel Napier

Stephen Morrow

The Townsend Group

Pricewaterhouse Coopers LLP Vergence

Institutional Partners LLC

WTax

Legal Consulting

Bar and Karrer AG

Bernstein, Litowitz, Berger and Grossmann, LLP

Clark Hill

Dickinson Wright PLLC

Ice Miller, LLP

Freshfields Bruckhaus Deringer US, LLP

Hengeler Mueller

Kessler Topaz Meltzer and Check, LLP

Labaton Sucharow, LLP

Marsh McLennan

Miller, Canfield, Paddock and Stone, PLC

Perez-Llorca

Rabaza, Alcazar and De Las Casas

Robbins Geller Rudman and Dowd, LLP

Seyfarth Shaw, LLP

Schulte Roth and Zabel, LLP

Legislative Consulting

Karoub Associates

Michigan Legislative Consultants

Medical Advising

Managed Medical Review Organization

Systems Implementation

Innova Solutions, Inc.

Cobalt Labs

Databank IMX LLC

Dewpoint Inc.

Five9, Inc.

Gartner Inc.

GovInvest Inc.

InfoLock

Maner Costerisan Consulting LLC

Presidio Networked Solutions

Rapid7 LLC

Riverside Integrated Systems Inc.

Tegrit Software Ventures, Inc.

TTEC Digital, LLC

Winklevoss Technologies LLC

Third-Party Administration

Alerus Retirement Solutions

Investment Management

10T Capital
 Acadian Asset Management Inc.
 ACP Peru
 Alliance Bernstein
 Alpine Lake Capital Partners, LLC (Barings LLC)
 AlpInvest Partners
 Altaris Capital Partners
 Angelo Gordon & Co.
 Aperia Technologies
 Appian Natural Resources
 Arlington Capital Partners
 Asterion Industrial Partners
 Belstar
 Bentall GreenOak
 Blackrock
 Blackstone Real Estate Partners
 Blackstone Alternative Asset Management, LP
 Blue Owl Capital
 Brookwood U.S. Real Estate
 Burford Capital
 Calysta, Inc
 Cargill
 Carnelian Energy
 Colony Capital, LLC
 Comvest Partners
 Consilium Investment Management
 Domain Capital Advisors
 Electrum Group, LLC
 Exeter Property Group, LLC
 Fortress Investment Group, LLC
 Frontier Market Asset Management, LLC
 Goldman Sachs
 Grantham, Mayo, Van Otterloo & Co., LLC
 Grosvenor Capital Management, LP
 H/2 Capital Partners
 Hancock Natural Resource Group, Inc
 Harbert Management Corporation
 Hunter Point Capital
 IL&FS Capital Advisors Limited
 Influence Media Partners
 Invictus Growth Partners
 Ionetix Corporation
 J.P. Morgan Asset Management
 Keen Growth Capital
 Kennedy Capital Management
 LaSalle Investment Management
 Lead Edge Capital Management, LLC
 Lumira Capital
 MC Credit Partners, LP
 Mellon Investments
 MemtyX
 Merrowie Property Trust
 MetaVC
 Metropolitan Real Estate
 Michigan eLab Capital Partners, LP
 MiddleGround Capital
 Miravast Asset Management, LLC
 Mubadala Capital
 Napier Park Global Capital
 Nu-Tek Food Science
 Oak Hill Advisors, LP
 Oberland Capital Management, LLC
 Orchard Global Asset Management
 Ospraie Management
 Parametric Portfolio Associates
 Petrichor Healthcare Capital Mgt, LP
 Pioneer Asset Management SA
 Polunin Capital Partners
 Punch & Associates
 Rialto Capital Management
 Sculptor Real Estate
 Sentinel Capital Partners
 Silver Hill Energy Partners III, LP
 Starwood Capital Group
 State Street Global Advisors
 Ten Coves Capital
 Terra Partners Asset Management
 Townsend Group
 Trace Energy Resources
 Trice Medical Inc.
 Valar
 Ventures
 Verdantf
 Veritas Capital
 Walden International

INTRODUCTION

2023 annual comprehensive financial report

ACKNOWLEDGEMENTS

The Office of Finance and Actuarial Services prepared the MERS Annual Comprehensive Financial Report for the year ended December 31, 2023. Special thanks to the individuals who contributed significant amounts of time and energy to help complete this report.

Office of Internal Operations

Betsy Waldofsky, Finance Director

Danielle Williams, Senior Accountant

Courtney Allen, Senior Accountant

Britney Rosier, Accountant

Office of Investments

Furat Zomay, Investment Analyst

Lauren Dabkowski, Investment Officer and Portfolio Manager (Private Markets)

Peter Wujkowski, Investment and Administrative Officer

Cameron Holmes, Investment Analyst

Office of Strategic and External Affairs

Betsy Schaeffer, Digital Print and Mail Services Supervisor

James Scofield, Creative Design Manager

Janie Olivarez, Office Administrator

Jennifer Mausolf, Communications & Retirement Strategies Director

Diana Borders, Design Coordinator

Executive Office

Brian LaVictoire, Deputy General Counsel for Investments and Compliance

Carri Simon, Internal Auditor

Special thanks are also extended to Plante & Moran PLLC, Alerus Retirement Solutions, Gabriel Roeder Smith & Company, Bank of New York Mellon and Tegrit Software Ventures, Inc.

FINANCIAL

INTRODUCTION

2023 annual comprehensive financial report

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INDEPENDENT AUDITOR'S REPORT



Plante & Moran, PLLC
27400 Northwestern Highway
P.O. Box 307
Southfield, MI 48037-0307
Tel: 248.352.2500
Fax: 248.352.0018
plantemoran.com

Independent Auditor's Report

To the Retirement Board
Municipal Employees' Retirement System of Michigan

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Municipal Employees' Retirement System of Michigan (MERS) as of and for the year ended December 31, 2023 and the related notes to the financial statements, which collectively comprise MERS' basic financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of Municipal Employees' Retirement System of Michigan as of December 31, 2023 and the changes in fiduciary net position for the 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 MERS 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 MERS' ability to continue as a going concern for 12 months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our 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.

To the Retirement Board
Municipal Employees' Retirement System of Michigan

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

Other Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise Municipal Employees' Retirement System of Michigan's basic financial statements. The schedule of administrative expenses, schedule of investment expenses, and schedule of payments to consultants are presented for the purpose 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 schedule of administrative expenses, schedule of investment expenses, and schedule of payments to consultants 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 Comprehensive Financial Report. The other information comprises the introductory, investments, actuarial, and statistical sections 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.

To the Retirement Board
Municipal Employees' Retirement System of Michigan

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 whether 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.

Report on Summarized Comparative Information

We have previously audited Municipal Employees' Retirement System of Michigan's December 31, 2022 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated May 18, 2023. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2022 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated May 17, 2024 on our consideration of Municipal Employees' Retirement System of Michigan's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, 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 Municipal Employees' Retirement System of Michigan'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 Municipal Employees' Retirement System of Michigan's internal control over financial reporting and compliance.

Plante & Moran, PLLC

May 17, 2024

MANAGEMENT'S DISCUSSION AND ANALYSIS

This narrative overview and analysis of Municipal Employees' Retirement System of Michigan's (MERS or System) financial condition for the year ended December 31, 2023, is presented in conjunction with the Chief Executive Officer's Letter of Transmittal. The Financial Section is comprised of the Independent Auditor's Report, Management's Discussion and Analysis, 2 basic financial statements with explanatory notes, 3 required supplementary schedules with explanatory notes, and 3 supplementary expense schedules.

Financial Highlights

The following financial highlights occurred during the year ended December 31, 2023:

- Total fiduciary net position for the Defined Benefit Plan, Defined Contribution Plan, Health Care Savings Program, Retiree Health Funding Vehicle, 457 Program, Investment Services Program, and Individual Retirement Account Program increased by 14.2%, primarily due to market gains for the year. MERS finished the year with over \$16.1 billion in net fiduciary position.
- The portfolio investment returns saw a money-weighted return of 11.62% net of investment expenses for the year. The 10-year return was 6.49% net of investment expenses, which is below the long-term target of MERS' expected investment rate of return of 7.00%. The portfolio investment income was \$1.7 billion in 2023.
- Revenue from contributions and transfers-in increased by 41.5% in 2023 due to \$464.4 million in nonemployer contributions as a result of the Protecting MI Pension Grant Program.
- Total annual benefits, transfers, and withdrawals increased by 5.2% for a total of nearly \$1.3 billion.
- Administrative expenses increased by 15.5% in 2023 going to \$33.7 million from \$29.2 million in 2022. This is due to increases in personnel expenses.
- Investment expenses increased slightly going from \$11.0 million in 2022 to \$11.1 million in 2023 due to personnel expense increases.
- The most recent MERS actuarial valuation, dated December 31, 2022, showed 648 of 746 Defined Benefit municipalities were funded 60% or better, with 94 municipalities over 100% funded.
- The difference between the MERS actuarial and fair value assets increased from last year, as the actuarial calculation for 2022 is 115.77% of the fair value of assets as calculated by the actuaries (the ratio was 99.85% as of December 31, 2021). Total Defined Benefit Plan actuarial assets and fair value of assets were valued at \$12.7 billion and \$11.0 billion respectfully on December 31, 2022.
- As part of the MERS 2023 Strategic Plan, MERS invested \$5.5 million in capital assets with a large portion of this dedicated to key projects to upgrade the pension administration. The MERS investment in all capital assets is \$26.4 million, net of accumulated depreciation.

This Management's Discussion and Analysis is an introduction to the MERS basic financial reporting statements:

1. Statement of Fiduciary Net Position
2. Statement of Changes in Fiduciary Net Position
3. Notes to Basic Financial Statements

The "Comparison Statement of Fiduciary Net Position" and "Comparison Statement of Changes in Fiduciary Net Position" provide a comparative summary of the financial condition of the plan as a whole with the prior year results.

The "Statement of Fiduciary Net Position" and "Statement of Changes in Fiduciary Net Position" provide the current financial condition of each MERS product.

Required Supplementary Information

1. Schedule of Annual Money Weighted Rates of Return
2. Schedule of Employer Contributions
3. Schedule of Changes in Employer Net Pension Liability/(Asset) and Related Ratios

Supplementary Expense Schedules

1. Schedule of Administrative Expenses
2. Schedule of Investment Expenses
3. Schedule of Payments to Consultants

The expense schedules summarize all expenses associated with administering all MERS' programs.

Comparison Statement of Fiduciary Net Position (Dollars in Thousands)

	December 31, 2023	December 31, 2022	\$ Increase (Decrease)	% Increase (Decrease)
Assets				
Cash and Short-Term Investments	\$44,073	\$62,051	\$(17,978)	-29%
Receivables	61,314	56,467	4,847	9%
Loans	9,518	9,086	432	5%
Investments, at fair value	15,985,532	13,946,009	2,039,523	15%
Invested Securities Lending Collateral	642,118	378,287	263,831	70%
Prepays/Other Assets	629	7,403	(6,774)	-91%
Net Capital Assets	26,431	25,580	851	3%
Total Assets	16,769,615	14,484,883	2,284,732	16%
Deferred Outflow of Resources				
Outflows Related to Pension	13,892	9,724	4,168	43%
Liabilities				
Purchase of Investments	2,581	3,776	(1,195)	-32%
Securities Lending Collateral	642,118	378,287	263,831	70%
Administrative/Investment Costs/Reserves	10,667	7,578	3,089	41%
Total Liabilities	655,366	389,641	265,725	68%
Deferred Inflow of Resources				
Inflows Related to Pension	-	4,130	(4,130)	-100%
Net Position - Restricted for:				
Pensions	13,693,353	12,043,976	1,649,377	14%
Postemployment Benefits Other than Pensions	2,380,022	2,004,110	375,912	19%
Pool Participants	54,766	52,750	2,016	4%
	\$16,128,141	\$14,100,836	\$2,027,305	14%

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Comparison Statement of Changes in Fiduciary Net Position (Dollars in Thousands)

	December 31, 2023	December 31, 2022	\$ Increase (Decrease)	% Increase (Decrease)
Additions				
Contributions/Transfers-In	\$1,596,643	\$1,128,579	\$468,064	41%
Investment Net Income (Loss) Investing Activities	1,704,629	(1,849,365)	3,553,994	192%
Investment Net Income-Securities Lending	2,689	3,014	(325)	-11%
Miscellaneous Income	9,783	8,421	1,362	16%
Total Additions	3,313,744	(709,351)	4,023,095	567%
Deductions				
Benefits/Transfers and Withdrawals	1,252,691	1,191,070	61,621	5%
Forfeitures, Miscellaneous	3	15	(12)	-80%
Administrative Expense	33,745	29,217	4,528	15%
Total Distributions	1,286,439	1,220,302	66,137	5%
Net Increase/Decrease	2,027,305	(1,929,653)	3,956,958	205%
Net Position - Beginning of Fiscal Period	14,100,836	16,030,489	(1,929,653)	-12%
Net Position - End of Fiscal Period	\$16,128,141	\$14,100,836	\$2,027,305	14%

Analysis of Fiduciary Net Position

The fiduciary net position increased by nearly \$2.0 billion over the previous fiscal year primarily due to investment gains. The MERS receivables consist chiefly of investment and employer contribution billings that settled in early 2024.

Additions to the plan primarily consisted of investment gains and contributions. Investment Total net gains amounted to \$1.7 billion compared to a loss in 2022 of \$1.8 billion. Combined employer and employee contributions increased by \$468 million compared to 2022. A new contribution type identified as nonemployer contributing entity contributions was added, bringing in \$464.4 million. This was due to the Protecting MI Pension Grant Program passed by Michigan lawmakers for the 2022-23 state budget earmarking funds for underfunded municipal pension plans.

Deductions from the plan for 2023 are primarily due to retirement benefit payments. Benefit payments paid out to participants and employers totaled \$1.3 billion, which is up 5% from December 31, 2022. Most of the increase is attributed to the Defined Benefit Plan due to increases in retirees and their payments.

MERS had capital assets, net of accumulated depreciation, of \$26.4 million. Of the total, \$19.1 million is the software needed to run the pension administration and financial programs, \$558 thousand is office furniture and equipment, and \$6.8 million is in buildings, leasehold improvements and land.

MERS has no long-term liabilities. The bulk of MERS' liabilities at year-end are related to investment purchases that did not settle until early 2024, accrued administrative and investment expenses and securities' lending collateral.

Investment Activities

The performance of the Defined Benefit Portfolio was up for the year and surpassed the investment benchmark. The money-weighted return (net of investment expenses) of 11.62% was above the 7.00% actuarial return assumption target for the year. By comparison, for 3-, 5-, and 10-year periods, the net returns were 4.51%, 8.07%, and 6.49%, respectively. Net investment income (net appreciation in fair value less investment expenses plus securities lending income) totaled \$1.7 billion. A further detailed analysis of investment returns is in the Investments Section.

Investments are managed to control downside risk while maximizing long-term gain potential. This strategy positions MERS to limit the impact of adverse market conditions. Portfolio diversification by asset class and style is an important element of investment risk control.

MERS is an investment fiduciary under the Public Employee Retirement System Investment Act, PA 314 of 1965, MCL 38.1132 et seq., as amended, and, as such, is subject to the "prudent person" standard of care with respect to the management and investment of the System's assets. This standard requires that MERS discharge its duties solely in the interest of the System's participants and beneficiaries with the diligence, care, and skill that a prudent person would ordinarily exercise under similar circumstances.

In accordance with its fiduciary duties, the Board has adopted an investment policy that outlines the investment goals, objectives and policies of the System's pension fund. The purpose of the policy is to ensure that the investment activities are carried out within the framework established by the MERS policy and administrative documents. The investment policy assists the Board, Investment Committee and Office of Investments in effectively and prudently monitoring and administering MERS investments. A summary of the total assets is found in the Investments section of the Annual Comprehensive Financial Report.

Funding Status

A pension plan is well funded when it has sufficient assets invested to meet all the expected future obligations to participants. The greater the level of funding, the larger the ratio of assets to actuarial accrued liability. While some municipalities are not fully funded, annual contributions are made at an actuarially determined rate to reach full funding over a fixed period of years. There is no single all-encompassing test for measuring a retirement System's funding progress and current funded status. However, some common indicators that a retirement system has achieved progress in funding its obligations include observing the changes over time of the ratio of valuation assets to actuarial accrued liabilities and the pattern of the unfunded actuarial accrued liability as a percentage of active payroll.

The Board has adopted a funding policy for MERS to achieve the following major objectives:

- Adequacy
- Inter-Period Equity (in particular intergenerational equity) and Transparency
- Contribution Stability and Governance

The actuarial method for calculating the accrued liability for all plans is entry-age normal with the objective of maintaining employer contributions approximately level as a percentage of member payroll. A detailed discussion of the funding method is in the Actuarial Section.

MERS is an agent multiple-employer retirement system that pools assets of the participating employers for investment purposes but maintains separate trusts for each individual employer. For this reason, MERS does not have a "funded status;" rather, each municipality has its own funded level. Each municipality is responsible for its own plan liabilities; a municipality cannot borrow from another municipality's account to pay for pension expenses. A measure of a municipality's funding progress is the ratio of its actuarial assets to actuarial accrued liabilities.

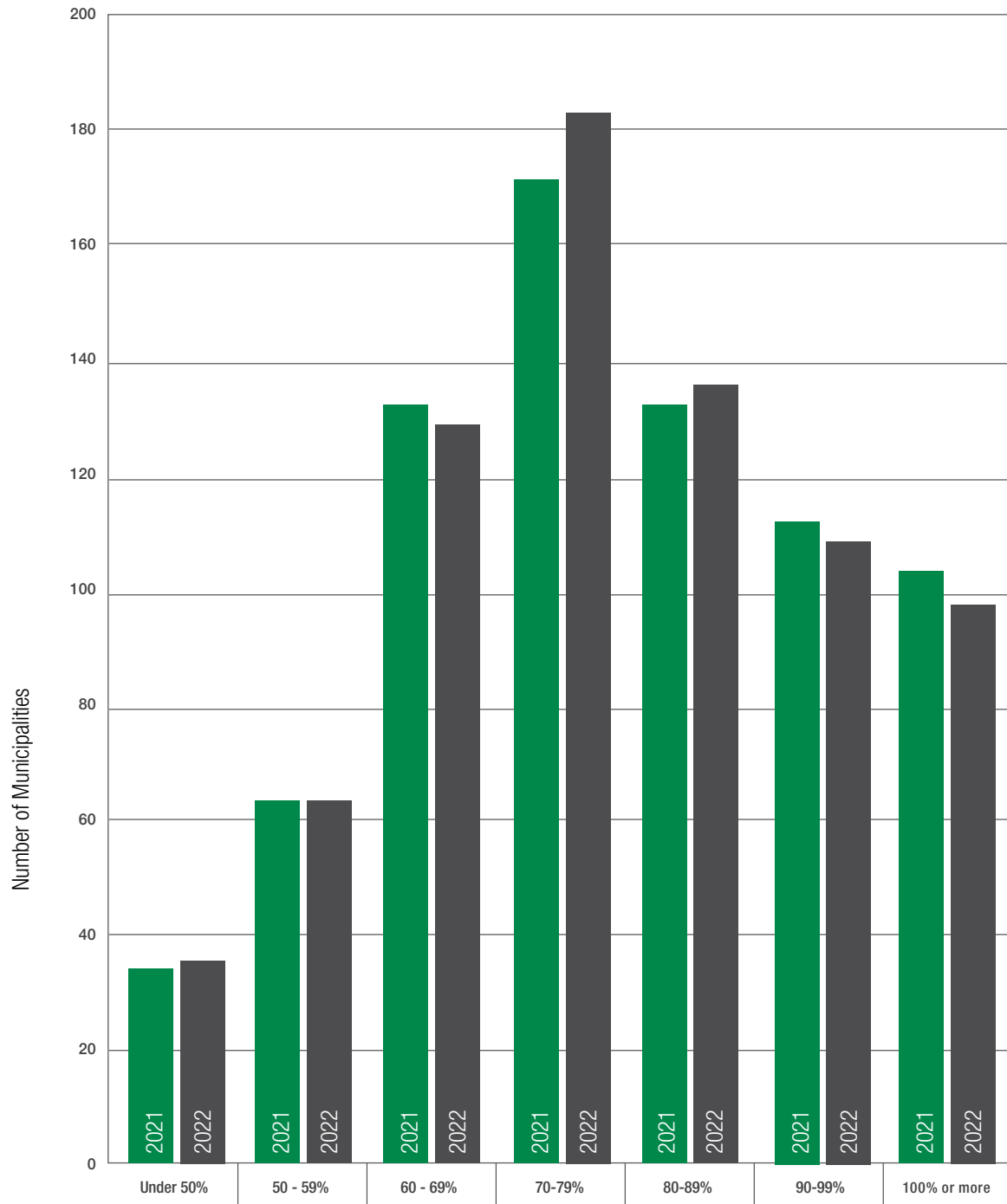
The most recent MERS actuarial valuation is as of December 31, 2022. On that date, of all 746 Defined Benefit and Hybrid municipalities, 648 municipalities in MERS were funded at 60% or higher (87% of all Defined Benefit and Hybrid municipalities) and 94 municipalities (12.6% of all Defined Benefit and Hybrid municipalities) are funded over 100%. The median funded percentage based on actuarial assets was 78% in both 2022 and 2021.

MERS partners with our local governments to achieve the following:

- Determine the best retirement fit for each municipality
- Offer cost-reducing strategies
- Provide fiscal best practices

For the December 31, 2022 valuation, the actuarial value of assets is equal to 115.77% of fair value (compared to 99.85%, 97.24%, 101.32%, and 109.53% in 2021, 2020, 2019, and 2018, respectively).

Distribution of Funded Percentage of Actuarial Accrued Liability among the 746 participating municipalities as of December 31, 2022, and the 744 participating municipalities as of December 31, 2021



BASIC FINANCIAL STATEMENTS

Statement of Fiduciary Net Position as of December 31, 2023 (Dollars in Thousands)

	Pension (and Other Employee Benefits) Trust Funds		
	Defined Benefit	Defined Contribution	Health Care Savings Program
Assets			
Cash and Short-Term Investments	\$41,440	\$404	\$60
Receivables			
Employer and Member Contributions	47,854	379	282
Sale of Investments	1,907	47	7
Investment Income	4,010	98	15
Loans		8,166	
Intercompany Receivables			
Other	748		
Total Receivables/Loans/Other	54,519	8,690	304
Investments			
Global Equities	6,209,996	152,157	22,611
Global Fixed Income	2,720,279	66,652	9,905
Private Investments	3,196,121	78,311	11,637
Short Term Interest Fund	129,277	3,167	13,644
Land	1,402		
Mutual Funds		994,566	409,509
Self Directed Accounts		8,273	
Investments, at Fair Value	12,257,075	1,303,126	467,306
Invested Securities Lending Collateral	553,671	13,566	2,016
Prepaid Expenses/Other Assets	629		
Capital Assets, at cost, net of accumulated depreciation	26,431		
Total Assets	12,933,765	1,325,786	469,686
Deferred Outflow of Resources			
Outflows related to pension	13,892		
Liabilities			
Purchase of Investments	2,226	55	8
Securities Lending Collateral	553,671	13,566	2,016
Intercompany Payables	2,456	20	43
Administrative and Investment Costs	8,095		
Total Liabilities	566,448	13,641	2,067
Deferred Inflow of Resources			
Inflows Related to Pension			
Net Position - Restricted for:			
Pensions	12,381,209	1,312,145	
Postemployment Benefits Other Than Pensions			467,619
Pool Participants			
Balance End of Fiscal Period	\$12,381,209	\$1,312,145	\$467,619

The accompanying notes are an integral part of these Financial Statements.

Pension (and Other Employee Benefits) Trust Funds			Investment Trust Funds		
457 Program	Individual Retirement Account	Retiree Health Funding Vehicle	Investment Services Program	As of December 31, 2023	As of December 31, 2022
\$85	\$3	\$2,007	\$74	\$44,073	\$62,051
149	7	2,462		51,133	49,735
10		232	9	2,211	726
21	1	488	18	4,651	3,984
1,352				9,518	9,086
346		2,140	85	2,571	1,453
				748	568
1,878	8	5,322	112	70,832	65,552
32,065	1,306	756,196	27,661	7,201,992	6,424,164
14,046	572	331,251	12,117	3,154,822	2,245,825
16,503	672	389,194	14,237	3,706,675	3,524,452
669	27	15,742	575	163,101	359,114
				1,402	1,402
330,026	12,234			1,746,335	1,382,230
2,932				11,205	8,822
396,241	14,811	1,492,383	54,590	15,985,532	13,946,010
2,859	116	67,421	2,469	642,118	378,287
				629	7,403
				26,431	25,580
401,063	14,938	1,567,133	57,245	16,769,615	14,484,883
				13,892	9,724
11	0	271	10	2,581	3,776
2,859	116	67,421	2,469	642,118	378,287
	53			2,571	1,453
				8,095	6,125
2,870	169	67,692	2,479	655,366	389,641
				-	4,130
				13,693,353	12,043,976
398,193	14,769	1,499,441		2,380,022	2,004,111
			54,766	54,766	52,750
\$398,193	\$14,769	\$1,499,441	\$54,766	\$16,128,141	\$14,100,836

Statement of Changes in Fiduciary Net Position for the Year Ended December 31, 2023 (Dollars in Thousands)

	Pension (and Other Employee Benefits) Trust Funds		
	Defined Benefit	Defined Contribution	Health Care Savings Program
Additions			
Contributions and Transfers-In			
Employer Contributions and Other	\$721,728	\$92,576	\$41,503
Nonemployer Contributing Entity Contributions	464,446		
Plan Member Contributions	87,118	54,144	16,284
Total Contributions and Transfers-In	1,273,292	146,720	57,787
Net Appreciation/Depreciation in Fair Value	1,059,233	171,456	58,503
Interest and Dividend Income	212,001	5,194	772
Subtotal of Investment Income/(Loss)	1,271,234	176,650	59,275
Less Investment Expense	10,034	218	52
Net Investment Income/(Loss) Before Securities Lending Activities	1,261,200	176,432	59,223
Securities Lending Activities			
Securities Lending Income	31,385	769	114
Securities Lending Expenses			
Borrower Rebates (Income)	29,007	711	106
Management Fees	60	1	
Total Securities Lending Expenses	29,067	712	106
Net Income from Securities Lending	2,318	57	8
Total Net Investment Income/(Loss)	1,263,518	176,489	59,231
Miscellaneous Income	92	3,690	1,282
Total Additions	2,536,902	326,899	118,300
Deductions			
Benefits/Transfers and Withdrawals	1,110,043	75,362	17,089
Forfeitures and Other Miscellaneous	3		
Administrative Expenses	25,339	3,677	1,344
Total Deductions	1,135,385	79,039	18,433
Net Increase/(Decrease)	1,401,517	247,861	99,868
Net Position - Beginning of Fiscal Period	10,979,692	1,064,284	367,751
Net Position - End of Fiscal Period	\$12,381,209	\$1,312,145	\$467,619

The accompanying notes are an integral part of these Financial Statements.

Pension (and Other Employee Benefits) Trust Funds			Investment Trust Funds		
457 Program	Individual Retirement Account	Retiree Health Funding Vehicle	Investment Services Program	For the Year Ended December 31, 2023	For the Year Ended December 31, 2022
\$3,580		\$40,467	\$649	\$900,503	\$928,940
				464,446	-
69,895	4,253			231,694	199,639
73,475	4,253	40,467	649	1,596,643	1,128,579
47,003	1,609	127,290	4,785	1,469,879	(2,022,376)
1,095	45	25,816	945	245,868	184,020
48,098	1,654	153,106	5,730	1,715,747	(1,838,356)
55	2	731	27	11,118	11,009
48,043	1,652	152,375	5,703	1,704,629	(1,849,365)
162	7	3,822	140	36,399	13,637
150	6	3,532	130	33,642	10,552
		7		68	71
150	6	3,539	130	33,710	10,623
12	1	283	10	2,689	3,014
48,055	1,653	152,658	5,713	1,707,318	(1,846,351)
1,070	36	3,483	130	9,783	8,421
122,601	5,942	196,608	6,492	3,313,744	(709,351)
22,690	658	22,462	4,387	1,252,691	1,191,070
				3	15
884	69	2,342	90	33,745	29,217
23,574	727	24,804	4,477	1,286,439	1,220,302
99,027	5,213	171,804	2,016	2,027,305	(1,929,653)
299,166	9,556	1,327,637	52,750	14,100,837	16,030,489
\$398,193	\$14,769	\$1,499,441	\$54,766	\$16,128,142	\$14,100,836

NOTES TO BASIC FINANCIAL STATEMENTS

Year ended December 31, 2023

1. REPORTING ENTITY AND PLAN DESCRIPTION

MERS is a statutory public corporation and governmental retirement plan qualified under Section 401(a) of the Internal Revenue Code, independent from the State of Michigan, which was established to provide a pooled Program for retirement benefits on a voluntary basis to the State of Michigan's municipal and court employees. MERS has helped provide retirement plans for municipal and court employees for over 70 years.

MERS was established by the Michigan Legislature under Public Act 135 of 1945. This act was repealed and replaced by the successor Municipal Employees' Retirement Act of 1984 (PA 427) (MERS Act). On August 15, 1996, pursuant to 1996 PA 220, MERS became independent from the State of Michigan.

Since 1996, MERS is solely administered by a 9-member retirement board (Board). The Board consists of the following members, each of whom, except for the Retiree Member and the Board Appointees, shall be from a different county at the time of election:

- **Expert Members:** 2 members, appointed by the Board, who have knowledge or experience in retirement systems, administration of retirement systems, investment management, or advisory services
- **Retiree Member:** 1 member, a retiree of the System, is appointed by the Board
- **Officer Members:** 3 officers of participating municipalities or courts, who are elected by the delegates at the MERS Annual Conference
- **Employee Members:** 3 employees who are not officers of a participating municipalities or courts, who are elected by the delegates at the MERS Annual Conference

The regular term of office for members of the Board is 3 years. Members of the Board serve without compensation with respect to their duties but are reimbursed by the System for their actual and necessary expenses incurred in the performance of their duties.

The Board establishes in its Plan Document the benefit plans and provisions that are available for adoption. The participating employer's governing body adopts the benefits of the plan. The various plans are discussed in the Actuarial Section. Pursuant to Article 9, Section 24 of the Constitution of the State of Michigan: "The accrued financial benefits of each pension plan and retirement system of the state and its political subdivisions shall be a contractual obligation thereof which shall not be diminished or impaired thereby. Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."

MERS is an agent multiple-employer retirement system that pools assets of the participating employers for investment purposes but maintains separate accounts for each individual employer.

Employee contribution rates vary depending on the benefit plan adopted by the local government. If an employee leaves employment or dies before becoming eligible for retirement benefits, accumulated employee contributions (plus interest) are refunded to the employee or designated beneficiary upon application.

The Internal Revenue Service (IRS) has determined that MERS' Defined Benefit, Defined Contribution and Hybrid Plans are governmental plans that are tax-qualified trusts under Internal Revenue Code (the Code or IRC) Section 401(a) and tax-exempt under Section 501(a). The IRS issued the most recent Letter of Favorable Determination for MERS on October 18, 2016. The benefits of tax-qualified status include the preferential deferred taxability of contributions, accumulated earnings, pensions, rollovers, annual compensation limits, and benefit limitations.

Under the Code, the retiree's pension becomes subject to taxation upon periodic distribution unless the Distribution is "rolled over" if permitted by law. Pursuant to IRC Section 72(d), any "after tax contributions" are recovered tax-free over the life expectancy of the retiree (or beneficiary, if applicable).

IRC Section 401(a) (17) limits the amount of compensation that can be taken into account for benefit calculation purposes and, correspondingly, limits the amount of employer and employee contributions. Compensation in excess of the limit (\$305,000 and \$330,000 for 2022 and 2023 respectively) will not be included by MERS in any benefit determination. Employee contributions in excess of the limit will not be collected or accepted, nor included in final average compensation for benefit purposes.

In addition, IRC Section 415(b) (1) (a) imposes certain limitations on pension benefit payments from the MERS qualified trust. Any amounts that exceed the limitations shall be paid from a Qualified Excess Benefit Arrangement (QEBA), as authorized by IRC Section 415(m) and the Michigan Public Employee Benefit Protection Act, MCL 38.1686 (2002 PA 100). The QEBA is a separate plan and is annually cash-funded by the affected participating municipality or court. The Board established the MERS QEBA in 2003 solely for the purpose of providing retirees and beneficiaries that portion of the retirement allowance exceeding the Section 415 limits, which is otherwise not payable by the trust under the terms of the MERS qualified plan. The IRS approval of the QEBA was pursuant to a Private Letter Ruling issued on December 15, 2003. Retirees and beneficiaries do not have an election, directly or indirectly, to defer compensation to the QEBA.

The MERS Defined Contribution Plan became operative July 8, 1997, under Section 401(a) of the IRC. On this date, the MERS Plan Document of 1996 was first determined by the IRS Letter of Favorable Determination to meet qualifications as a "governmental plan" trust under Code Section 401(a), and tax exempt under Section 501(a). MERS has contracted with a third-party administrator for recordkeeping and administrative functions. The plan is available to all MERS participating municipalities and may be adopted on a division-by-division basis. Plan provisions and requirements are specified in the MERS Plan Document. MERS' Defined Contribution Plan provides participants with an account they manage. At retirement, benefits are based solely on the amount contributed by the participant and employer and the performance of investments. IRC Section 415(c) imposes certain limitations on the annual additions that can be accepted by the MERS qualified trust (for 2023, the limit was the lesser of \$66,000 or 100% of compensation). The plan has several strategic investment categories designed to help participants meet their retirement goals. All participants have access to the MERS streamlined investment menu that allows for simple and strategic investing.

The MERS Hybrid Plan is an option for municipalities that includes both a defined benefit and a defined contribution component. The defined benefit component (Part I) is employer-funded, with benefit multipliers of 1.0, 1.25, and 1.5%. The defined contribution component (Part II) is a combination of employer and participant contributions that are invested in mutual funds selected by the individual participant. On the financial statements, the Hybrid Plan is reflected in both Defined Benefit and Defined Contribution columns.

MERS received a Private Letter Ruling dated January 13, 2004, allowing the establishment of an IRC Section 115 Integral Governmental Trust, giving MERS the ability to create two programs – the Health Care Savings Program and the Retiree Health Funding Vehicle.

The MERS Health Care Savings Program became operational in June 2004 and was made available to all municipalities in Michigan. The employer-sponsored program provides medical reimbursement accounts to participants. Medical expenses are reimbursed, as defined in Code Section 213, once participants terminate employment, are on medical leave for 6 months or longer, or are on disability from any public pension plan.

There are 4 types of contributions that may be used in the program: 1) Basic Employer (tax-favored); 2) Mandatory Salary Reductions (tax-favored); 3) Mandatory Leave Conversions (tax-favored); and 4) Voluntary Employee Contributions (post-tax). As a result of the Private Letter Ruling and Code Sections 106 and 213, reimbursements for medical expenses are tax-exempt for the participant, their spouse, and/or Code Section 152 dependent(s). The Health Care Savings Program accounts are invested in the MERS Investment Menu, and earnings are tax-exempt as a result of the MERS Private Letter Ruling. Plan provisions and requirements are specified in the MERS Health Care Savings Program and Retiree Health Funding Vehicle Plan Document and Trust.

The MERS Retiree Health Funding Vehicle became operational in the fall of 2004 and was made available to all municipalities in Michigan. Participating municipalities can contribute monies to the Trust as desired and no contribution method is imposed. These funds constitute a health care fund, which enables municipalities to

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accumulate monies to provide or subsidize health benefits for retirees and beneficiaries. MERS does not provide benefits, only the funding vehicle for local governments. The Retiree Health Funding Vehicle accounts are invested in the MERS portfolio choices and earnings are tax-exempt as a result of the MERS Private Letter Ruling. Plan provisions and requirements are specified in the MERS Health Care Savings Program and Retiree Health Funding Vehicle Plan Document and Trust.

The MERS 457(b) Deferred Compensation Program was established as a deferred compensation plan and trust and became operational on November 8, 2011. Its purpose is to provide benefits under the Program to participants and beneficiaries upon retirement, termination, disability, or death, upon the terms and conditions, and subject to the limitations contained in the Program. The Program was created for the exclusive benefit of eligible participants and their beneficiaries of any employer electing to participate in the Program. The Program is intended to comply with Code Section 457(b). All assets held in connection with the Program, including all contributions and amounts of compensation deferred pursuant to the Program, all property and rights acquired or purchased with such amounts, and all income attributable to such amounts, property, or rights shall be held in trust for the exclusive benefit of participants and their beneficiaries under the Program. No part of the assets and income shall be used for, or diverted to, purposes other than for the exclusive benefit of participants and their beneficiaries and for defraying reasonable expenses of the Program.

The Investment Services Program is an investment trust fund that is available to all municipalities in Michigan to invest IRC 401(a) funds through the MERS portfolio while maintaining administrative functions at the municipal level. The program was established by the Board in March 2006 and began operations in June 2006. The Investment Services Program trust fund complies with all the requirements imposed by the Public Employee

Retirement System Investment Act, 1965 PA 314. Like the other non-retirement plans, participation in the Investment Services Program alone does not qualify as membership in MERS, and the participating employer that does not otherwise participate in MERS' 401(a) plan, does not have a vote at the MERS Annual Conference.

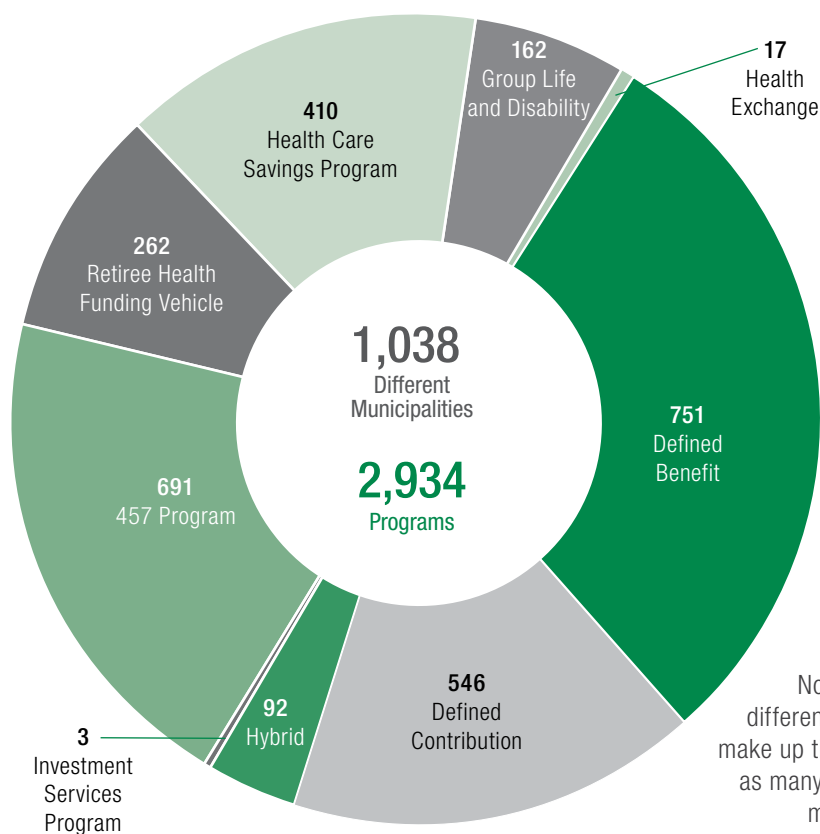
The MERS-deemed Individual Retirement Account (IRA) was established in 2018 and is a tax-advantaged retirement account for the exclusive benefit of current and former employees of MERS-partnered municipalities and their spouses. MERS offers 2 types of IRAs: A Roth IRA that provides tax-free income in retirement and a traditional IRA that allows tax-deductible contributions now. Both allow the participant to withdraw money at any time, without penalty, for qualified expenses including education expenses, buying a first home, and some medical expenses.

Through The Standard Insurance Company, MERS offers quality group life and disability insurance to Michigan municipalities. This group buying program offers comprehensive benefit features, a variety of plan designs, and family-friendly provisions at an affordable cost. The Standard Insurance Company fully administers the plan and MERS does not have any financial liability for the arrangement. In exchange for offering the insurance, MERS receives a small reimbursement that is reported in the service fee line item of the Defined Benefit administrative expenses.

MERS partners with the Mercer Marketplace 365 to offer a private healthcare exchange for eligible members. A private exchange is a marketplace where retirees can purchase benefits from the carrier of their choice with a wide variety of coverage options for pre-65 and Medicare-eligible retirees. Participants may use their MERS Health Care Savings Program funds for insurance premiums, co-payments, deductibles, etc., paid to providers available on the Exchange. The individual Health Care Savings Program account would reflect any reimbursement for eligible expenses as a distribution. As part of its collaboration agreement, MERS receives a quarterly reimbursement from Mercer to promote this partnership which is reported in the service fee line item of the Defined Benefit administrative expenses. Employers who partner with Mercer to manage their retiree group health plan receive a reimbursement for their retiree member list.

Any "municipality" (a term defined by Section 2b(2) of the MERS Act, MCL 38.1502b(2)) within the state may elect to become a participating member of MERS by a majority vote of the municipality's governing body or by an affirmative vote of the qualified electors. Changes in retirement plan coverage are subject to approval by a majority vote of the municipality's governing body.

MERS Participating Municipalities



MERS Participants

	Defined Benefit	Defined Contribution	Hybrid	Health Care Savings Program	457	Health Exchange	IRA
Active	25,628	21,042	4,548	24,943	11,380	611	1,107
Deferred	7,974	NA	709	NA	NA	NA	NA
Retired	46,342	NA	303	NA	NA	NA	NA
Contributions not Vested	15,830	NA	597	NA	NA	NA	NA
Terminated	NA	10,787	NA	16,413	3,503	NA	NA
Product Totals	95,774	31,829	6,157	41,356	14,883	611	1,107
Total MERS Accounts*							191,717

* Total MERS Accounts represents the total number of accounts within MERS; individuals may be represented multiple times across categories.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The Board is responsible for the administration of the System, has fiduciary responsibility for the investment of assets, and oversees all funds included in these financial statements. The Board appoints the Chief Executive Officer who manages and administers the System under the supervision and direction of the Board.

MERS' financial statements are not included in the financial statements of any other organization.

Blended Component Units

MERS Real Estate Corporation (MREC) is governed by a 3-member board appointed by MERS as the sole member. Although it is legally separate from MERS, MREC is reported as if it were part of MERS because it is solely owned by MERS to function as a real estate holding company for the properties owned by MERS.

Cost Allocation

The costs of administering the MERS Defined Benefit Plan are allocated proportionally based on the average daily balance asset size to the municipalities along with investment gains/losses on a quarterly basis.

The costs of administering the MERS Defined Contribution Plan, Health Care Savings Program, Retiree Health Funding Vehicle, Investment Services Program and IRAs are allocated out to the employers and participants based on an administrative expense percentage for each employer and participant as well as their investment expenses based on fund choices.

Basis of Accounting

The financial statements for MERS are prepared on an economic resource measurement focus and accrual basis in accordance with Generally Accepted Accounting Principles (GAAP) as applicable to government organizations in the U.S. The preparation of financial statements, in conformity with GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

MERS Defined Benefit Plan employer and employee contributions are recognized when due pursuant to legal, statutory, and contractual requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan. Expenses and the associated liabilities for those expenses are also recorded using the accrual method when the liability is incurred.

The Defined Contribution Plan, 457 Program, Health Care Savings Program, Retiree Health Funding Vehicle, Investment Services Program and IRA financial statements are prepared using the accrual accounting method for revenues which are recorded when either payroll reports and/or funds are received. Expenses and the associated liabilities for those expenses are also recorded using the accrual method when the liability is incurred.

Plan investments are presented at fair value using the accrual method for those investments that are invested in the MERS portfolio. Investment purchases, sales and associated payables and receivables are recorded on their trade date. Investments invested outside of the MERS portfolio (primarily mutual funds) are recorded at fair value.

Post-Employment Benefits

MERS offers pension benefits to its retirees through the MERS Defined Benefit Plan. MERS records a net pension asset or liability for the difference between the total pension liability calculated by the actuary and the pension Plan's fiduciary net position. For the purpose of measuring the net pension asset or liability, deferred outflows of resources and deferred inflows of resources related to pensions and pension expense, information about the fiduciary net position of the pension plan and additions to/deductions from the pension plan's fiduciary net position have been determined on the same basis as they are reported by the pension plan. For this purpose, benefit payments including refunds of employee contributions, are recognized when due and payable in accordance with the benefit terms. Investments, which are part of the plan assets credited to MERS, are reported at fair value.

MERS does not provide other post-employment benefits to its employees and accordingly does not have any expense or liabilities for these benefits.

Fair Value of Investments

Plan investments are presented at fair value. Short-term investments are valued at cost plus accrued interest, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Corporate bonds not traded on a national or international exchange are based upon equivalent values of comparable securities with similar yield and risk. Independent appraisals are the basis for valuing the fair value of real estate. Other investments that do not have established markets are recorded at an estimated fair value. Real estate and private equity investments typically have a quarter lag in reporting, but the values as of December 31 are estimated based on the third-quarter capital statements plus fourth-quarter cash flows, adjusted for any other known events.

Investment Act Disclosures

The Public Employee Retirement System Investment Act, MCL 38.1132, et seq. 1965 PA 314 requires MERS to follow certain financial management practices and provide related disclosures, as defined by Act 314. Compliance with these requirements is achieved in this Annual Comprehensive Financial Report found at mersofmich.com. MERS limits board member professional training, education and travel expenses in compliance with MCL 38.1133(6) and is reported in the Schedule of Administrative Expenses.

Capital Assets

Capital assets represent land, buildings, office furniture, equipment, and software with a value of \$5,000 or more. Assets are carried at cost, less accumulated depreciation. Depreciation expense is calculated by allocating the net cost of assets over their estimated useful lives using the straight-line method. Useful lives of the related assets vary from 3 to 30 years.

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Capital Assets

Capital Assets	Buildings	Land	Leasehold Improvements	Office Furniture and Equipment	Software	Total Capital Assets
Balances Dec 31, 2022	\$8,013,644	\$1,266,516	\$357,715	\$3,723,388	\$37,767,904	\$51,129,167
Additions	180,168			121,134	5,201,811	5,503,113
Deletions and Transfers				(92,352)	(6,750)	(99,102)
Balances Dec 31, 2023	8,193,812	1,266,516	357,715	3,752,170	42,962,965	56,533,178
Accumulated Depreciation						
Balances Dec 31, 2022	2,305,215		279,497	3,139,635	19,824,573	25,548,920
Depreciation Expense	396,843		27,486	146,651	4,074,624	4,645,604
Deletions and Transfers				(92,352)		(92,352)
Balances Dec 31, 2023	2,702,058		306,982	3,193,933	23,899,197	30,102,171
Net Capital Assets Dec 31, 2023	\$5,491,754	\$1,266,516	\$50,733	\$558,237	\$19,063,768	\$26,431,007

Total Columns on Statements

The "Total" columns on the "Statement of Fiduciary Net Position" and "Statement of Changes in Fiduciary Net Position" are presented to facilitate financial analysis. Amounts in these columns do not present the plan net position and changes in plan net position in conformity with GAAP, nor is such data comparable to a Consolidation. Transactions between the Defined Benefit Plan, Defined Contribution Plan, Health Care Savings Program, 457 Program, Retiree Health Funding Vehicle, Investment Services Program and IRAs have not been eliminated from the "Total" columns.

The basic financial statements include certain prior year summarized comparative information in total but not at the level of detail required for a presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the government's financial statements for the year ended December 31, 2023, from which the summarized information was derived.

New Accounting Pronouncements

In June 2022, the Governmental Accounting Standards Board issued GASB Statement No.101, Compensated Absences. This Statement provides guidance on the accounting and financial reporting for the recognition and measurement of compensated absences. The Statement requires that liabilities for compensated absences be recognized for leave that has not been used and leave that has been used but not settled through cash or non-cash means. The requirements of this Statement are effective for fiscal years beginning after December 15, 2023, and all reporting periods thereafter. MERS has implemented this new requirement in the current year.

3. CONTRIBUTIONS AND RESERVES

Contributions

The Defined Benefit Plan contribution funding requirements are actuarially determined using the entry age normal actuarial cost method and are based upon the benefit plan adopted by the municipality. Some municipalities fund their entire pension obligations solely from employer contributions. Most municipalities jointly fund pension obligations from employee and employer contributions. Monthly employee contributions are based upon a percentage of actual compensation as determined by the employer. Employer contributions are based upon projected or accrued compensation as determined by an annual actuarial valuation. For details about normal cost and total employer contributions by employer, please see the MERS Summary Actuarial Report found on our website at www.mersofmich.com. Employee contributions are held in individual member accounts that are credited with interest annually. Pursuant to the Board resolution adopted November 9, 2005, the interest rate for each year beginning in 2005 is the 1-year T-bill rate as of December 31 each year for the ensuing December 31 employee interest calculation. It is also used for interest calculations the subsequent year for those employees requesting a refund of their contributions.

The Protecting MI Pension Program was created to help Michigan's underfunded municipal pension systems. Under the Fiscal Year 2022-23 budget, the Michigan Department of Treasury (Treasury) was appropriated \$750 million to establish and operate a local unit municipal pension principal payment grant program for qualified retirement systems with a funded ratio below 60%, as defined in the Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017.

MERS, as the pension plan, received payments directly from Treasury totaling \$464.4 million that were applied to underfunded employer accounts. The contributions were recorded as a contribution from a nonemployer contributing entity for 2023.

Contributions to the Defined Contribution Plan are reported directly to the MERS third-party administrator by the participating municipalities and are separate from contributions made to the MERS Defined Benefit Plan. Both employer contributions and employee voluntary and mandatory contributions are governed by the contribution limits under the IRC. Municipalities may elect to have mandatory employee contributions where the participant pays a fixed dollar or percentage. If the municipality has a match contribution type, the participant will elect the amount of contribution at the time of enrollment and will not be allowed to make any changes to that contribution amount. Municipalities may also choose to allow additional voluntary after-tax contributions through payroll deduction. Municipalities may also choose to offer matching contributions into the Defined Contribution Plan based on elective deferrals made by participants to the MERS 457(b) Program.

Participating municipalities may, upon adoption of a Defined Contribution Plan resolution for new hires, offer current Defined Benefit employees an opportunity to opt into the Defined Contribution Plan. MERS transfers the actuarial present value of the employee's accrued benefit in the Defined Benefit Plan into the employee's Defined Contribution Plan account (at a stipulated funded ratio between 80%-100%). Employees direct their contributions to various investment options offered by the MERS Office of Investments and may transfer their account balances between investment categories or make changes to the percentage allocation on a daily basis.

Contributions to the 457 Program are made pre-tax and can be either a flat dollar amount or a percentage of payroll. An employer may also adopt a Roth provision allowing for after-tax contributions. Participation in the program is voluntary, so contributions can start and stop at any time, as well as increase or decrease.

Participants can make contributions to the MERS IRAs at any frequency and work directly with the MERS third-party administrator to set this up. It is the participant's responsibility to ensure they do not exceed the IRA limits. Contributions are made post-tax to the Roth IRA, and participants may be able to deduct the contributions on their federal income tax returns for the traditional IRA.

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Contributions to the Health Care Savings Program can come in many different forms based on the election of the employer. Mandatory pre-tax salary reductions can be elected based on a fixed dollar or required percentage that is mandatory for the entire group of participants or through a leave conversion election where vacation, personal time, sick time, or severance can be deposited into a Health Care Savings Program upon termination. In addition, post-tax voluntary employee contributions can be elected and can start or stop at any time.

Contributions to the Retiree Health Funding Vehicle and Investment Services Program can be made at any frequency for any amount the employer wishes.

Defined Benefit Plan Reserves

Pursuant to the MERS Plan Document, 3 reserves have been established. See "Schedule of Changes in Reserves" in the Statistical Section.

- **Reserve for Employee Contributions**

All additions to and deductions from this reserve are for the Defined Benefit Plan and the Defined Benefit portion of the Hybrid Plan. Employee contributions and interest are credited to this reserve. Also credited are monies received from the purchase of service credit and monies received in repayment of previously refunded contributions. The reserve is reduced by amounts paid to employees who terminate employment and request refunds, and by amounts transferred into the "Reserve for Employer Contributions and Benefit Payments" upon an employee's retirement. Interest is credited to each employee's account, as provided in the Board's November 9, 2005 resolution. December 31, 2023, the balance was \$982.3 million.

- **Reserve for Employer Contributions and Benefit Payments**

All additions to and deductions from this reserve are for the Defined Benefit Plan and the Defined Benefit portion of the Hybrid Plan. All employer contributions are credited to this reserve. Net income is allocated to this reserve from the "Reserve for Expenses and Undistributed Investment Income". At retirement, the employee's accumulated contributions, if any, and interest are transferred into this reserve from the "Reserve for Employee Contributions." Monthly benefits paid to retirees reduce this reserve. December 31, 2023, the balance was \$11.37 billion.

- **Reserve for Expenses and Undistributed Investment Income**

All additions to and deductions from this reserve are for the Defined Benefit Plan and the Defined Benefit portion of the Hybrid Plan. All investment earnings and other monies received that are not dedicated to other areas are credited to this reserve. All administrative and investment expenses are paid from this reserve. Transfers from this reserve to the "Reserve for Employer Contributions and Benefit Payments" are at allocation rates determined by the Board. The unallocated reserve at the end of December 31, 2023, was \$25.1 million.

Other Reserves

Each of the products outside of the Defined Benefit Plan has its own reserve for additions and deductions to be recorded. MERS maintains separate employer account records for each municipality within the products. The December 31, 2023 reserve balances were as follows: Defined Contribution Plan \$1.3 billion, Health Care Savings Program \$467.6 million, Retiree Health Funding Vehicle \$1.5 billion, Investment Services Program \$54.8 million, 457(b) Program \$398.2 million and Individual Retirement accounts \$14.8 million. A more detailed analysis of the reserves can be found in the Statistical Section.

4. DEFERRED RETIREMENT OPTION PROGRAM (DROP)

Deferred Retirement Option Program (DROP): Traditional

If a municipality has added a DROP benefit to its plan, a participant covered by the Benefit Program DROP may, when eligible for retirement, choose a specified DROP period in which s/he will cease to accrue any additional retirement benefits, but remain employed by the participating municipality or court. The participant must elect a DROP end date at least 6 months after the beginning date, but no more than 60 months after the beginning date, in 1-month increments.

Upon the participant's election of DROP and the receipt of an application to enroll in DROP, MERS will calculate the participant's service retirement and benefit payment as of the beginning date. The System shall also calculate any age differential between the participant and the participant's beneficiary as of the calendar year of the DROP exit date in accordance with Treasury Regulation 26 CFR § 1.401(a)(9)-6. Upon the beginning date of the DROP period, the participant shall be responsible to continue paying participant contributions, if any.

On the next available benefit payment date after processing is complete, and monthly thereafter, an amount equal to 100% of the monthly service retirement benefit payment the participant would have received if he or she had retired as of the DROP beginning date will be credited to a notional account for the benefit of the participant. Funds in the DROP account are credited with interest in the amount of 3% annually or prorated in the event of a DROP period that is less than 12 months.

Upon the end date, the participant shall receive a lump-sum distribution of the participant's DROP account and on the first day of the calendar month following end date, the participant will begin receiving monthly service retirement benefit payments.

Deferred Retirement Option Program (DROP+) Partial Lump Sum

If a participant is covered by the Benefit Program DROP+ and retires at least 12 months after first becoming eligible for unreduced benefits, they have the option to receive a partial lump sum and a reduced monthly benefit: The participant can elect a lump sum equal to 12, 24, 36, 48, or 60 times their monthly accrued benefit. For each 12 months included in the lump sum, the participant's lifetime benefit is reduced by the DROP+ percentage adopted by the employer. The employer can adopt any of the following DROP+ reduction percentages: 6, 7, 8, 9, or 10%.

As of June 30, 2013, Benefit Program DROP+ may no longer be adopted; 2 employers adopted the program prior to it ending.

The balance for the DROP accounts was \$760, 207 for the year ending December 31, 2023.

5. INVESTMENTS AND DEPOSITS

The Board has the fiduciary responsibility and authority to oversee the investment portfolio. Various professional investment managers are contracted to manage the System's assets. All investment decisions are subject to the Michigan Public Employee Retirement System Investment Act (PERSIA), 1965 PA 314, MCL 38.1132, et seq., and the investment policy established by the Board. Michigan law allows diverse investment in stocks, corporate and government bonds, mortgages, real estate, and other investments. PERSIA requires that the System invest its assets prudently and solely in the interest of the participants and beneficiaries. Under Plan Document Section 87(6), PERSIA, and Internal Revenue Code Section 401(a)(2), the investments shall be made for the exclusive purpose of providing benefits to the participants and their beneficiaries and defraying reasonable expenses of the System.

The investment policy requires independent performance measurement of investment managers and establishes total return objectives for the total portfolio and major categories of investments. As of December 31, 2023, all securities held met the required statutory provisions and Board policy.

MERS' asset allocation policy is an important determinant of achieving the investment goals of the Plan. MERS follows a Valuation Based Allocation (VBA) approach to allocate the Plan's assets. A proprietary model is utilized to evaluate market opportunities across investable asset classes and determine appropriate allocations. The VBA model is updated on a real-time basis, resulting in ongoing asset allocation and portfolio rebalancing within established risk parameters and Board approved asset class allocation ranges. Factors influencing the Plan's asset allocation include projected actuarial liabilities, historical and expected long-term asset class returns and risk, future economic conditions, inflation and interest rate risks, and liquidity requirements.

Investment manager selection is an important decision involving complex due diligence. Managers are selected after a lengthy and time-consuming process involving a review of quantitative and qualitative components. Policy objectives include focusing on stable, long-term, financially secure, experienced, and disciplined investment managers in the selection decision. Once selected, managers are monitored and reviewed for investment returns, asset allocation compliance, and market-related factors. Other investment processes and procedures include capital calls, cash flow reconciliations, trade settlements, regular portfolio reviews, monthly account reconciliation, performance reporting and review, periodic manager conference calls, and asset allocation reviews.

The annual money-weighted rate of return on pension plan investments is calculated as the internal rate of return on pension plan investments, net of investment expenses. This expresses investment performance adjusted for the changing amounts invested throughout the year, measured on monthly inputs with expenses measured on an accrual basis. For the year 2023, the annual money-weighted rate of return, net of investment expenses, measured on monthly inputs was 11.62% for the Defined Benefit Plan. (See Required Supplemental Information).

The MERS Investment Policy is adopted by the Board with the Chief Executive Officer (CEO) being responsible for all activities and duties of the System. The CEO has delegated to the Office of Investments authority to manage MERS pension funds, and other trust funds, and direct all investment management activities not reserved by the Board. The Board is the System's sole fiduciary and sets general investment policy, including the Plan's asset allocation, Investment Guidelines, and Investment Policy Statements. The Board's investment authority and fiduciary responsibility is found in 1945 PA 135 and 1965 PA 314.

The Board has appointed an Investment Committee (IC) delegated with authority to make certain investment decisions and assist in investment policy development. The IC monitors investment management activity and policy recommendations developed by the MERS Office of Investments. The IC is composed of 3 voting Board members, including 2 public members with investment experience. The CEO and Chief Investment Officer also serve on the committee as non-voting members. The IC approves recommendations to hire and terminate managers. The IC also appoints 1 additional non-voting Board member to observe meetings.

The Office of Investments carries out investment activity for the System, provides a quarterly report on investment activities and performance, monitors external investment managers, and reports any material changes to the IC and the Board.

The base allocation was as follows:

- Global Equity 60.0%
- Global Fixed Income 20.0%
- Private Investments 20.0%

One investment manager, Blackrock, exceeded 5% of the pension plan's net position. They have many individual diversified investments under their control, so that no one specific position exceeds the investment guideline or PERSIA limits.

MERS offers a variety of investment choices to participants and municipalities:

- The Defined Benefit plan invests in the whole portfolio of MERS including global equities, global bonds, and private investments.
- The Defined Contribution Plan, Health Care Savings Program, 457 Program and IRAs have several investment options. One is a Retirement Strategies option whereby a participant can choose a target date fund that adjusts their investment allocation automatically over time as they approach retirement. Another choice is the Premium Select Option whereby a participant can select from various pre-built select funds. A third option for only the Defined Contribution and 457 participants is the self-directed brokerage account for those investors who understand the risks of selecting their own investment choices.
- The Retirement Health Funding Vehicle and Investment Services Program have several investment options available under the Premium Select Options of various pre-built select funds of which employers may choose. The Net Asset Value (NAV) per unit for each investment option as of December 31, 2023, is as follows:

Name	Fund Identifier	Net Asset Value Price per Unit
MERS Total Market Portfolio	99VVB0842	28.869149
Emerging Market Stock	99VVB0834	12.081634
International Stock Index	99VVB08S9	12.978241
Large Cap Stock Index	99VVB0800	26.955162
MERS Diversified Bond Portfolio (0/100)	99VVB08T7	16.441528
MERS Est Market Portfolio (60/40)	99VVB08U4	9.945534
Mid Cap Stock Index	99VVB0818	21.501263
Short Term Income	99VVB08V2	24.250000
Small Cap Stock Index	99VVB0826	17.575632

Cash Deposits

Custodial credit risk for cash deposits is the risk that, in the event of a failure of a depository financial institution, the system may not be able to recover its deposits. Balances on deposits are insured by the Federal Deposit Insurance Corporation (FDIC) up to specified limits. MERS has not experienced any losses in its accounts and believes it is not exposed to a significant credit risk on its cash, as we keep low cash balances on the custodial bank's balance sheet.

Credit Risk

Credit risk is the financial risk that an issuer, or other counterparty, will not fulfill its obligations to MERS. Credit risk exposure is dictated by each investment manager's agreement. MERS investments in fixed income are primarily in Exchange Traded Funds (ETFs) that are not individually rated for credit risk. There are a few fixed-income investments that are not in ETFs.

As of December 31, 2023, the domestic fixed income portfolio consisted of fixed-income investments with respective quality ratings, excluding those obligations of the U.S. government.

Credit Ratings Summary

Investment Type	Fair Value	Credit Ratings
Exchange Traded Funds	\$2,926,866,742	Not Rated
Emerging Country Debt	226,873,407	Not Rated
Corporate (Residual Account)	64,623	Not Rated
Corporate (Residual Account)	1,828	A+
Corporate (Residual Account)	1,015,298	A-
Total Fair Value of Debt Securities	\$3,154,821,898	

Concentration of Credit Risk Debt Securities

The concentration of credit risk is the risk of loss attributed to the magnitude of an entity's exposure in a single issuer. The MERS investment policy states securities representing the debt and equity of any one company shall not exceed 5% of the fair value of the portfolio. MERS did not hold any organization's securities that exceeded 5% of the investment portfolio other than investments in mutual funds, external investment pools, ETFs, and those issued or explicitly guaranteed by the U.S. government as of December 31, 2023.

Interest Rate Risk

Interest rate risk is the risk that an investment's value will change due to a change in the absolute level of interest rates. Interest rate risk is controlled through diversification of portfolio management styles. Duration is a measure of interest rate risk. The greater the duration of a bond or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates and vice versa. MERS investments in fixed income are primarily in ETFs that are invested in numerous individual investments with various ranges of durations. There are a few fixed-income investments that are not in ETFs. Sensitivity to changing interest rates may derive from prepayment options embedded in an investment.

The term duration has a special meaning in the context of bonds. It is a measurement of how long, in years, it takes for the price of a bond to be repaid by its internal cash flows. It is an important measure for investors to consider, as bonds with higher durations carry more risk and have higher price volatility than bonds with lower durations.

Effective Duration

Investment Type	Fair Value	Weighted Effective Duration
Exchange Traded Funds	\$2,926,866,742	Not available
Emerging Country Debt	226,873,407	Not available
Corporate (Residual Account)	1,081,749	1-15 years
Total Fair Value of Debt Securities	\$3,154,821,898	

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. MERS currency risk exposure, or exchange rate risk, is primarily derived from its holdings in foreign currency-denominated equities and fixed-income investments. The Board investment policy for the global non-investment grade fixed-income portfolio allows currency hedging to mitigate currency exposure. Hedging the non-U.S. dollar currency exposure of the portfolio is permitted.

The MERS exposure to foreign currency risk in U.S. dollars is summarized below as of December 31, 2023.

Foreign Currency Risk in U.S. Dollar Denominations

Currency	Equities	Cash	Private Equity	Real Estate	Total
Australian dollar			\$93,190,725		\$93,190,725
Canadian dollar		\$21,028			21,028
Danish krone		29,265			29,265
Euro		227,783	261,580,850	\$45,967,963	307,776,596
Japanese yen		1,558		223,310	224,868
New Taiwan dollar		15,196			15,196
Pound sterling		259			259
Singapore dollar	\$70,043	51,862			121,905
Total Investment Securities	\$70,043	\$346,951	\$354,771,575	\$46,191,273	\$401,379,842

Custodial Credit Risk of Deposits

Custodial credit risk is the risk that deposits may not be recovered in the event of failure of a depository financial institution. As of December 31, 2023, the \$6.53 million carrying amount of deposits of the System's cash and short-term investments was comprised of \$6.53 million in deposits, \$6.28 million which was subject to custodial credit risk because it was uninsured and uncollateralized.

Securities Lending

The MERS policy and statute authorizes participation in a securities lending program administered by its global custodian, Bank of New York Mellon. MERS receives income as the owner of securities and income from the lending of those securities. There are no dividends or coupon payments owing on the securities on loan. Securities lending earnings are credited to MERS and other participating clients on approximately the 15th day of the following month. The securities are open contracts and, therefore, could be terminated at any time by either party.

Repurchase transactions (including tri-party repurchase agreements) collateralized at 102% or greater at the time of purchase are marked to market on each business day. Collateral will consist of one or more approved instruments without limitation on maturity, including equity securities, which are approved only as collateral for repurchase transactions. Equity securities will consist of securities from major global indices. Due to the nature of the program's collateralization of U.S. fixed-income securities on loans at 102% plus accrued interest, MERS' management believes that there is no credit risk per GASB 40 because the lender owes the borrower more than the borrower owes the lender. Interest rate risk arises due to the duration of the cash collateral. Cash collateral is invested for MERS in a dedicated short-term investment fund consisting of investment grade fixed income securities. The custodian will, at their expense, make MERS whole for any differences that might occur in the event of borrower default after selling the securities. Securities on loan are marked to fair value daily to ensure the adequacy of the collateral. There are no restrictions on the amount of securities that can be loaned at one time.

MERS security lending is also in compliance with PERSIA 38.1140e.

MERS has never experienced a loss on securities lending transactions resulting from the default of a borrower's or lending agent since it commenced lending securities in March 1995. As of December 31, 2023, the fair value of fixed-income securities invested in the cash collateral pool was \$642 million. Securities lending produced a net income of \$2.69 million excluding unrealized gains and losses.

Collateral Held and Fair Value of Securities on Loan

Fair Value of Securities on Loan	Nature of Collateral	Collateral Held
\$628,891,346	Cash	\$642,118,640
	Calculated Mark	
	Non-Cash	-
\$628,891,346		\$642,118,640

Securities Lending Collateral

S & P Rating	Percentage	Amount
A-1+*	0%	
A-1*	17%	\$107,811,720
A-2	0%	
AAA	3%	20,997,280
AA	13%	84,695,449
A	30%	192,378,745
BBB+	0%	
BBB	0%	
BBB-	0%	
BB+	0%	
BB	0%	
NR_Repo	0%	
NR Other	37%	237,583,897
Payable/Receivable	-0%	(1,348,449)
Market Value Not Reflected in Amortized Cost		
	100%	642,118,640
Invested Securities Lending Collateral		\$642,118,640

* A short-term obligation rated A-1 is rated in the highest category by both Standard & Poor's (S&P) and Moody's Investor Services. These Issuers have a superior ability to repay short-term obligations. S&P will designate certain issues with a plus sign (+) to indicate that the obligor's capacity to meet its financial commitment is extremely strong.

Derivatives

Derivative instruments are financial contracts whose value depends on the values of underlying assets, reference rates, or financial indices. They include futures contracts, swap contracts, credit-linked notes (CLN), and forward foreign currency exchange. While the Board has no formal policy specific to derivatives, MERS holds investments in futures contracts, swap contracts, credit-linked notes, and forward foreign currency exchange. MERS enters these derivative contracts primarily to obtain exposure to different markets to enhance the performance and reduce the volatility of the portfolio. It enters swaps and futures contracts to gain or hedge exposure to certain markets. They also manage interest rate risk and forward foreign exchange contracts primarily to hedge foreign currency exposure.

The following tables summarize the various contracts in the portfolio as of December 31, 2023. The notional value associated with these derivative instruments is generally not recorded on financial statements; however, the amounts for the exposure (unrealized gains/losses) on these instruments are recorded. Interest rate risks associated with these investments are included in the table. MERS does not anticipate additional significant market risk from the swap arrangements.

Swap and Foreign Currency Forward Contracts

There are no swap or foreign currency forward contracts as of December 31, 2023.

Futures and Options Contracts

Futures Contract	Expiration Date	Long/Short	Cost	Market Value	Unrealized Gain/(Loss)
AUDUSD Currency Future (CME)	3/18/2024	Short	(102,753,690)	(106,487,495)	(3,733,805)
CANADIAN Currency Future (CME)	3/19/2024	Short	(120,048,195)	(123,041,875)	(2,993,680)
EURO Currency Future (CME)	3/18/2024	Short	(173,761,982)	(177,615,313)	(3,853,331)
MEXICAN Currency Future (CME)	3/18/2024	Long	9,248,685	9,493,120	244,435
S&P Currency Future (CME)	3/15/2024	Long	10,443,568	10,845,000	401,432

MERS could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. MERS and its investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits, and exposure monitoring procedures. MERS anticipates that counterparties will be able to satisfy their obligations under the contracts. Investments in limited partnerships and combined funds may include derivatives that are not shown in the derivative totals.

Private Equity and Capital Calls

During 2023, \$507 million was approved for new private market investments. As of December 31, 2023, the private markets portfolio unfunded commitments totaled \$1.5 billion.

MERS has various investments that can be difficult to value in that there are not readily accessible comparable market values. MERS also has level 3 investments of approximately \$270 million (private equity, real assets, and diversifying strategies). These investments tend to be illiquid and do not trade frequently. As a result, there may not be readily marketable prices for them.

Management's estimates of these values are based on information provided by investment managers, general partners, real estate advisors, and other means. Because alternative investments are not readily marketable, their estimated value is subject to uncertainty and therefore may differ from the values that would have been used had a ready market for these securities existed. The differences could be material.

Fair Value Measurements

Investments are presented at fair value. 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 and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements).

Level 1 Unadjusted quoted prices for identical instruments in active markets.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.

Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value (or NAV) (or its equivalent) as a practical expedient are not classified in the fair value hierarchy. The table on the following page shows the fair value leveling on the investments for MERS.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. (An investment having both level 2 and level 3 inputs would be categorized as level 3.) The system's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset. The table on the following page shows the fair value leveling of the investments for MERS.

Global equities and global fixed income classified in level 1 are valued using prices quoted in active markets for those securities.

Global fixed income and global equities classified in level 2 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features, and ratings. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Level 2 fixed-income securities have non-proprietary information that was readily available to market participants, from multiple independent sources, which are known to be actively involved in the market.

Private Investments classified in level 3 are primarily investments in real estate, infrastructure and timber generally valued using the income approach by internal manager reviews or independent external appraisers. Level 3 Private Investments are valued using appraisals, cash-flow analysis, and sales of similar investments. MERS policy is to obtain an external appraisal a minimum of every 3 years for properties that MERS has some degree of control or discretion. In practice, some investments are appraised annually. Appraisals are performed by an independent appraiser with preference for Member Appraisal Institute designated appraisers. The appraisals are performed using generally accepted valuation approaches applicable to the investment type.

Self-directed participant accounts are valued at quoted prices for those securities in active markets.

Certain alternative investments such as private equity, real assets, and diversifying strategies do not have readily ascertainable fair value. Management, in consultation with their investment managers, value these investments in good faith based upon audited financials, cash-flow analysis, purchase and sales of comparable investments, other practices used within the industry, or other information provided by the underlying investment managers. The estimated fair value of these investments may differ significantly from values that would have been used had a ready market existed. These investments are classified as level 3.

The valuation method for investments measured at the net asset value (NAV) per share is presented in the table on the following page. The System holds shares or interests in investment companies where the fair value of the investments is measured on a recurring basis using the net asset value per share (or its equivalent) of the investment companies as a practical expedient. Global equity and private investments at NAV are generally long-term private market investments that are illiquid with redemptions restricted over the life of the partnership.

During the life of the partnerships, distributions are received as underlying partnership investments are sold and income realized. As of December 31, 2023, it is likely that all of the investments in this type will be sold at an amount different from the NAV per share of MERS ownership interest in partners' capital.

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		Quoted Prices in Active Markets Assets	Significant Other Observable Inputs	Significant Unobservable Inputs	
Fair Value Investments		Level 1	Level 2	Level 3	Totals
Global Equities		\$5,064,508,303	\$899		\$5,064,509,202
Global Fixed Income (includes ETFs)		3,153,740,149	1,081,748		3,154,821,897
Private Investments				261,305,656	261,305,656
Short Term Interest Fund					-
Mutual Funds (DC, 457, HCSP, IRA) (SSGA not publicly traded)					-
Self Directed accounts (DC and 457)		11,204,973			11,204,973
Total Investments by Fair Value		8,229,453,425	1,082,647	261,305,656	8,491,841,728
Investments at Net Asset Value (NAV)	NAV				Totals
Global Equities	2,137,482,334				2,137,482,334
Fixed Income					-
Private Investments	3,445,369,492				3,445,369,492
Mutual Funds (DC, 457, HCSP, IRA)	1,746,334,332				1,746,334,332
Total Investments at NAV	7,329,186,158				7,329,186,158
Total Fair Value and NAV Investments	7,329,186,158	8,229,453,425	1,082,647	261,305,656	15,821,027,886
Securities Lending Collateral			298,508,987		298,508,987
Total Fair Value and NAV Investments with Securities Lending	\$7,329,186,158	\$8,229,453,425	\$299,591,634	\$261,305,656	\$16,119,536,872

In accordance with GASB No 79, the System has \$493 million of investments reported at amortized cost, of which \$344 million directly relates to securities lending. These investments are not subject to any limitations or restrictions on withdrawals.

Reconciliation to Investments on Financial Statements	
Investments at fair value and NAV from above	\$15,821,027,886
Investment in Land	1,402,094
Rounding	678
Amortized Cost	163,101,107
Investments from financial statements	\$15,985,531,765

MERS holds shares or interests in investment companies where the fair value of the investments is measured on a recurring basis, using net asset value (NAV) per share (or its equivalent) of the investment companies as a practical expedient.

As of December 31, 2023, the fair value, unfunded commitments, redemption frequency and redemption notice periods of those investments are as follows:

Investment Type	Fair Value	Unfunded Commitments	Redemption Frequency (if Eligible)	Redemption Notice Period
Global Equities	\$2,137,482,334		Monthly, quarterly, semi-annually, annually	30 days
Global Fixed Income	-		Monthly, quarterly, semi-annually, annually	N/A
Private Investments	3,445,369,492	\$1,499,000,000	Monthly, quarterly, semi-annually, annually	N/A
Mutual Funds*	1,746,334,332			N/A
Total Investments at NAV	\$7,329,186,158	\$1,499,000,000		

**Redemptions may be subject to penalty depending on fund choice and holding period.*

Investments at NAV

The Global Equities' Portfolios are diversified by geographic region, styles, sectors and market capitalizations. Active management is used to take advantage of less efficient areas of the market. This strategy is expected to perform well in periods of low falling inflation and rising economic growth. It is also projected to provide ongoing income as well as downside protection in volatile markets. The fair value of the investments has been estimated using the net asset value of the investments.

The Private Investments Portfolio includes investments in real estate, timber, infrastructure, commodities and agriculture and farmland strategies. The real assets strategy is designed to provide a hedge against unexpected spikes in inflation as well as capitalize on long-term themes such as an emerging middle class in developing markets and global population growth. Many of the investments within this portfolio will be private investments, making the portfolio relatively illiquid and longer duration. The fair value of the investments has been estimated using the net asset value of the investments.

Private Investments also include strategies in middle market direct lending, litigation finance, healthcare royalties, bank regulatory capital and opportunistic credit, among others. The strategy is designed to provide downside protection and uncorrelated returns with traditional asset classes – specifically equities. Core fixed income has traditionally been one of the most diversifying asset classes, but the low return expectations for the asset class make it less attractive on a risk-adjusted basis. Consequently, non-traditional asset classes must be considered as an alternative. The fair value of the investments has been estimated using the net asset value of the investments.

Mutual fund investments at NAV are not publicly traded, with a strategy designed to provide participants access to target date funds based on their expected retirement date. The funds automatically adjust based on the participant's age with investments in global equities, fixed income, and other diversified investments with an appropriate level of risk that is consistent with its asset mix. The fair value of the investments has been estimated using the net asset value of the investments.

6. RISK MANAGEMENT AND INSURANCE

MERS maintains a complete portfolio of insurance coverage including, but not limited to, fiduciary liability, workers' compensation, auto, property, cyber liability and general commercial liability.

In addition, MERS provides its employees with insured medical, prescription, vision, life/disability benefits and self-insured dental benefits, among other benefits.

7. COMMITMENTS AND CONTINGENCIES

In the normal course of business, MERS is involved in a number of disputes over benefits or other claims. MERS does not anticipate any material loss as a result of these claims. Furthermore, the cost of a successful benefits claim is ultimately the responsibility of the affected municipality in most cases, as it becomes a funding obligation of that municipality.

8. FUNDED STATUS AND FUNDING PROGRESS

The MERS funded status is summarized in the Management's Discussion and Analysis.

Actuarial valuations are prepared annually as of December 31 for each participating municipality. To facilitate budgetary planning needs, employer contribution requirements are provided for each municipality's unique fiscal year that commences after the following calendar year-end. For example, the contribution requirements for fiscal years that began in 2023 were determined by actuarial valuations as of December 31, 2021. Approximately 78% of the participating municipalities have fiscal years that begin January 1 or July 1.

9. RELATED PARTIES

MERS did not conduct any material transactions with related parties during 2023.

10. GASB 68

The Governmental Accounting Standards Board (GASB) Statement No. 68, "Accounting and Financial Reporting for Pensions", requires certain disclosures for employers who provide pensions. MERS employees participate in the MERS Defined Benefit Plan. The sections below are required and pertain to MERS staff only.

Pensions

For purposes of measuring the Net Pension Liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Plan Description

The employer's defined benefit pension plan provides certain retirement benefits to plan members and beneficiaries. MERS is an agent multiple employers, statewide public employee pension plan established by the Michigan Legislature under Public Act 135 of 1945 and administered by a 9-member Board. MERS issues a publicly available financial report that includes financial statements and required supplementary information. This report is available on the MERS website at www.mersofmich.com.

Benefits Provided

Benefit Multiplier: 2.25% Multiplier (80% max)	Early Retirement (Reduced): 50/25, 55/15
Normal Retirement Age: 60	Final Average Compensation: 3 years
Vesting: 6 years	COLA for Future Retirees: 2.50% (Non-Compounded)
Early Retirement (Unreduced): 55/30	Employee Contributions: 4%
Act 88: Yes (Adopted 9/24/1996)	

At the December 31, 2023, valuation date, the following employees were covered by the benefit terms:

Inactive Employees or Beneficiaries Currently Receiving Benefits: 58
Inactive Employees Entitled to but Not Yet Receiving Benefits (including refunds): 89
Active Employees: 132
Total Employees: 279

Contributions

The employer is required to contribute amounts at least equal to the actuarially determined rate, as established by the Board. The actuarially determined rate is the estimated amount necessary to finance the cost of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The actuarial determined contribution rate for 2023 was 16.70% of payroll. MERS total employer contributions totaled \$3,863,147. MERS employees are required to contribute 4% of their salaries to help fund the pension.

Net Pension Liability/Asset

MERS Net Pension Liability, measured as of December 31, 2022, was \$928,588 and the total pension liability used to calculate the Net Pension liability was determined by an annual valuation for that date.

Actuarial Assumptions

The total pension liability in the December 31, 2022 Annual Actuarial Valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation: 2.5%
Salary Increases: 3.00% in the long term
Investment Rate of Return: 7.00% net of investment and administrative expenses, including inflation

This valuation incorporates fully generational mortality. The base mortality tables used are constructed as described below and are based on amount weighted sex distinct rates:

Pre-Retirement Mortality:

1. 100% of Pub-2010 Juvenile Mortality Tables for Ages 0-17
2. 100% of PubG-2010 Employee Mortality Tables for Ages 18-80
3. 100% of PubG-2010 Healthy Retiree Tables for Ages 81-120

Non-Disabled retired plan members and beneficiaries:

1. 106% of Pub-2010 Juvenile Mortality Tables for Ages 0-17
2. 106% of PubG-2010 Employee Mortality Tables for Ages 18-49
3. 106% of PubG-2010 Healthy Retiree Tables for Ages 50-120

Disabled retired plan members:

1. 100% of Pub-2010 Juvenile Mortality Tables for Ages 0-17
2. 100% of PubNS-2010 Disabled Retiree Tables for Ages 18-120

Future mortality improvements are assumed each year using scale MP-2019 applied fully generationally from the Pub-2010 base year of 2010.

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The economic assumptions used in this valuation are a 7.00% investment rate of return and a 3.00% wage inflation assumption, as adopted on February 28, 2019. The demographic assumptions used in this valuation are based on the results of a study of plan experience that covered the period from December 31, 2014, through December 31, 2018, which was dated 2020.

The long-term expected rate of return on pension plan investments was determined using a model method in which the best-estimate ranges of expected future real rates of return (expected returns net of investment and administrative expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Gross Return	Long-Term Expected Gross Return Contribution	Price Inflation Assumption	Long-Term Expected Real Rate of Return
Global Equity	60.00%	7.00%	4.20%	2.50%	2.70%
Global Fixed Income	20.00%	4.50%	0.90%	2.50%	0.40%
Private Investments	20.00%	9.50%	1.90%	2.50%	1.40%
Total	100.00%		7.00%		4.50%

Discount Rate

The discount rate used to measure the total pension liability was 7.25% for 2022 net of investment expenses. The projection of cash flows used to determine the discount rate assumes that employer and employee contributions will be made at the rates agreed upon for employees and the actuarially determined rates for employers. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to pay all projected future benefit payments of currently active and inactive employees. 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.

Changes in Net Pension Liability/(Asset)

	Total Pension Liability/(Asset) (a)	Plan Fiduciary Net Position (b)	Net Pension Liability/(Asset) (a) - (b)
Balances at December 31, 2021	\$51,956,058	\$58,813,653	\$(6,857,595)
Changes for the Year			
Service Cost	1,919,500		1,919,500
Interest on Total Pension Liability	3,785,787		3,785,787
Changes in benefits			-
Difference Between Expected and Actual Experience	1,350,935		1,350,935
Changes in Assumptions			-
Employer Contributions		4,547,865	(4,547,865)
Employee Contributions		1,381,069	(1,381,069)
Net Investment Income		(6,547,693)	6,547,693
Benefit Payments, Including Employee Refunds	(1,396,122)	(1,396,122)	-
Administrative Expenses		(111,202)	111,202
Other Changes			-
Net Changes	5,660,100	(2,126,083)	7,786,183
Balances as of December 31, 2022	\$57,616,158	\$56,687,570	\$928,588

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

The following presents the Net Pension Liability of MERS, calculated using the discount rate of 7.25%, as well as what the employer's Net Pension Asset would be using a discount rate that is 1% lower (6.25%) or 1% higher (8.25%) than the current rate.

Sensitivity of Net Pension Liability/(Asset)

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability (Asset)		\$928,588	
Change in Net Pension Liability	\$9,704,957		\$(7,868,832)
Adjusted Net Pension Liability (Asset)	\$10,633,545	\$928,588	\$(6,940,244)

Note: the current discount rate shown for GASB 68 purposes is higher than the MERS assumed rate of return. This is because GASB 68 requires that the discount rate must be gross of administrative expenses, whereas for funding purposes, it is net of administrative expenses. MERS has a net position asset due to the Plan Fiduciary Net Position exceeding the total Pension Liability.

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended December 31, 2023, MERS recognized a defined benefit pension expense of \$2,475,726. MERS also reported deferred outflows and inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences in Experience	\$1,898,298	
Differences in Assumptions	2,729,032	
Excess (Deficit) Investment Returns	5,401,832	
Contributions Subsequent to the Measurement Date*	3,863,147	
Total	\$13,892,309	

**The amount reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the Net Pension Liability for the measurement date of December 31, 2023, which is recorded in 2024.*

Amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended	Deferred Outflows
2024	\$2,496,956
2025	2,642,507
2026	2,425,119
2027	2,464,580

REQUIRED SUPPLEMENTARY INFORMATION

The following schedules are presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years where information is available.

Annual Money-Weighted Return

The annual money-weighted rate of return on pension plan investments is calculated as the internal rate of return on pension plan investments, net of investment expenses. This expresses investment performance adjusted for the changing amounts actually invested throughout the year, measured on monthly inputs with expenses measured on an accrual basis.

Schedule of Annual Money Weighted Returns

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual money-weighted rate of return, net of investment expenses	7.32%	-0.99%	10.78%	13.38%	-3.59%	14.05%	13.46%	14.13%	-10.42%	11.62%

The following schedules refer to MERS' staff only. A measurement date of December 31, 2022, was used. Note that while the measurement date for calculation of the net pension liability and pension expense is December 31, 2022, the schedule of employer contributions shows the actuarial contributions that have been remitted through December 31, 2023, and the preceding 10 years.

Schedule of Employer Contributions

The Schedule of Employer Contributions shows the employer's required annual contributions from the annual actuarial valuation, compared with the actual contributions remitted over the past 10 years.

	2023	2022	2021	2020	2019
Actuarial Determined Contributions	\$2,363,147	\$2,247,865	\$1,845,369	\$1,629,051	\$1,406,884
Contributions in Relation to the Actuarially Determined Contribution	3,863,147	4,547,865	2,845,369	2,629,051	2,406,884
Contribution Deficiency (Excess)	\$(1,500,000)	\$(2,300,000)	\$(1,000,000)	\$(1,000,000)	\$(1,000,000)
Covered Payroll	\$14,196,695	\$12,978,361	\$12,757,833	\$12,669,789	\$11,669,868
Contributions as a Percentage of Covered Payroll	17%	17%	14%	13%	12%
	2018	2017	2016	2015	2014
Actuarial Determined Contributions	\$1,612,796	\$1,367,084	\$1,172,934	\$1,088,267	\$1,089,079
Contributions in Relation to the Actuarially Determined Contribution	2,612,796	2,367,084	1,672,934	2,099,146	2,089,079
Contribution Deficiency (Excess)	\$(1,000,000)	\$(1,000,000)	\$(500,000)	\$(1,010,879)	\$(1,000,000)
Covered Payroll	\$11,048,903	\$10,643,044	\$10,080,837	\$9,694,637	\$9,184,670
Contributions as a Percentage of Covered Payroll	15%	13%	12%	11%	12%

Notes to Schedule of Employer Contributions:

Actuarial Cost Method: Entry Age Normal

Amortization Method: Level percentage of payroll, open

Remaining Amortization Period: 15 years

Asset Valuation Method: 5-year smoothed

Inflation: 2.5% long-term price inflation

Salary Increases: 3.00%

Investment Rate of Return: 7.00% net of investment and administrative expenses

Normal Retirement Age: 60

Mortality: 106% of Pub-2010 Juvenile Mortality Tables for Ages 0-17, 106% of PubG-2010 Employee Mortality Tables for Ages 18-49, 106% of PubG-2010 Healthy Retiree Tables for Ages 50-120

Schedule of Changes in Employer's Net Pension Liability/(Asset) and Related Ratios

The Schedule of Changes in Employer's Net Pension Liability and Related Ratios shows the changes in the total pension liability less the statement of changes in fiduciary net position resulting in the net Pension Liability calculation for the employer.

Schedule of Changes in the Net Pension Liability/(Asset)

Total Pension Liability	2015	2016	2017	2018	2019	2020	2021	2022	2023
Service Cost	\$1,203,192	\$1,269,997	\$1,379,059	\$1,457,033	\$1,507,070	\$1,601,106	\$1,734,494	\$1,750,375	\$1,919,500
Interest	1,523,654	1,706,312	1,985,384	2,192,266	2,429,062	2,686,643	2,886,270	3,453,001	3,785,787
Changes of Benefit Terms									
Difference Between Expected and Actual Experience		313,939	(134,179)	95,943	189,688	12,338	1,787,274	144,111	1,350,935
Changes of Assumptions		1,386,692				1,122,227	2,249,052	2,674,943	-
Payments Including Refunds	(526,561)	(565,862)	(627,619)	(738,847)	(881,777)	(1,024,365)	(1,165,256)	(1,250,821)	(1,396,122)
Other		1	(1)	(1)	2			(1)	(0)
Net Change in Total Pension Liability	2,200,285	4,111,079	2,602,645	3,006,394	3,244,045	4,397,949	7,491,834	6,771,609	5,660,100
Total Pension Liability Beginning Balance	18,130,219	20,330,504	24,441,583	27,044,228	30,050,622	33,294,667	37,692,616	45,184,449	51,956,058
Total Pension Liability Ending Balance	\$20,330,504	\$24,441,583	\$27,044,228	\$30,050,622	\$33,294,667	\$37,692,616	\$45,184,449	\$51,956,058	\$57,616,158
Plan Fiduciary Net Position									
Contributions-Employer	\$2,089,079	\$2,099,146	\$1,672,934	\$2,367,084	\$2,610,796	\$2,406,884	\$2,629,051	\$2,845,369	\$4,547,865
Contributions-Employee	398,940	520,710	514,304	525,320	461,803	521,092	852,920	1,579,425	1,381,069
Net Investment Income	1,193,652	(343,573)	2,735,307	3,753,767	(1,378,989)	4,722,235	6,114,163	6,848,194	-6,547,693
Payments Including Refunds	(526,561)	(565,862)	(627,619)	(738,847)	(881,777)	(1,024,365)	(1,165,256)	-1,250,821	-1,396,122
Administrative Expense	(44,244)	(48,754)	(53,870)	(59,178)	(66,335)	(81,434)	(84,290)	-80,729	-111,202
Net Change Net Position	3,110,866	1,661,667	4,241,055	5,848,147	745,498	6,544,411	8,346,588	9,941,439	(2,126,083)
Plan Fiduciary Net Position Beginning Balance	18,373,983	21,484,849	23,146,516	27,387,571	33,235,718	33,981,216	40,525,627	48,872,215	58,813,654
Fiduciary Net Ending Balance	\$21,484,849	\$23,146,516	\$27,387,571	\$33,235,718	\$33,981,216	\$40,525,627	\$48,872,215	\$58,813,654	\$56,687,571
Employer Net Liability/(Asset)	\$(1,154,345)	\$1,295,067	\$(343,343)	\$(3,185,096)	\$(686,549)	\$(2,833,011)	\$(3,687,765)	\$(6,857,595)	\$928,588
Fiduciary Net Position as a % of the Total Pension Liability/(Asset)	106%	95%	101%	111%	102%	108%	108%	113%	98%
Covered Payroll	\$9,184,670	\$9,694,637	\$10,080,837	\$10,643,044	\$11,048,903	\$11,669,868	\$12,669,789	\$12,757,833	\$12,757,833
Employer's Net Pension Liability/(Asset) as a percentage of covered payroll	-13%	13%	-3%	-30%	-6%	-24%	-29%	-54%	7%

There were changes in the actuarial assumptions or methods affecting the 2015, 2019, 2020 and 2021 valuations for smoothing, price and wage inflation, discount rate, and mortality tables based on experience studies and the implementation of a dedicated gains policy. These calculations were done with an effective date of December 31, 2015, 2019, 2020, and 2021, impacting the 2016, 2020, 2021 and 2022 fiscal periods respectively.

OTHER SUPPLEMENTARY INFORMATION

Schedule of Administrative Expenses

	Budget (Unaudited)	Actual	Variance	Percentage of Budget
Personnel Services				
Salaries	\$14,150,100	\$13,440,020	\$710,080	95%
Social Security	1,044,400	937,059	107,341	90%
Retirement	3,256,100	3,207,779	48,321	99%
Insurance	2,584,400	2,447,355	137,045	95%
Total Personnel Services	21,035,000	20,032,213	1,002,787	95%
Professional Services				
Third Party Administrator	2,356,596	2,306,477	50,119	98%
Actuarial Services	1,700,000	1,261,652	438,348	74%
Audit Services	250,000	249,080	920	100%
Commercial Banking	60,000	54,274	5,726	90%
IT Services/Continuity/Records	650,750	554,590	96,160	85%
Business Consultants	746,120	652,061	94,059	87%
Legal Services	58,000	40,497	17,503	70%
Medical Services	80,000	63,065	16,935	79%
Total Professional Services	5,901,466	5,181,696	719,770	88%
Communication				
Annual Conference	241,879	254,722	(12,843)	105%
Board Travel, Education and Meetings ¹	45,000	18,584	26,416	41%
Outreach	232,717	182,311	50,406	78%
Postage/Shipping	224,300	166,138	58,162	74%
Printing and Copying Services	94,000	54,392	39,608	58%
Telephone/Communications	231,000	202,616	28,384	88%
Travel and Meetings	136,700	134,603	2,097	98%
Total Communication	1,205,596	1,013,366	192,230	84%
Miscellaneous				
Depreciation	4,577,900	4,645,604	(67,704)	101%
Equipment Purchases & Rental	72,300	136,357	(64,057)	189%
Insurance	650,000	636,241	13,759	98%
Building/Maintenance/Utilities	139,100	93,928	45,172	68%
Office Supplies/Subscriptions	101,560	72,302	29,258	71%
Operating Expenses	588,050	91,758	496,292	16%
Personnel Support	204,990	113,473	91,517	55%
Professional Development	211,363	207,557	3,806	98%
Software Support	1,985,398	1,520,708	464,690	77%
Total Miscellaneous	8,530,661	7,517,928	1,012,733	88%
Total Administrative Expenses	\$36,672,723	\$33,745,203	\$2,927,520	92%
Less Service Product Fees ²	(6,893,876)	(9,024,314)	2,130,438	131%
Total Net Administrative Expenses	\$29,778,847	\$24,720,889	\$5,057,958	83%

¹Board Travel, Education, and Meetings includes \$1,774.89 for board members' training and education, including related travel expenditures. These expenditures comply with the requirements of Section 38.1133 of the Michigan Compiled Laws.

²Service fees come primarily from fees paid on participant directed accounts to cover administrative expenses. They are reported as miscellaneous income.

Note: See accompanying Independent Auditor's Report.

Schedule of Investment Expenses

	Budget (Unaudited)	Actual	Variance	Percentage of Budget
Personnel Services				
Salaries	\$1,980,600	\$1,975,073	\$5,527	100%
Incentive Pay	1,042,500	555,972	486,528	53%
Social Security	139,400	135,178	4,222	97%
Retirement	408,000	388,420	19,580	95%
Insurance	246,500	230,380	16,120	93%
Total Personnel Services	3,817,000	3,285,023	531,977	86%
Professional Services				
Commercial Banking	1,090,000	1,126,795	(36,795)	103%
Investment Managers	6,800,000	5,955,315	844,685	88%
Business Consultants	142,000	206,835	(64,835)	146%
Total Professional Services	8,032,000	7,288,945	743,055	91%
Miscellaneous				
Travel	180,000	167,327	12,673	93%
Diligence	30,000	15,600	14,400	52%
Office Supplies	7,000	521	6,479	7%
Professional Development	30,000	14,319	15,681	48%
Operating Expenses	10,000	4,954	5,046	50%
Research and Portfolio Management	431,000	341,552	89,448	79%
Total Miscellaneous	688,000	544,273	143,727	79%
Total Investment Expenses	\$12,537,000	\$11,118,241	\$1,418,759	89%
Less Service Product Fees ¹	(2,570,456)	(736,501)	(1,833,955)	29%
Total Net Investment Expenses	\$9,966,544	\$10,381,740	\$(415,196)	104%

¹Service fees come primarily from fees paid on participant directed accounts to cover administrative expenses. They are reported as miscellaneous income.

Schedule of Payments to Consultants

Firm	Nature of Services	Amount
Tegrit Software Ventures, Inc.	Software Consulting and Configuration Services	\$4,902,691
Alerus Retirement Solutions	Third Party Administration	2,306,476
Gabriel, Roeder, Smith & Company	Actuarial Consultant	1,319,327
BNY Mellon	Depository Trust Banking Services	553,856
Innova Solutions, Inc.	Software Consulting and Configuration Services	305,590
Dewpoint Inc.	Software Consulting and Configuration Services	211,281
Plante & Moran, PLLC	Auditing Services	211,000
Gallagher Benefit Services, Inc.	Benefit Consultant	135,500
Bloomberg Finance L.P.	Investment Data Services	131,217
GovInvest Inc.	Software Consulting and Configuration Services	121,500
Rapid7 LLC	Software Consulting and Configuration Services	120,105
Presidio Networked Solutions	Software Consulting and Configuration Services	97,841
Stephen Morrow	Investment Consultant	75,000
Ice Miller, LLP	Legal Services	72,971
Gartner Inc.	Software Consulting and Configuration Services	65,000
Korn Ferry (US)	HR Consultant	62,090
Cobalt Labs	Software Consulting and Configuration Services	61,710
Winklevoss Technologies LLC	Software Consulting and Configuration Services	60,350
Miller, Canfield, Paddock, and Stone, PLC	Legal Services	59,132
Managed Medical Review Organization	Medical Advisors	58,360
BCA Research	Investment Consultant	57,000
TTEC Digital, LLC	Software Consulting and Configuration Services	54,103
NEPC, LLC	Investment Consultant	53,441
Vergence Institutional Partners LLC	Investment Consultant	52,000
Verus Advisory, Inc.	HR Consultant	50,000
Michigan Legislative Consultants	Legislative Consultant	42,840
Callan, LLC	RFP Consultant	42,500
L.P. Gavekal Capital	Investment Consultant	42,436
Byrum & Fisk Advocacy	Marketing and Public Relations Services	36,000
Martin Commercial Properties, Inc.	Real Estate Consultant	30,033
Ned Davis Research	Investment Consultant	28,760
The Townsend Group	Investment Consultant	27,283
Karoub Associates	Legislative Consultant	24,720
Pricewaterhouse Coopers LLP	Investment Consultant	20,394
PBI Research Services	Research Services	20,178
Droste Group	HR Consultant	20,000
Total		\$11,532,685

This schedule only includes firms whose annual payment amount was \$20,000 or above. Fees paid to investment managers are included in the Investments Section.

Payments to consultants are already included in the Administrative and Investments Expenses reported in the Statement of Changes in Fiduciary Net Position.

See accompanying Independent Auditor's Report.

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CHIEF INVESTMENT OFFICER REPORT

Dear Members and MERS Retirement Board:

I respectfully submit the investment activity for the Municipal Employees' Retirement System (MERS) of Michigan's Annual Comprehensive Financial Report for the year ending December 31, 2023.

As always, our goal is to invest fund assets to achieve the long-term objectives of our member municipalities established by the Board, within prudent risk parameters. Our investment returns consistently outperform various benchmarks and market averages, through a long-term approach designed to provide downside protection and upside market participation.

Economic Overview

In 2023, global equities rebounded from the bear market of the year prior, with the S&P 500 delivering a 26.3% return. Optimism around the prospects of artificial intelligence (AI) sparked excitement throughout the year. Investors flooded towards the "Magnificent Seven," a basket of seven widely traded US companies that are in the technology sector. The Information Technology sector led market gains, while utilities and energy lagged. Foreign equity markets provided strong returns in 2023, albeit underperforming their US large-cap peers. Japanese equities did quite well, with the MSCI Japan Index ending the year with a 20.7% return. With the weakness in the Chinese markets, the MSCI Emerging Markets Index lagged throughout the year, having a calendar-year return of 10.13%. Inflation continued to be a primary concern throughout 2023, despite some disinflationary trends developing throughout the year, the Federal Reserve fell short of achieving its targeted 2% inflation rate. In September, the Federal Reserve opted to pause its rate hike campaign, while foreshadowing potential rate cuts by the second half of 2024. Mortgage rates experienced considerable volatility, peaking at a multi-decade high of 8.10% before undergoing a sharp decline to below 7.00% by the conclusion of the year. In the energy markets, WTI Crude experienced a decline of nearly 10% in 2023, a stark contrast to its previous ascent beyond \$100/barrel in mid-2022 after the start of the Ukraine War. The decline was attributed to supply fears easing, and it contributed to downward pressure on retail gasoline prices over the year. While most commodities struggled in 2023, the outperformance of gold stood out as prices reached new all-time highs after a gain of 13.5% in 2023. Amidst persistent inflationary pressures and geopolitical uncertainties, gold remained a safe-haven asset for investors seeking stability. Bond yields also experienced increases in 2023, with the 10-year US Treasury reaching a yield of nearly 5.00%, a measure that has not been seen since prior to the Global Financial Crisis. Stickier than expected inflation, along with significant amounts of US Treasury bond issuance, drove bond yields higher.

MERS Total Portfolio

The MERS Total Market Portfolio (gross) returned 11.92% for the year, underperforming the MERS Policy Benchmark by 4.64%. However, the Portfolio continued to outperform at the two and three-year time periods, outpacing the benchmark by 1.76% and 2.05%, respectively. The MERS Global Equity Portfolio returned 18.22%, underperforming the Global Equity Policy Benchmark by 4.51%, mainly due to an underweight to US large-cap equities. The MERS Global Fixed Income portfolio delivered positive returns of 8.05% and significantly outperformed the Global Fixed Income Policy Benchmark by 2.45%. The MERS Private Investments Portfolio delivered positive returns of 5.07%. The drivers of that portfolio were the infrastructure strategy and diversifying strategies, as they returned 26.41% and 17.61%, respectively. The Liquid Natural Resources portfolio, designed to protect MERS' assets from rising inflation, returned 5.37%.

MERS 2023 highlights:

- MERS Total Market Portfolio returned 11.92% gross of fees for the year, outperforming its actuarial assumption rate for the year.
- MERS Total Market Portfolio outperformed its benchmark at the 2-, 3- and 10-year time periods.
- Portfolio returned 6.70% at the 10-year mark and outperformed the policy benchmark by 0.80%.
- Strong fund performance versus industry peers.
- The Office of Investments expands work on a Valuation Based Allocation (VBA) approach to its investment program.
- The base asset allocation breakdown is shown below:

Global Equity	60.00%
Global Fixed Income	20.00%
Private Investments	20.00%
- At the broad asset class level, absolute returns gross of investment fees for the year were as follows:

Global Equity	17.43%
Global Fixed Income	8.05%
Private Investments	
Private Equity	3.33%
Real Assets	0.97%
Diversifying Strategies	17.61%

In conclusion, I would like to thank the MERS Retirement Board for their continued support of the Office of Investments in their roles as the fiduciaries of the MERS Plan. The clarity of MERS' governance structure and the functional checks and balances have allowed the investment program to be successful for our members. This relationship makes for a more efficient decision-making process, benefiting our membership through stronger risk-adjusted returns.

Respectfully,

Jeb Burns

Chief Investment Officer

REPORT ON INVESTMENT ACTIVITY

The Board, as “investment fiduciary” under the Public Employee Retirement System Investment Act (PERSIA), MCL 38.1132 et seq., has the fiduciary responsibility and authority to direct the investment of MERS’ trust assets. Board Members must discharge their duties for the exclusive benefit of plan participants and beneficiaries. PERSIA requires that the Board “act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with those matters would use in the conduct of a similar enterprise with similar aims.” MCL 38.1133(3).

MERS offers a Defined Benefit Plan (DB), Defined Contribution Plan (DC), Hybrid Plan, Health Care Savings Program (HCSP), 457 Deferred Compensation Program (457), Deemed Individual Retirement Account (IRA), Retiree Health Funding Vehicle (RHFV) and Investment Services Program (ISP) (the “Plans”). MERS’ investments are made through its IRS Rev. Rul. 81-100 group trust, Municipal Employees’ Retirement System of Michigan Group Trust, which aggregates MERS’ assets for investment purposes. The Retirement Board (Board) has delegated all investment management operations and activities to the Chief Executive Officer (CEO) and the Board’s Investment Committee, except those specifically reserved by the Board. The CEO is directly responsible for all day-to-day activities of MERS. The CEO has delegated management of MERS’ trust assets to the Chief Investment Officer (CIO) and the Office of Investments (Office), including all investment management activities. All transactions undertaken on behalf of the Plans are for the sole interest of the Plans’ participants and beneficiaries.

The MERS Investment Policy Statement (IPS) outlines the investment goals, objectives, and policies of the MERS’ Defined Benefit Portfolio (Portfolio). The purpose of the IPS is to ensure that the investment activities are carried out within the framework established by the Board in accordance with applicable law. The IPS assists the Board, Investment Committee, and the Office in effectively and prudently monitoring and administering MERS’ investment program.

The IPS is designed to provide sufficient flexibility in the management and oversight process to reflect the dynamic nature of the capital markets and facilitate proactive decision-making. It is a working document and may be modified as needed or as market conditions change. At a minimum, the IPS will be reviewed and approved annually by the Board.

In accordance with GASB Statement No. 67, plan investments are presented at fair value. Short-term investments are valued at cost plus accrued interest, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price using current exchange rates. Corporate bonds not traded on a national or international exchange are based upon equivalent values of comparable securities with similar yield and risk. Other investments that do not have established markets are recorded at an estimated fair value. Real estate, private equity and certain alternative investments typically have a quarter lag in reporting, which is the industry standard, but the values as of December 31 are estimated based on the third-quarter capital statements plus fourth-quarter cash flows, adjusted for any other known events. MERS maintains its books and adjusts to fair market value as statements and valuations are received. Periodic and independent appraisals of these assets are performed to ensure an accurate valuation to determine the fair value of the Portfolio.

MERS uses a time-weighted rate of return calculation methodology based on the market rate of return for the schedule of investment results in this report.

The annual money-weighted rate of return on Portfolio investments is calculated as the internal rate of return on Portfolio investments, net of investment expenses. This expresses investment performance adjusted for the changing amounts invested throughout the year, measured on monthly inputs, with expenses measured on an accrual basis. The annual money-weighted rate of return net of investment expenses measured on monthly inputs was 11.62%.

DEFINED BENEFIT PLAN

INVESTMENT OBJECTIVES AND ACTIVITY

In conformity with PERSIA, the primary goal of MERS' investment program is to grow assets at a rate that, when coupled with employer and employee contributions, satisfies promised benefits to MERS' members. To achieve this objective, the Board prudently allocates the Portfolio's assets with a strategic, long-term perspective to reduce risk by:

- Exceeding the Board-approved actuarial investment return assumption on a long-term basis
- Maintaining adequate liquidity to pay promised benefits
- Adopting an asset allocation approach that reflects current and future liabilities, balances Portfolio risk, and maximizes the long-term total rate of return
- Minimizing costs through the efficient use of internal and external resources
- Maintaining above-median peer rankings for the 10-year time period
- Exceeding the return of the Portfolio's Policy Benchmark, which currently consists of:

Index	Weighting
Russell 3000	45%
MSCI ACWI IM ex-US	20%
Bloomberg US Aggregate	25%
Bloomberg Global Aggregate ex-US	10%

PORTFOLIO HIGHLIGHTS

Asset Allocation

The Portfolio's asset allocation is the single most important determinant of achieving the stated investment goals. The Board adopts and implements an asset allocation policy that is predicated on several factors, including:

- Historical and expected long-term capital market risks and returns for each asset class
- Expected correlations of returns among various asset classes
- An assessment of future economic conditions, including growth, inflation, and interest rate levels
- Liquidity requirements with a focus on ensuring monthly pension obligations are met
- Risk modeling to ensure long-term, Board-established active risk and total risk targets are satisfied

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Criteria for Inclusion of Asset Classes

The following criteria are used to assess asset classes for inclusion in the Portfolio:

- Sufficient size and liquidity to permit an investment by MERS
- Staff, investment manager, or consultant expertise to ensure proper due diligence and cost-effective implementation
- The incorporation of the asset class contributes to the return enhancement and/or further diversification of the Portfolio
- Ability to readily measure performance and risk against appropriate benchmarks

Valuation Based Allocation

MERS follows a Valuation Based Allocation (VBA) approach to allocate the Portfolio's assets. The VBA approach recognizes that asset prices should be reflective of fundamental economic value over the long-term and fundamental value is best determined through discounted cash flow analysis. Asset prices may disconnect from fundamental value over time for a variety of reasons, but eventually, asset prices will likely revert to fundamental value. These deviations from fundamental value over shorter periods create opportunities for long-term investors to add value relative to static benchmarks through active asset allocation. The Office believes that this approach provides adequate flexibility to take advantage of attractive long-term opportunities as these deviations occur. Doing so should reduce risk and improve long-term returns.

The VBA approach provides a consistent framework for identifying, evaluating, and most importantly, sizing investments based on their risk and return profile. A proprietary model is utilized to evaluate market opportunities across investable asset classes and determine appropriate allocations. There are currently eight distinct VBA asset classes included in the model: US Equity, Europe Equity, Pacific Equity, Emerging Market Equity, US Treasuries, US High Yield, Emerging Market Debt, and Cash. The model uses economic data and assumptions to derive the fair value for the asset classes using discounted cash flow models; expected returns can then be determined. The VBA model evaluates each asset class's return potential versus the relative risk and correlation to other asset classes and tilts the portfolio toward the most compelling return vs risk opportunities. Portfolio risk is dynamic, meaning it is scaled up or down based on opportunity (i.e., the degree to which the various asset classes are over or undervalued). The more asset classes deviate from fundamental fair value, the more active risk will be taken. The model is designed to target acceptable levels of both absolute risk (volatility) and active risk (tracking error) relative to the Policy Benchmark on a long-term basis.

The VBA model is updated on a real-time basis resulting in ongoing asset allocation within established risk parameters and within the Board approved asset class allocation ranges outlined below.

Asset Class Allocation Ranges

MERS' Board has approved the following asset class allocation ranges:

Current Targeted Allocations and Allocation Bands

Asset Class	Base Allocation	Minimum Allocation	Maximum Allocation
Global Equity	60.0%	35.0%	70.0%
Global Fixed Income	20.0%	10.0%	60.0%
Private Investments	20.0%	No Minimum	30.0%

The Board sets target allocations to various asset classes that are designed to meet MERS' long-term objectives and establish minimum and maximum allowable allocations for each asset class. These asset class allocation ranges are meant to provide sufficient flexibility to execute the VBA approach while also ensuring the Portfolio always maintains adequate diversification and liquidity. An allocation to Private Investments is expected, however, due to the illiquid nature of most of these strategies, a minimum allocation to these assets is unnecessary. Private Investments will only be made if compelling market opportunities are available and in lieu of comparable public market investments.

Aggregate investments with any investment management firm are limited to 10% of the total Portfolio to reduce external manager concentration. ETFs are excluded from this limit.

Valuation Based Allocation Program Monitoring and Reporting

Adequate oversight and monitoring of the VBA program are critical to ensure portfolio performance and positioning are within established parameters and risks are well understood and incorporated into the investment decision-making process. A dedicated Asset Allocation Team (AAT) is responsible for maintaining and enhancing the VBA model on an ongoing basis. The VBA model is updated on a weekly basis and the AAT meets monthly to review the model and recommended positioning. The AAT provides formal recommendations to the Portfolio Review Committee (PRC) as necessary, but quarterly at a minimum. The PRC is responsible for implementing the recommended allocation in compliance with the PRC Guidelines. The AAT conducts a VBA model input review annually to evaluate all economic assumptions that drive asset class fair values as well as risk and correlation estimates. If it is determined that model inputs need revision or model changes are necessary, they are approved by the PRC and communicated to the Investment Committee. The Office provides and presents a formal asset allocation report to the Board on an annual basis. The report summarizes asset class valuations, long-term expected returns, the Portfolio's asset allocation, portfolio performance (including risk) and attribution. The report also includes the forward-looking long-term absolute risk and active risk (vs Policy Benchmark) of the Portfolio including and excluding Private Markets' investments.

A formal review of the VBA program will be conducted every five years, starting from the program inception, to ensure performance is within modeled expectations and to re-validate Board support. In conjunction with this review, the Policy Benchmark will also be analyzed to assess its suitability. An independent, third-party consultant will conduct the benchmark and VBA program review and report its findings and recommendations to the Board. Following the review and presentation of findings, the Board will formally approve or reject any changes to the VBA program and the Policy Benchmark.

Active Management Philosophy

The distinction between active and passive management has always been nuanced, but it has become increasingly blurred in recent years with the proliferation of new investment products and vehicles. Factor-based strategies enhanced and custom indices, sector/industry-specific funds, etc., have been popularized, providing investors with nearly unlimited choices regarding the specific type of exposure they desire. Indices can be broad-based, representing diverse exposure to a specific asset class or region, or more narrowly focused on an individual sector or industry. Even indices tracking the same market segment, such as US large-cap equities, differ in their selection criteria, construction methodology, and rebalancing process, resulting in different performance characteristics and risk/return profiles. At the highest level, any deviation from the Global Market Portfolio¹ can be viewed as an active decision. Thus, the selection and intentional use of passive or index-linked investment products is considered an active management decision.

MERS considers liquidity, cost, and performance characteristics when selecting passive or index-linked products and the type of investment instruments it uses. The use of a passive investment approach versus active management also varies based on the characteristics of the asset class. In efficient markets, such as US large-cap equities, passive exposure is favored in order to reduce management fees. In less efficient markets, such as emerging markets or US micro-cap equity, active management is favored to reduce risk and add value over a purely passive approach.

¹The Global Market Portfolio encompasses the universe of all investable assets and their market value at a given point in time. It represents the positioning of investors in aggregate and reveals insights regarding their attitudes and preferences. Therefore, it could be considered as a natural benchmark for strategic allocation decisions.

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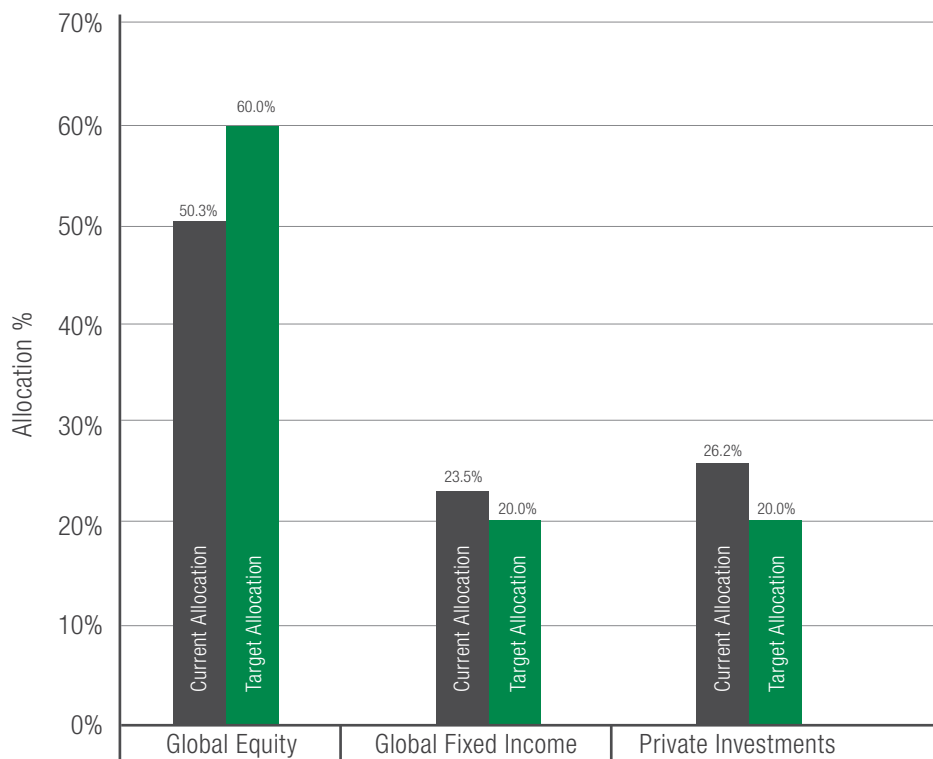
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Portfolio Rebalance Policy

In conducting Portfolio rebalancing activities, the AAT, Office and PRC are responsible for the following:

- Approving all rebalancing transactions
 - The AAT (with CIO approval) has the discretion to rebalance up to 5% (total notional) of the Portfolio. All decisions are communicated to the PRC and larger allocation shifts require the PRC approval.
- Running the VBA model and assessing the recommended portfolio weekly or any time there is an equity market decline or increase in excess of 5%
- Reviewing the asset allocation at least monthly to ensure compliance with the asset class allocation ranges set by the Board
- Initiating rebalancing transactions to bring all asset class allocations inside the approved range or promptly seeking Board approval to remain outside of the range if an asset class falls out of said range
- Rebalancing the Portfolio quarterly in line with the VBA model-recommended allocations
- Initiating a rebalancing transaction when an asset class or sub-asset class deviates more than 5% from the VBA model-recommended weight
- Implementing rebalancing activities at a reasonable cost using index futures via an external derivatives manager, ETFs, CITs or other index funds, or active managers
- Initiating approved rebalancing transactions in a timely manner (generally within 24 hours of approval)

Current Asset Allocation versus Base Allocation



Statistical Performance

Portfolio Characteristics	1 Year	3 Year	5 Year	7 Year	10 Year
Annualized Return (gross of fees)	11.92%	4.72%	8.26%	7.21%	6.70%
Annualized Standard Deviation	9.32%	9.67%	10.31%	9.05%	8.20%
Sharpe Ratio	0.74	0.27	0.62	0.61	0.66
Excess Return	-4.64%	2.05%	-0.28%	-0.33%	0.80%
Correlation to Policy Benchmark	0.99	0.98	0.98	0.98	0.97
	1 Year	3 Year	5 Year	7 Year	10 Year
MERS Total Portfolio (Gross of Fees)	11.92%	4.72%	8.26%	7.21%	6.70%
MERS Total Portfolio (Net of Fees)	11.60%	4.51%	8.07%	7.02%	6.49%
MTP Custom Benchmark*	16.56%	2.67%	8.54%	7.54%	5.90%
Excess (Gross)	-4.64%	2.05%	-0.28%	-0.33%	0.80%

*45% Russell 3000, 20% MSCI ACWI ex USA IMI (Net), 25% Bloomberg Aggregate, 10% Bloomberg Global Aggregate ex US

Securities Lending

The System utilizes a securities lending program through its custodial bank, in accordance with Section 20e of PERSIA MCL 38.1140e. The goal of the securities lending program is to increase Fund income and to offset investment management-related expenses.

Securities Lending 2023 Rebates and Fees

	Gross Earnings	Rebates	Agent/Mgr fees	Net earnings
Totals	\$36,399,273	\$33,154,521	\$556,104	\$2,688,648

Investment Summary for Defined Benefit, Defined Contribution, Hybrid, Health Care Savings Program, Retiree Health Funding Vehicle, 457 Program, IRA, and Investment Services Program

Type of Investment	Fair Value	Percentage
Global Equities	\$7,196,305,855	50.7%
Global Fixed Income	3,154,821,898	22.2%
Private Investments	3,671,371,198	25.9%
Cash	173,461,310	1.2%
Sub Total Investments	14,195,960,261	100.0%
Reconciliation of Investments to Financial Statements		
Total Investments from above	14,195,960,261	
Receivables - Sale of Investments, Interest & Dividends	(6,861,638)	
Alternative asset adjustment not in BNY portfolio	40,851,765	
Investment in Land	1,402,094	
Investments in Mutual Funds and Self Directed Accounts	1,770,712,788	
Investments in cash	(19,116,283)	
Rounding	678	
Payables - Purchases of Investments	2,582,100	
Investments on Financial Statements	\$15,985,531,765	

Note: Includes receivables and payables for sales and purchases of securities with settlement dates after December 31, 2023.

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GLOBAL EQUITY ASSET CLASS SUMMARY

As of December 31, 2023, the Global Equity portfolio had a fair value of \$6.6 billion, representing 47.4% of the Fund. Performance for this portfolio was 18.22% gross of fees for the year.

The Global Equity allocation is the largest driver of return and risk for the Portfolio. The portfolio is designed to provide long-term capital appreciation, generate current income, and provide a hedge against inflation. Global Equity assets are diversified across geographic regions, investment styles, and market capitalization to diversify risk.

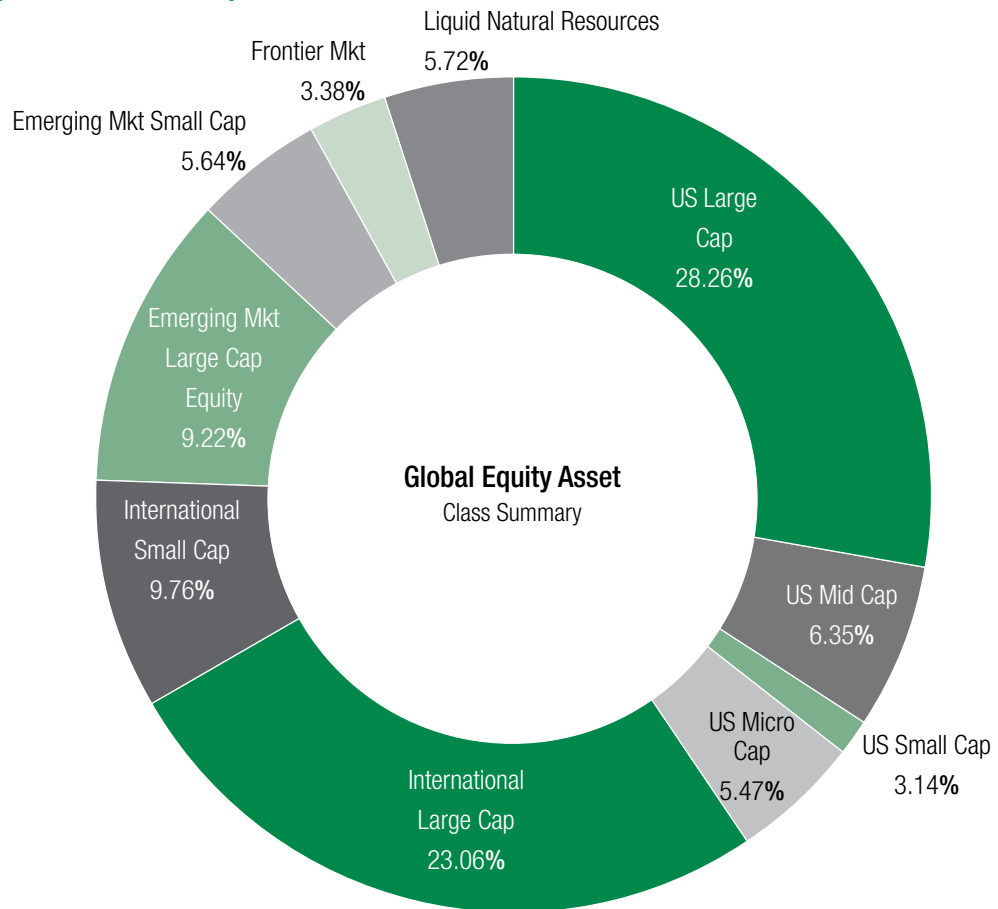
A core portion of the Global Equity portfolio is invested in highly liquid equity securities including, but not limited to, U.S. large-cap equities, U.S. mid-cap equities, and developed ex-US large and mid-cap equities. The portfolio may also include higher-risk investments such as small cap equities, micro-cap equities, emerging market equities, and frontier market equities.

Equities are the most volatile asset class and the largest driver of both absolute and active risk within the Portfolio. The VBA approach establishes recommended allocations for the broad VBA equity asset classes but does not dictate underlying allocations to each equity market capitalization segment. To mitigate taking unintended risk at the sub-asset class level and ensure Portfolio active risk remains in line with stated parameters, the following allocation and active risk targets have been established for equity asset and sub-asset classes:

Asset & Sub-Asset Class	Sub-Asset Class Target	Active Risk (Tracking Error)
US Equity		1.0 – 2.0%
Large Cap	70% of US Equity allocation	
Mid Cap	15% of US Equity allocation	
Small/Micro Cap	15% of US Equity allocation	
International Equity		1.0 – 2.0%
Large Cap	70% of International Equity allocation	
Small Cap	30% of International Equity allocation	
Emerging Market Equity		1.0 – 4.0%
Large Cap	50% of Emerging Market Equity allocation	
Small Cap	30% of Emerging Market Equity allocation	
Frontier Markets	20% of Emerging Market Equity allocation	

MERS uses a time-weighted rate of return calculation methodology based on the market rate of return for the schedule of investment results in this report.

Global Equity Asset Class Summary



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Global Equity Performance

	1 Year	3 Years	5 Years	10 Years
Global Equity	17.43%	5.11%	9.53%	7.36%
Global Equity Blend ¹	22.73%	6.43%	12.72%	8.52%
Excess	-5.30%	-1.32%	-3.19%	-1.16%
U.S. Large Cap Equity	24.68%	10.20%	15.11%	12.10%
S&P 500 Index	26.29%	10.00%	15.69%	12.03%
Excess	-1.61%	0.20%	-0.58%	0.07%
U.S. Mid Cap Equity	15.85%	7.85%	12.41%	8.69%
S&P 400 Index	16.44%	8.09%	12.62%	9.27%
Excess	-0.59%	-0.24%	-0.21%	-0.58%
U.S. Small Cap Equity	17.12%	8.91%	11.63%	8.12%
S&P 600 Index	16.05%	7.28%	11.03%	8.66%
Excess	1.07%	1.63%	0.60%	-0.54%
U.S. Micro Cap Index	16.35%	8.94%	11.68%	7.55%
Russell Micro Cap Index	9.33%	0.61%	8.56%	5.79%
Excess	7.02%	8.33%	3.12%	1.76%
International Large Cap Equity	15.80%	2.09%	6.73%	
MSCI EAFE	18.24%	4.02%	8.16%	
Excess	-2.44%	-1.93%	-1.43%	
International Small Cap Equity	15.51%	3.06%	8.93%	7.16%
MSCI EAFE Small Cap (Net)	13.16%	-0.69%	6.58%	4.80%
Excess	2.35%	3.75%	2.35%	2.36%
Emerging Market Large Cap Equity	10.09%	-5.97%	3.18%	2.05%
MSCI Emerging Markets	9.83%	-5.08%	3.68%	2.66%
Excess	0.26%	-0.89%	-0.50%	-0.61%
Emerging Market Small Cap Equity	20.06%	6.76%	11.82%	
MSCI EM Small Cap Equity	23.92%	6.45%	9.92%	
Excess	-3.86%	0.31%	1.90%	
Frontier Market Equity	15.02%	4.20%	4.26%	2.76%
MSCI Frontier Market Index	11.63%	-0.52%	3.33%	2.00%
Excess	3.39%	4.72%	0.93%	0.76%
Liquid Natural Resources	5.37%	11.11%		
Policy Benchmark	16.56%	2.67%		
Excess	-11.19%	8.44%		

¹70% Russell 3000, 30% MSCI ACWI ex U.S. IMI (net)

Top 10 Public Equity Holdings

Asset Description	Fair Value	Percentage of Total Fair Value
Ishares Core S&P 500 ETF	\$990,872,570	7.16%
Invesco S&P 500 QVM Multi-FA	890,862,378	6.44%
Ishares Core MSCI Emerging	398,794,368	2.88%
Invesco S&P Mid Cap 400 QVM M	277,610,198	2.01%
Ishares Core MSCI Pacific ET	266,407,822	1.93%
Invesco S&P Small Cap 600 QVM	215,752,848	1.56%
Vanguard FTSE Europe ETF	186,353,132	1.35%
Ishares International Developed	156,432,778	1.13%
Ishares Core S&P Mid Cap ETF	152,798,615	1.10%
JP Morgan Betabuilders Europe	128,330,218	0.93%

A complete list of portfolio holdings is available upon request.

Global Equity Investment Strategies

External Management	Portfolio Fair Value
U.S. Micro Cap	\$378,372,955
International Large Cap	23,392,244
International Small Cap	1,296,801,292
Emerging Markets Large Cap	241,608,466
Emerging Markets Small Cap	391,465,040
Frontier Markets	234,825,889
Liquid Natural Resources	149,492,487
Total	2,715,958,372
Internal Management	Portfolio Fair Value
U.S. Large Cap	1,962,091,499
U.S. Mid Cap	441,212,417
U.S. Small Cap	228,975,487
International Large Cap	802,376,869
International Small Cap	156,432,778
Emerging Markets Large Cap	398,794,368
Liquid Natural Resources	247,680,666
Total	4,237,564,084
Grand Total	\$6,953,522,456

INVESTMENTS

2023 annual comprehensive financial report

GLOBAL FIXED INCOME ASSET CLASS SUMMARY

As of December 31, 2023, the Global Fixed Income portfolio, including Cash, had a fair value of \$3.3 billion, representing 23.5% of the Portfolio. Performance for fixed income excluding cash was 8.04% gross of fees for the year.

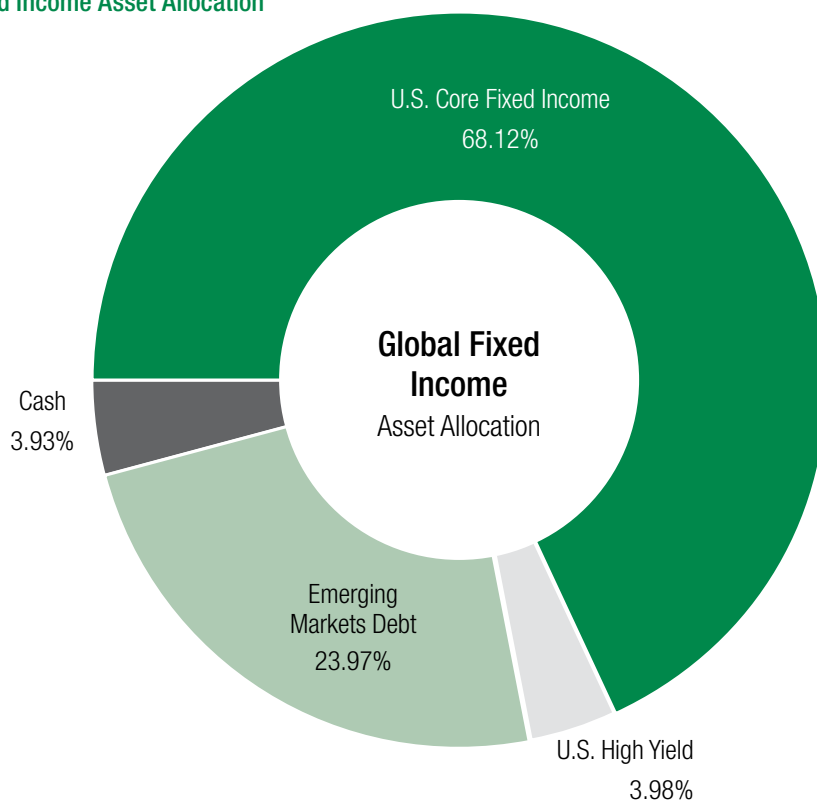
The Global Fixed Income allocation plays a vital role for the Portfolio. This portfolio is designed to provide downside protection, diversification, stable income, and liquidity. The core of the portfolio includes cash and investment-grade securities such as US Treasuries, corporate bonds, and global investment-grade debt. The core fixed-income portfolio is expected to preserve capital and provide liquidity that may be used for portfolio rebalancing in stressed market environments.

The Global Fixed Income portfolio may also include higher-risk investments such as high-yield bonds, emerging market debt, structured credit investments, and other below investment grade securities. These below investment-grade securities entail higher risk, including the potential impairment of capital and low liquidity. However, these securities tend to exhibit equity-like risk/return profiles combined with higher cash yields and are only purchased when risk premiums are high.

Both internal and external management is utilized within the Global Fixed Income portfolio.

Internal management within Global Fixed Income focuses on investment grade core fixed income and involves active decisions regarding duration, sector allocation, and security selection within US Treasuries, corporate bonds, and other sectors. External managers may also be used within core fixed income. Risk characteristics (such as duration and credit quality) are monitored on an aggregate basis, including both internal and external portfolios. External managers are used in the management of sub-investment grade securities. The Office will utilize specialized managers to opportunistically invest in certain portions of the sub-investment grade fixed-income market. ETFs and other index-linked products may also be used to cost-effectively implement bond strategies in lieu of using active managers.

Global Fixed Income Asset Allocation



Global Fixed Income Performance (gross of fees)

	1 Year	3 Years	5 Years	10 Years
Global Fixed Income	7.78%	-2.54%	2.85%	3.20%
Global Fixed Income Blend ¹	5.60%	-4.42%	0.36%	0.60%
Excess	2.18%	1.88%	2.49%	2.60%
U.S. Core Fixed Income	4.93%	-2.78%	1.14%	1.85%
Bloomberg Barclays Aggregate Bond Index	5.53%	-3.31%	1.10%	1.81%
Excess	-0.60%	0.53%	0.04%	0.04%
U.S. High Yield	11.22%	1.13%		
Bloomberg U.S. Corporate High Yield	13.45%	1.98%		
Excess	-2.23%	-0.85%		
Emerging Markets Debt	12.38%	-3.27%	2.30%	3.23%
JPMorgan EMBI Global Diversified Index	11.09%	-3.56%	1.67%	3.22%
Excess	1.29%	0.29%	0.63%	0.01%
Cash/Short Duration	5.20%	1.31%	2.08%	1.63%
91 Day Treasury Bill	5.05%	2.17%	1.89%	1.26%
Excess	0.15%	-0.86%	0.19%	0.37%

¹ 70% Bloomberg U.S. Aggregate Bond Index, 30% Bloomberg Global Aggregate ex U.S. Index

Top 10 Global Fixed Income Holdings

Asset Description	Fair Value	Percentage of Total Fair Value
Simplify Short Term Treasury Futures Strategy ETF	\$382,784,023	2.77%
SPDR Short Term Treasury ETF	382,449,612	2.77%
Vanguard Short-Term Treasury ETF	239,006,358	1.73%
Bondbloxx Bloomberg One Year Target Duration US Treasury ETF	225,198,567	1.63%
SPDR Long Term Treasury ETF	206,298,972	1.49%
Vanguard Intermediate Term Treasury ETF	201,138,282	1.45%
iShares JP Morgan USD Emerging Markets Bond ETF	187,423,564	1.36%
Bondbloxx JP Morgan USD Emerging Markets 1-10 Year Bond ETF	184,842,394	1.34%
SPDR Bloomberg Emerging Markets USD Bond ETF	174,720,249	1.26%
SPDR Portfolio Intermediate Term Treasury ETF	170,721,020	1.23%

A complete list of the portfolio holdings is available upon request.

Global Fixed Income – Investment Strategies

External Management	Portfolio Fair Value
Emerging Markets Debt	\$226,873,407
Total	226,873,407
Internal Management	
U.S. Core Fixed Income	2,217,231,964
Emerging Markets Debt	553,409,919
U.S. High Yield	129,430,937
Cash/Short Duration	128,012,881
Total	3,028,085,701
Grand Total	\$3,254,959,108

INVESTMENTS

2023 annual comprehensive financial report

PRIVATE INVESTMENTS CLASS SUMMARY

As of December 31, 2023, the Private Investments portfolio had a fair value of \$3.6 billion, representing 26.2% of the Fund's portfolio.

The Private Markets' portfolio provides diversification, capital appreciation, and a hedge against inflation for the total Portfolio. These investments are more illiquid than public market investments, thus requiring a longer time horizon and higher returns as compensation for illiquidity risk. The investments are accessed through a variety of structures including, but not limited to commingled funds, limited partnerships, co-investments and private placements. The Private Markets' portfolio includes three distinct asset classes: Private Equity, Real Assets, and Diversifying Strategies.

Private Equity

As of December 31, 2023, performance for Private Equity was 2.66% gross of fees for the year. The Private Equity portfolio had a fair value of \$864 million, representing 6.25% of the Fund's portfolio.

The primary role of the Private Equity portfolio is to provide the Portfolio with capital appreciation. This allocation complements the Public Equity portfolio by accessing a wider universe of investment opportunities and making equity investments in companies before becoming publicly traded. The allocation is diversified by industry, geography, and vintage year as well as by investment strategy (venture capital, growth equity, buyouts, and special situations).

Real Assets

As of December 31, 2023, performance for Real Assets was -.03% gross of fees for the year. The Real Assets portfolio had a fair value of \$2.0 billion, representing 14.7% of the Fund's portfolio.

The Real Assets portfolio provides the Portfolio with some degree of protection against inflation while also providing diversification. Secondary objectives are capital growth, and if possible, current yield through cash dividends. This portfolio is comprised of investments in physical assets that can be managed and sold to generate income.

Examples of Real Asset investments include:

- Real Estate
- Commodities (Hard and Soft)
- Infrastructure
- Timber
- Agriculture/Farmland

Diversifying Strategies

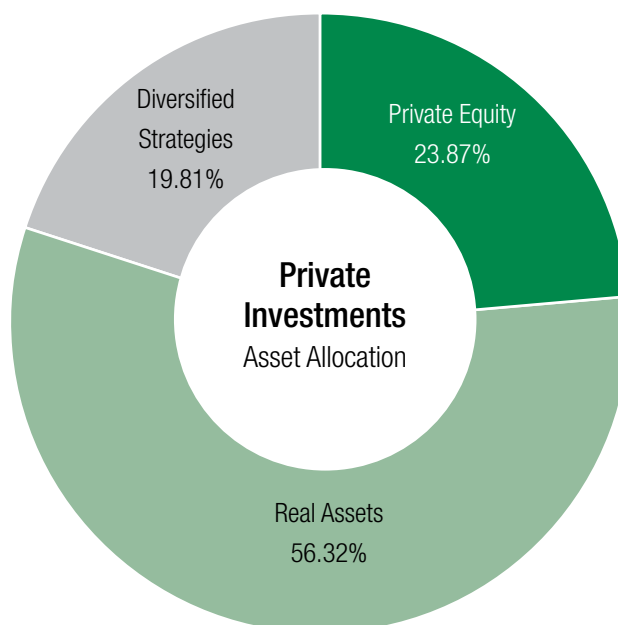
As of December 31, 2023, performance for Diversifying Strategies was 17.02% gross of fees for the year. The Diversifying Strategies portfolio had a fair value of \$717 million, representing 5.2% of the Fund's portfolio.

The Diversifying Strategies allocation seeks to provide the Portfolio with downside protection and diversification. This allocation targets strategies that exhibit low correlation with traditional asset classes – specifically equities – and should outperform during stressed equity markets. Due to the unique nature of these strategies, they are often managed by managers with unique skill sets in niche or capacity-constrained areas of the market. The allocation may include equity or debt investments, as well as hybrid security structures with characteristics of both.

Examples of Diversifying Strategies investments include:

- Private Credit
- Insurance-Linked Investments
- Intangible Assets

Private Investments Asset Allocation



INVESTMENTS

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Private Investments Performance

	1 Year	3 Years	5 Years	10 Years
Private Equity	2.66%	18.99%	17.60%	14.42%
Private Equity Blend	15.18%	0.93%	8.42%	6.15%
Excess	-12.52%	18.06%	9.18%	8.27%
Real Assets	-0.03%	6.16%	8.61%	7.35%
Real Assets Blend	6.35%	8.60%	8.74%	5.03%
Excess	-6.38%	-2.44%	-0.13%	2.32%
Real Estate	-0.70%	12.70%	9.00%	11.31%
Real Estate Blend1	8.83%	7.52%	-4.04%	-1.38%
Excess	-9.53%	5.18%	13.04%	12.69%
Timber	1.21%	6.33%	5.52%	6.82%
S&P Global Timber & Forestry Index Net	13.76%	2.28%	8.94%	6.13%
Excess	-12.55%	4.05%	-3.42%	0.69%
Infrastructure	26.41%	23.89%	16.51%	10.48%
Private Infrastructure Blend2	5.75%	0.28%	4.24%	3.56%
Excess	20.66%	23.61%	12.27%	6.92%
Commodities	9.63%	-2.16%	6.92%	3.70%
Bloomberg Commodity Index Total Return	-7.91%	10.76%	7.23%	-1.11%
Excess	17.54%	-12.92%	-0.31%	4.81%
Agriculture & Farmland	-22.01%	-2.22%	6.84%	7.78%
S&P Global Agribusiness Equity Index	-6.93%	5.66%	9.45%	5.49%
Excess	-15.08%	-7.88%	-2.61%	2.29%
Diversifying Strategies	17.61%	10.70%	8.46%	7.00%
Diversifying Strategies Blend3	11.49%	-0.60%	4.84%	3.67%
Excess	6.12%	11.30%	3.62%	3.33%

¹ 80% FTSE NAREIT All Equity REITS, 20% Investment Grade CMBS BBB Index

² 50% DJ Brookfield Global Infrastructure Index, 50% Bloomberg Global Inflation-Linked

³ 25% Russell 3000, 10% MSCI ACWI ex US IMI Net, 45% Bloomberg US Agg, 20% Bloomberg Global Agg ex US

Investment Management Fees

Since management fees directly affect the returns of a manager, MERS strives to negotiate the lowest fees reasonably practicable, leveraging its asset size to drive down costs. While top-performing managers often have higher fee structures, performance expectations and investment costs are carefully balanced. Because management fees are definitive regardless of investment return, all else being equal, managers with lower fees are favored.

Schedule of Investment Fees

Investment Managers	Average Assets Under Management	Annual Fee	Average Basis Points
Global Equity	\$7,196,305,855	\$5,948,507	8
Global Fixed Income	3,154,821,898	6,807	0
Private Investments	3,671,371,197	0	0
Total	\$14,022,498,950	\$5,955,314	4
Investment Custodian			
Bank of New York Mellon		1,126,695	
Securities Lending Agent			
Bank of New York Mellon		69,431	
Total Investment Fees		\$7,151,440	

The above table presents the 2023 investment manager fees MERS incurred, excluding alternative investments and comingled funds. The alternative investments and comingled fund portfolios results are reported to MERS net of fees, therefore the management fees paid for these investments are not reported in the above table.

Schedule of Investment Commissions

Brokerage Firm	Shares Traded	Total Dollars	Commission/Share
Goldman Sachs & Co, NY	3,868,000	\$121,372	\$0.03
Total Commissions	3,868,000	\$121,372	\$0.03

MERS INVESTMENT MENU SUMMARY

(PARTICIPANT DIRECTED ACCOUNTS AND INSTITUTIONAL FUNDS)

The Board is the sole fiduciary for the Plans for establishing, monitoring, and amending the various Plans' investment lineups. It shall execute its duties solely in the interest of the Plans' participants and beneficiaries, with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character, and with like aims.

The MERS Investment Menu is divided into three categories that Participant Directed Account (PDA) participants can use to address his/her investment needs: LifePath Target Date Funds, Premium Select Options, and a Self-Directed Brokerage Account. The availability of the investment options in these categories is dependent on the plan in which a participant or municipality partakes.

LifePath Target Date Funds

The LifePath Target Date Funds offer participants a simple way to invest. Each fund is named for a "target date," the approximate year in which the participant is expected to retire and start withdrawing from their account. Funds farthest from the target dates emphasize growth potential by allocating a higher percentage of the portfolio to equities. As investors move closer to and into retirement, the funds automatically adjust to a more conservative asset mix. The Retirement Strategies are expected to meet the general needs of the average participant in different age groups by utilizing a glide path. A glide path represents the changes made to the asset allocation over time as the target date approaches.

The LifePath glide path shall be based on industry-accepted investment theory and investment methodology as well as reasonable capital market assumptions. Plan demographics shall be taken into consideration when developing the glide path. The glide path will be monitored by the MERS Office of Investment and Investment Committee.

Premium Select Options

These Premium Select Options are actively chosen by MERS. The participant has access to pre-built portfolios that MERS helps manage by monitoring the investment managers and rebalancing the portfolio quarterly. It also provides access to selected funds to help build their portfolio. The options are designed so a participant can select the option that best matches his/her risk tolerance and offer attractive risk-adjusted returns at a below-market fee.

Self-Directed Brokerage Account

The Self-Directed Brokerage Account (SDBA) is available to participants who want to independently and actively manage an even greater choice of investments. It is for the experienced investor who wants the freedom to invest a portion of their account into a wide array of investments, such as thousands of publicly traded mutual funds, exchange-traded funds, and individual securities. The SDBA is available to participants in the MERS Defined Contribution Plan, Hybrid Plan, and the 457 Supplemental Retirement Program. To be eligible, a participant's account balance must be above \$5,000, which is the minimum amount that must remain invested in either the LifePath Target Date Funds or Premium Select Options. Once established, any amount beyond \$5,000 may be transferred to the SDBA.

Participant Directed Accounts

1 LifePath Target Date Funds¹

LifePath Retirement Fund
 LifePath 2025
 LifePath 2030
 LifePath 2035
 LifePath 2040
 LifePath 2045
 LifePath 2050
 LifePath 2055
 LifePath 2060
 LifePath 2065

2 Premium Select Options

Portfolios Built for You

MERS Total Market Portfolio
 MERS Global Stock Portfolio (100/0)
 MERS Established Market Portfolio (60/40)
 MERS Diversified Bond Portfolio (0/100)

Funds to Build Your Own Portfolio

Large Cap Stock Index
 Mid Cap Stock Index
 Small Cap Stock Index
 Emerging Market Stock
 International Stock Index
 Real Estate Stock
 Bond Index
 High-Yield Bond
 Short-Term Income
 Stable Value (DC & 457 Only)

3 Self-Directed Brokerage Account

Schwab (DC & 457 Only)

Institutional Funds

Portfolios Built for You

MERS Total Market Portfolio²
 MERS Global Stock Portfolio (100/0)
 MERS Established Market Portfolio (60/40)
 MERS Diversified Bond Portfolio (0/100)

Funds to Build Your Own Portfolio

Large Cap Stock Index
 Mid Cap Stock Index
 Small Cap Stock Index
 Emerging Market Stock
 International Stock Index
 Short-Term Income
 Real Estate Stock
 Bond Index
 High-Yield Bond

Note: ¹ Default investment option for DC, 457, IRA and HCSP

² Default investment option for RHFV and ISP

ACTUARIAL



July 12, 2023

Retirement Board
Municipal Employees' Retirement System of Michigan
1134 Municipal Way
Lansing, Michigan 48917

Dear Board Members:

The basic financial objective of the Municipal Employees' Retirement System of Michigan (MERS) is to establish and receive contributions for each municipality and court which:

- (1) fully cover the cost of benefits that members earn during the coming fiscal year;
- (2) amortize the unfunded costs of benefits earned based on past service; and
- (3) when combined with present assets and future investment return will be sufficient to meet the financial obligations, of each municipality and court under MERS, to present and future retirees and beneficiaries.

In order to measure progress toward this fundamental objective, MERS has annual actuarial valuations completed. Separate actuarial valuations are prepared for each participating municipality and court. The purposes of the December 31, 2022 annual actuarial valuations were to:

- measure funding progress as of December 31, 2022;
- establish contribution requirements for the fiscal years beginning in 2024;
- provide information regarding the identification and assessment of risk;
- provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) Statements; and
- provide information to assist the local unit of government with state reporting requirements.

Each valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund the plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings of each report are based on data and other information through December 31, 2022. Each valuation was based upon information furnished by MERS concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by MERS.

Each report was prepared at the request of the MERS Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report

Municipal Employees' Retirement System of Michigan
July 12, 2023
Page 2

on request to associated third parties such as the auditor for the municipality). GRS is not responsible for the consequences of any unauthorized use. Individual reports should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in each report, for purposes other than those identified above may be significantly different.

The Municipal Employees' Retirement Act, Public Act 427 of 1984 and the MERS' Plan Document Article VI Sec. 71 (1)(d), provides the MERS Board with the authority to set actuarial assumptions and methods after consultation with the actuary. As the fiduciary of the plan, the MERS Retirement Board sets certain assumptions for funding and GASB purposes. These assumptions are checked regularly through a comprehensive study called an Experience Study.

The Michigan Department of Treasury provides required assumptions to be used for purposes of Public Act 202 of 2017 reporting. These assumptions are for reporting purposes only and do not impact required contributions. For a full list of all the assumptions used, please refer to the division-specific assumptions described in the table(s) in each report and to the Appendix on the MERS website at:

<https://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2022AnnualActuarialValuation-Appendix.pdf>

Assets are valued on a market related basis that fully recognizes expected investment return and averages unanticipated market return over a five-year period. MERS also uses a dedicated gains policy. The policy accelerates recognition of asset returns in excess of expected returns in conjunction with lowering the assumed rate of investment return.

MERS' staff prepared various supporting schedules in the Annual Comprehensive Financial Report based upon the information included in the annual actuarial valuations prepared by Gabriel, Roeder, Smith & Company (GRS). Specifically, these exhibits are:

- Actuarial Section Schedules
 - Summary of Actuarial Methods and Assumptions
 - Assumptions and Method Changes
 - Schedule of Active Member Valuation Data
 - Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Statistical Section Schedules
 - Schedule of Average Benefit Payments – Defined Benefit Plan
 - Schedule of Retired Members by Type of Benefit – Defined Benefit Plan
 - Schedule of Retired Members by Option Selected – Defined Benefit Plan

The actuarial assumptions used for each valuation are reasonable for purposes of the measurement.



Retirement Board
Municipal Employees' Retirement System of Michigan
July 12, 2023
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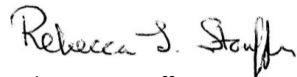
Each report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in each report is accurate and fairly presents the actuarial position of the plans as of the valuation date. All calculations, including all actuarial assumptions and methods used for funding purposes, have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with applicable statutes.

Rebecca L. Stouffer, Mark Buis, Kurt Dosson, and Shana M. Neeson are Members of the American Academy of Actuaries (MAAA). These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsors. GRS maintains independent consulting agreements with certain local units of government for services unrelated to the actuarial consulting services provided in this report.

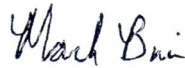
The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

The information in each report is purely actuarial in nature. It is not intended to serve as a substitute for legal, accounting or investment advice.

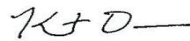
Sincerely,
Gabriel, Roeder, Smith & Company



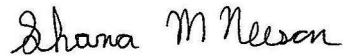
Rebecca L. Stouffer, ASA, FCA, MAAA



Mark Buis, FSA, EA, FCA, MAAA



Kurt Dosson, ASA, FCA, MAAA



Shana M. Neeson, ASA, FCA, MAAA

RLS/MB/KD/SMN:rmn



SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

An actuarial valuation is the mathematical model that estimates plan liabilities and employer contribution requirements for purposes of funding the individual employer plans within the Michigan Municipal Employees' Retirement System (MERS), for determining plan costs for Governmental Accounting Standards Board (GASB) accounting purposes, and for State Reporting. This model is updated annually to adjust the liabilities and contribution requirements for changes in member census and plan features, and to reflect actual plan experience in the process. Annual valuations are required by the Municipal Employees' Retirement Act, MCL 38 .1501, et seq., as amended (MERS Act).

Each annual actuarial valuation uses current membership and financial data. In addition, an actuarial valuation requires the use of a series of assumptions regarding uncertain future events. The assumptions and methods used in the December 31, 2022 Actuarial Valuation are those adopted by the Retirement Board on February 17, 2022, and February 27, 2020. The economic assumptions used in this valuation are a 7.00% investment rate of return and a 3.00% wage inflation assumption, as adopted February 28, 2019. The demographic assumptions used in this valuation are based on the results of a study of plan experience that covered the period from December 31, 2014, through December 31, 2018. An alternative contribution phasing in the 2019 and 2020 assumption changes (2 years remaining) is included in each report. All actuarial assumptions are estimates of future experience.

There have been no changes in the funding method that was adopted by the Board commencing with the December 31, 1993 valuations. The basic funding method is entry age normal and employer contribution amounts are developed as a level percentage of payroll. For purposes of determining plan accounting costs under GASB, there has been a modification to the implementation of the individual level percent method of the entry age normal cost method for divisions with bridged benefits or frozen accrued benefits.

Valuation assets were valued for each municipality by taking the difference in investment income between expected return and market return and recognizing it over a 5-year period. This asset valuation method was first adopted for the December 31, 2016 valuation. The transition from the 10-year to the 5-year asset method was fully recognized as of December 31, 2019.

The employer contribution rate is determined for each municipality based on the entry age normal funding method. Under the entry age normal cost funding method, the total employer contribution is comprised of the normal cost plus the amortization payment required to fund the unfunded actuarial accrued liability over a period of years. For open divisions (new hires are included in the division) the amortization period is 16 years. The year period will decline by 1 each year until the initial unfunded accrued liability is paid off. For divisions of active municipalities that closed to new hires prior to 2016 (new hires are not covered by the MERS Defined Benefit Plan or Hybrid Plan (Part I) provisions in a linked division), the employer had 2 amortization options. Under the Accelerated to 5-Year Option, the amortization period decreases annually by 2 years until the period reaches 6 or 5 years. Each year thereafter it decreases by 1 each year until the unfunded liability is paid off. Under the Accelerated to 15-Year Option, the amortization period decreases annually by 2 years until the period reaches 16 or 15 years. Each year thereafter the amortization period decreases annually by 1 year until the unfunded accrued liability is paid off. Negative unfunded accrued liabilities are amortized over 10 years, with the 10-year period reestablished with each annual actuarial valuation. As of December 31, 2022, there were 2,200 closed divisions.

The total normal cost is, for each active participant, the level percentage of payroll contribution (from entry age to retirement) required to accumulate sufficient assets at the participant's retirement to pay for his or her projected benefit. The employer normal cost is the total normal cost reduced by the participant contribution rate. Closed municipalities (no longer actively participating in MERS) are subject to special funding requirements as set forth in the Actuarial Policy. Employers' computed normal cost of benefits expressed as a percentage of valuation payroll is 7.51% and the total required contribution rate expressed as a percentage of valuation payroll is 34.64%.

There have been no recent changes that have had an impact on the System. Municipalities could modify provisions that apply to their individual plan if set forth in a collective bargaining agreement. The individual municipality contribution rates are modified to account for changes in provisions of the plan selected by the municipality.

MERS' staff provided the data about participants and presented assets to GRS for the valuation. Although examined for general reasonableness, the actuary has not audited the data. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). The Board adopted the assumptions used in the actuarial valuations after consulting with the actuary.

Note: The Annual Actuarial Valuation addresses assets and liabilities for participation under the MERS Defined Benefit Plan, including the defined benefit portion (Part I) of the Hybrid Plan. The defined contribution portion of the Hybrid Plan (Part II) is not addressed in the valuation results as it is not a defined benefit plan.

ASSUMPTIONS AND METHOD CHANGES

Actuarial Assumptions

To calculate MERS' contribution requirements, assumptions are made about future events that could affect the amount and timing of benefits to be paid, and the assets to be accumulated. The economic and demographic assumptions include:

- An assumed rate of investment return is used to discount liabilities and project what plan assets will earn.
- A mortality assumption projecting the number of participants who will die before retirement and the duration of benefit payments after retirement.
- Assumed retirement rates project when participants will retire and commence receiving retirement benefits.
- A set of withdrawal and disability rates to estimate the number of participants who will leave the workforce before retirement.
- Assumed rate of pay increases to project participant compensation in future years.

Interest Rate

Funding plan benefits involve the accumulation of assets to pay future benefits. These assets are invested, and the net rate of investment earnings is a significant factor when determining the contributions required to support the ultimate cost of benefits. For the 2022 actuarial valuation, the long-term investment yield, net of administrative and investment expenses, is assumed to be 7.00%. This assumption was first used for the December 31, 2021 actuarial valuations.

Pay Increases

Because benefits are based on a participant's final average compensation (FAC), it is necessary to assume with respect to each participant's estimated pay progression. The pay increase assumption used in the actuarial valuation projects annual pay increases of 3.00% in the long term plus a percentage based on an age-related scale to reflect merit, longevity and promotional pay increases.

The pay increase assumption for sample ages is shown on the following page. The 3.00% long-term wage inflation assumption was first used for the December 31, 2019 actuarial valuations. The merit and longevity pay increase assumption was first used for the December 31, 2020 actuarial valuations.

Annual Percentage Increase in Salary

Sample Years of Service	Base (Wage Inflation)	Merit and Longevity	Total Percentage Increase in Salary
0	3%	7%	10%
5	3%	2%	5%
10	3%	1%	4%
15	3%	1%	4%
20	3%	1%	4%
25	3%	0%	3%
30	3%	0%	3%
35	3%	0%	3%
40 and Over	3%	0%	3%

Inflation

Although no specific price inflation assumption is needed for this valuation, the assumed long-term annual rate of price inflation is 2.50%.

Increase in Final Average Compensation

The last 3 experience studies determined that for some retirees of some municipalities, the actual final average compensation (FAC) at retirement was larger than would be expected based on reported annual pays and FACs for the years just before retirement. Some possible sources for the differences are:

- Lump sum payments for unused paid time off. Unused sick leave payouts have been excluded from FAC since the mid-1970s. However, since that time it has become popular to combine sick and vacation time into paid time off, which is included in the FAC. Consequently, the lump sums that are includible in FAC have grown over the years.
- Extra overtime pays during the final year of employment. Our studies only reflect any increase in overtime during the final year, not any increase that occurs during the full 3 or more year averaging period.

The amount of unexpected FAC increase varies quite a bit between municipalities. Some municipalities show no sign of FAC loading, while other municipalities show increases above the average increase. This is presumably the result of different personnel policies and collective bargaining agreements among municipalities.

The Board adopted new FAC assumptions to be applied to the December 31, 2020 actuarial valuations. These assumptions reflect an FAC load of 1% to 15% for each municipality, based on the municipality's experience in the 2014-2018 experience study. A load of 0% is used for divisions with a definition of compensation equal to base wages. The FAC increase assumption(s) for each municipality are shown in individual actuarial valuation reports. Note that for divisions that adopted Sick Leave in FAC (SLIF), the assumption is developed individually for each division based on the specific SLIF provision and/or past experience.

Retirement Rates

A schedule of retirement rates is used to measure the probability of eligible participants retiring during the next year.

The retirement rates for Normal Retirement are determined by each participant's replacement index at the time of retirement. The replacement index is defined as the approximate percentage of the participant's pay (after reducing participant contributions) that will be replaced by the participant's benefit at retirement. The index is calculated as:

Replacement Index = $100 \times \text{Accrued Benefit} \div [\text{Pay} - \text{Participant Contributions}]$.

Retirement rates for early reduced retirement are determined by the participant's age at early retirement.

The normal retirement rates and early retirement rates below were first used for the December 31, 2020 actuarial valuations.

Normal Retirement – Service Based Benefit F(N) Adopted

Sample Replacement Index	Percent of Eligible Active Participants Retiring Within the Next Year	
	Public Safety	General
5	11%	9%
10	14%	11%
15	19%	15%
20	24%	19%
25	24%	19%
30	24%	19%
35	24%	19%
40	24%	19%
45	25%	20%
50	26%	21%
55	26%	21%
60	30%	24%
65	30%	24%
70	31%	25%
75	33%	27%
80	38%	30%
85	42%	33%
90	48%	38%
95	52%	42%
100+	60%	48%

Early Retirement – Reduced Benefit

Retirement Ages	Percent of Eligible Active Participants Retiring Within Next Year
All Applicable ages	4.00%

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Withdrawal Rates

The withdrawal rates are used to estimate the number of participants at each age that are expected to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to participants eligible to retire, and do not include separation on account of death or disability. The assumed rates of withdrawal applied in the current valuation are based on years of service and employment classification. Divisions 02, 20 - 29, 05, and 50 - 59 are a Public Safety employment classification. All other divisions are considered a General employment classification.

Sample rates of withdrawal from active employment, prior to the scaling factor, are shown. These rates were first used for the December 31, 2020 actuarial valuations.

Rates of Withdrawal (Excluding Death or Disability) from Active Employment Before Retirement

Sample Years of Service	% of Active Participants Withdrawing Within the Next Year	
	Public Safety	General
0	13.90%	23.40%
1	11.60%	19.50%
2	9.40%	15.80%
3	7.40%	12.50%
4	6.10%	10.30%
5	4.90%	8.30%
10	3.20%	5.40%
15	2.40%	4.00%
20	1.80%	3.10%
25 and over	1.50%	2.60%

Disability Rates

Disability rates are used in the valuation to estimate the incidence of participant disability in future years.

The assumed rates of disablement at various ages are shown. These rates were first used for the December 31, 2015 actuarial valuations.

¹80% of the disabilities are assumed to be non-duty, and 20% of the disabilities are assumed to be duty related. For those plans that have adopted disability provision D-2, 40% of the disabilities are assumed to be non-duty, and 60% are assumed to be duty related.

Rates of Withdrawal Due To Disability¹

Sample Ages	Percent of Active Participants Becoming Disabled Within Next Year
20	0.02%
25	0.02%
30	0.02%
35	0.05%
40	0.08%
45	0.20%
50	0.29%
55	0.38%
60 and above	0.39%

Mortality Tables

In estimating the amount of reserves required at retirement to pay a participant's benefit for the remainder of their lifetime, it is necessary to make an assumption with respect to the probability of surviving to retirement, and the life expectancy after retirement.

This valuation incorporates fully generational mortality. The base mortality tables used are constructed as described below and are based on the weighted sex distinct rates:

Pre-Retirement Mortality:

1. 100% of Pub-2010 Juvenile Mortality Tables for Ages 0-17
2. 100% of PubG-2010 Employee Mortality Tables for Ages 18-80
3. 100% of PubG-2010 Healthy Retiree Tables for Ages 81-120

Non-Disabled retired plan members and beneficiaries:

1. 106% of Pub-2010 Juvenile Mortality Tables for Ages 0-17
2. 106% of PubG-2010 Employee Mortality Tables for Ages 18-49
3. 106% of PubG-2010 Healthy Retiree Tables for Ages 50-120

Disabled retired plan members:

1. 100% of Pub-2010 Juvenile Mortality Tables for Ages 0-17
2. 100% of PubNS-2010 Disabled Retiree Tables for Ages 18-120

Future mortality improvements are assumed each year using scale MP-2019 applied fully generationally from the Pub-2010 base year of 2010.

These mortality tables were first used for the December 31, 2020 actuarial valuations. Sample life expectancies and mortality rates are shown below.

Pre-Retirement Mortality:

Age on Dec 31, 2022	Expected Years of Life Remaining		Mortality Rates	
	Male	Female	Male	Female
20	70.17	72.88	0.039%	0.015%
25	64.88	67.55	0.034%	0.011%
30	59.60	62.23	0.051%	0.021%
35	54.36	56.94	0.070%	0.032%
40	49.17	51.67	0.086%	0.043%
45	44.01	46.43	0.102%	0.056%
50	38.88	41.21	0.139%	0.079%
55	33.80	36.04	0.212%	0.128%
60	28.84	30.95	0.330%	0.198%
65	24.00	25.95	0.471%	0.286%

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Mortality Tables (Non – Disabled)

Age on Dec 31, 2022	Expected Years of Life Remaining		Mortality Rates	
	Male	Female	Male	Female
45	40.36	43.42	0.108%	0.059%
50	35.15	38.13	0.295%	0.225%
55	30.27	33.16	0.442%	0.315%
60	25.57	28.30	0.673%	0.433%
65	21.09	23.58	0.974%	0.628%
70	16.85	19.05	1.505%	1.010%
75	12.93	14.81	2.546%	1.792%
80	9.49	11.01	4.578%	3.302%
85	6.68	7.81	8.379%	6.224%
90	4.62	5.37	14.496%	11.575%

Mortality Tables (Disabled)

Age on Dec 31, 2022	Expected Years of Life Remaining		Mortality Rates	
	Male	Female	Male	Female
45	30.00	32.70	1.050%	0.982%
50	26.18	28.87	1.501%	1.417%
55	22.73	25.44	2.043%	1.809%
60	19.63	22.25	2.586%	2.079%
65	16.74	19.04	3.065%	2.182%
70	13.93	15.69	3.629%	2.566%
75	11.16	12.41	4.669%	3.595%
80	8.59	9.48	6.648%	5.569%
85	6.39	7.10	9.950%	8.830%
90	4.62	5.31	15.149%	12.990%

Schedule of Active Member Valuation Data

Valuation Dec 31	Participating Municipalities	Active Participants	Active Participants Annual Payroll	Annual Average Pay	Percent Increase in Average Pay	Participants on Deferred Status
2013	728	34,809	\$1,687,391,045	\$48,476	1.0%	7,620
2014	728	35,302	1,743,799,124	49,397	1.9%	7,690
2015	732	35,274	1,786,825,334	50,656	2.5%	8,340
2016	735	34,843	1,779,919,980	51,084	0.8%	8,252
2017	743	34,787	1,812,477,401	52,102	2.0%	8,361
2018	745	33,891	1,812,758,776	53,488	2.7%	8,605
2019	745	33,710	1,850,299,634	54,889	2.6%	8,638
2020	742	32,314	1,851,572,891	57,299	4.4%	8,663
2021	744	31,019	1,833,562,238	59,111	3.2%	8,916
2022	746	30,438	1,890,680,777	62,116	8.4%	9,128

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls	
Valuation Dec 31	Retirees/ Beneficiaries Number	Annual Allowance	Retirees/ Beneficiaries Number	Annual Allowance
2013	3,578	\$73,762,997	857	\$11,138,379
2014	4,242	107,064,445	948	12,090,122
2015	2,714	68,984,180	1,001	13,947,540
2016	2,847	70,269,768	1,540	25,743,252
2017	2,479	60,140,628	1,105	16,084,776
2018	2,406	60,508,490	1,204	18,264,095
2019	2,304	58,870,634	1,168	18,699,589
2020	2,555	68,137,414	1,444	24,315,326
2021	2,488	66,827,838	1,362	23,046,770
2022	2,521	70,333,043	1,405	25,800,481

	End-of-Year Rolls			
Valuation Dec 31	Retirees/ Beneficiaries Number	Annual Allowance	% Increase in Annual Allowance	Average Annual Allowance
2013	32,460	\$628,103,333	11.1%	\$19,350
2014	35,754	723,077,656	15.1%	20,224
2015	37,467	778,114,296	7.6%	20,768
2016	38,774	822,640,812	5.7%	21,216
2017	40,148	866,696,664	5.4%	21,588
2018	41,350	908,941,059	4.9%	21,982
2019	42,486	949,112,105	4.4%	22,339
2020	43,597	992,934,193	4.6%	22,775
2021	44,723	1,036,715,280	4.4%	23,181
2022	45,839	1,081,247,846	8.9%	23,588

SUMMARY OF PLAN DOCUMENT PROVISIONS

There were no recent changes in the nature of the Defined Benefit Plan that would have a material impact on the actuarial valuations for December 31, 2022. Pursuant to a collective bargaining agreement, a participating municipality may provide for retirement benefits that are modifications of some of the MERS standard retirement benefits otherwise included, although the Hybrid Plan and Defined Contribution Plan are not modifiable. The actuary took the known modifications into consideration when determining the municipality contribution rates in the December 31, 2022 actuarial valuations for the Defined Benefit Plan.

The benefits summarized in this section are intended only as general information regarding MERS. The Annual Financial Report and valuation are not a substitute for the language of the MERS Act and the MERS Plan Document, as revised. If any conflict occurs between the information in this summary and the MERS Act or the MERS Plan Document, as revised, the provision of the Act and the MERS Plan Document governs.

The December 31, 2022 actuarial valuations were based on the provisions of the MERS Plan Document as of that date.

Defined Benefit Plan

Eligibility for Retirement

Monthly retirement payments are made over the lifetime of the retiree, the lifetime of the retiree and a beneficiary, or the lifetime of the retiree and a period certain. The final payment option is elected by the retiring participant.

Participants are eligible to retire after vesting and meeting age and service requirements. Vesting occurs after a number of years of credited service as selected by the municipality.

Early retirement benefits are available if the vested participant meets eligibility requirements. The monthly payment is reduced for each month the participant is younger than the normal retirement age selected by the municipality. If selected by the municipality, an unreduced early retirement benefit may be payable if the eligibility requirement for that benefit is met.

Benefit Formula

The annual benefit equals a specified percentage of the participant's final average compensation, multiplied by the number of years and months of credited service. The plan has several benefit multipliers available. The benefit multipliers vary and are adopted by a participating municipality.

Mandatory Retirement

There is no mandatory retirement age; however, participants must take a required minimum distribution as required by law.

Deferred Vested Benefits

When a participant leaves MERS covered employment after earning the required number of years of service for vesting, that former participant may apply for a deferred vested benefit any time at or after the vested former participant meets the age eligibility requirements. Vested deferred benefits commence effective as of the first day of the month next following the month in which the vested former participant both meets the age eligibility requirements and applies for benefits, accompanied by all required documentation.

Maximum Benefit Payable by MERS

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code (IRC). Benefits in excess of the maximum benefit will be paid by the MERS Qualified Excess Benefit Plan Arrangement.

Act 88 (Reciprocal Retirement Act)

If a municipality elects to come under the provision of Act 88, service with former and future public employers in Michigan may be used to satisfy the eligibility requirements for that municipality.

Final Average Compensation

Final average compensation (FAC) is the highest monthly average of a participant's compensation over a consecutive period of months of credited service. The municipality selects the number of months. A FAC-3 is over a 36-month period and a FAC-5 is over a 60-month period. The compensation used in calculating the final average compensation cannot exceed the limit set by IRC Section 401(a) (17)).

Disability Retirement Allowance – Duty or Non-Duty

A disability retirement benefit is available to an active participant who becomes totally and permanently disabled from performing his/her job while employed by a participating municipality after meeting the vesting requirement of the benefit program. If the disability is determined to be the natural and proximate result of a personal injury or disease arising out of and in the course of the participant's actual performance of duty with a municipality, the service requirement is waived.

The allowance is computed in the same manner as a service retirement allowance, except that the reduction for retirement before normal retirement age is not applied.

If disability is duty-related, the amount of the retirement allowance shall be the greater of 25% of the members' FAC or a benefit based on 10 years of credited service in addition to the member's actual period of service, provided the total years of service do not exceed the greater of 30 years or the member's actual period of service.

A disability retirement benefit commences the first day of the month next following the date on which the completed application for disability retirement benefits is received by the System, or, if later, the date of the participant's termination of employment with the participating municipality or court resulting from the incapacity. Applications for disability retirement benefits must be filed within 2 years of termination of employment.

Death Allowance – Duty or Non-Duty

If a participant or vested former participant with the minimum years of service required to be vested dies before retirement, a monthly allowance may be made payable. If the participant is married, the spouse is the automatic beneficiary unless the spouse, in writing, declines a benefit in favor of another named beneficiary.

A monthly pension beneficiary of a deceased active participant will receive a retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at death, but reduced to reflect a 100% joint and survivor election. The reduction for retirement before attainment of normal retirement age is not applied. If the monthly pension beneficiary of a deceased active participant is a spouse, the spouse will receive a monthly benefit in the amount of 85% of the deceased active participant's accrued retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at the time of death (but not less than the amount that would have been payable under the 100% form, above). Payment to the monthly pension beneficiary of a deceased active participant commences on the first day of the month in which the deceased active died.

Payment to the monthly pension beneficiary of a deceased active participant commences immediately. If the beneficiary of a deceased vested former participant is a spouse, the spouse will receive a monthly benefit in the amount of 85% of the deceased vested form participant's accrued retirement allowance computed in the same manner as a service retirement allowance, based on service and final average compensation at the time of death (but not less than the amount that would have been payable under the 100% form, above). Payment to the pension beneficiary of a deceased vested former participant commences on the later of the first day of the month following the month in which the vested former participant would have first satisfied the age requirement for an unreduced service retirement allowance, or upon the receipt by MERS of a completed application on the form prepared by the System, along with other forms and documents required by the System.

The amount of a surviving spouse's benefit is always the larger of (1) the benefit computed as a monthly pension beneficiary, and (2) the 85% of accrued retirement allowance benefit described above. If there is no named beneficiary and no retirement allowance being paid to a surviving spouse, unmarried children under 21 will be paid an equal share of 50% of the deceased participant's or the deceased former vested participant's accrued retirement allowance. The reduction for retirement before age 60 is not applied.

If no retirement benefits are payable on death, the beneficiary or, if none, the decedent's estate would receive a refund of any remaining participant's contributions.

A duty death allowance, computed in the same manner as a non-duty death allowance, may be payable to a spouse or child/children if death occurs as the natural and proximate result of a personal injury or disease arising out of and in the course of the participant's actual performance of duty with a municipality. The vesting requirement is waived, and the minimum benefit is 25% of the deceased participant's final average compensation.

Participant Contributions

If selected by the municipality, each participant must contribute a percentage of their annual compensation on a pre-tax basis. The weighted average of participant contributions in 2022 was 4.30%. Interest is credited to accumulated participant contributions each December 31 at a rate determined by MERS. Currently MERS is using the 1-year U.S. Treasury bill rate determined as of December 31.

If a participant dies without a retirement allowance or other benefit payable on their account, the participant's accumulated contributions plus interest are refunded upon application to the participant's surviving spouse or a beneficiary named by the participant (with spousal consent). If a participant terminates employment, the participant may take a refund of participant contributions, which has the effect of forfeiting all service credit.

Post-Retirement Adjustments

Each municipality may elect to provide post-retirement adjustments to retirees and their beneficiaries. The municipality can choose a one-time adjustment, an annual adjustment for all retirees, or an adjustment for future retirees only. This cost-of-living adjustment (COLA) increase is effective in January of each year. The COLA may be compounded, or based upon the original retirement benefit, as selected by the municipality in the adoption agreement.

Forms of Benefit Payment

The participant elects a payment option as part of the retirement application process. Once the election is made, the selection is irrevocable after receipt of the first payment. The payment options include:

- Straight Life paid over the retiree's life only.
- A reduced benefit paid over the joint lives of the retiree and beneficiary and continuing at 100% of the original reduced amount for the life of the beneficiary if s/he survives the retiree. If the retiree survives the beneficiary, the retiree's benefit is prospectively converted to a straight life benefit.
- A reduced benefit paid over the life of the retirement, continuing as 75% or 50% of the original reduced amount for the life of the beneficiary if s/he survives the retiree. If the retiree survives the beneficiary, the retiree's benefit is prospectively converted to a straight life benefit.
- A reduced benefit paid to the retiree for life, and if the retiree dies before the number of monthly benefits elected at retirement (60, 120, 180, or 240) is reached, the reduced benefit continues to the beneficiary until the sum of the number of the monthly benefits paid to the retiree and to the beneficiary reaches the number elected at retirement.

Deferred Retirement Option Program (DROP): Traditional

If a municipality has added a DROP benefit to its plan, a participant covered by the Benefit Program DROP may, when eligible for retirement, choose a specified DROP period in which s/he will cease to accrue any additional retirement benefits, but remain employed by the participating municipality or court. The participant must elect a DROP end date at least 6 months after the beginning date, but no more than 60 months after the beginning date, in 1-month increments.

Upon the participant's election of DROP and the receipt of an application to enroll in DROP, MERS will calculate the participant's service retirement and benefit payment as of the beginning date. The System shall also calculate any age differential between the participant and the participant's beneficiary as of the calendar year of the DROP exit date in accordance with Treasury Regulation 26 CFR § 1.401(a)(9)-6. Upon the beginning date of the DROP period, the participant shall be responsible to continue paying participant contributions, if any.

On the next available benefit payment date after processing is complete, and monthly thereafter, an amount equal

to 100% of the monthly service retirement benefit payment the participant would have received if he or she had retired as of the DROP beginning date will be credited to a notional account for the benefit of the participant.

Funds in the DROP account are credited with interest in the amount of 3% annually or prorated in the event of a DROP period that is less than 12 months.

Upon the end date, the participant shall receive a lump-sum distribution of the participant's DROP account and on the first day of the calendar month following end date, the participant will begin receiving monthly service retirement benefit payments.

Deferred Retirement Option Program (DROP+) Partial Lump Sum

If a participant is covered by the Benefit Program DROP+ and retires at least 12 months after first becoming eligible for unreduced benefits, they have the option to receive a partial lump sum and a reduced monthly benefit:

- The participant can elect a lump sum equal to 12, 24, 36, 48, or 60 times their monthly accrued benefit.
- For each 12 months included in the lump sum, the participant's lifetime benefit is reduced by the DROP+ percentage adopted by the employer. The employer can adopt any of the following DROP+ reduction percentages: 6, 7, 8, 9, or 10%.

As of June 30, 2013, Benefit Program DROP+ may no longer be adopted; 2 employers adopted the program prior to it ending.

Annuity Withdrawal

Under the Annuity Withdrawal Program, a retiring participant may elect to receive a refund of their accumulated participant contributions with interest in a lump sum at retirement. The participant's monthly pension would then be reduced by the actuarial equivalent of the lump sum payment. The employer has 2 options for the interest discount rate used to compute the actuarial equivalent reduction: the current investment return assumption used in the annual actuarial valuations, or the most recent December 31 interest rate used for crediting interest on participant contributions.

HYBRID PLAN

Part I - Defined Benefit Portion of Hybrid Plan

Eligibility for Retirement

Monthly retirement payments are made over the lifetime of the retiree and/or over the lifetime of the beneficiary. Payments are based on the choice of benefits adopted by each municipality and the final payment option elected by the retiring participant.

The normal retirement age shall be an age between 60 and 70, as selected by the participating municipality or court in the Hybrid Plan Adoption Agreement, with 6 years of service. The unreduced early retirement age shall be an age between 55 and 65, as selected by the participating municipality or court in the Hybrid Plan Adoption Agreement, with 25 years of service.

Benefit Formula

Where the employee division has Social Security coverage, the choices of multipliers are 1.00%, 1.25% or 1.50%.

Where the employee division does not have Social Security coverage, the choices of multipliers are 1.00%, 1.25%, 1.50%, 1.75% or 2.00%.

Service credit purchases are not permitted in the Hybrid Plan.

Mandatory Retirement

There is no mandatory retirement age; however, all benefits must commence by the required beginning dated determined under IRC Section 401(a) (9).

Deferred Vested Benefits

When a participant leaves MERS covered employment after earning the required number of years of service for vesting, that former participant may apply for a deferred vested benefit any time at or after the vested former participant meets the age eligibility requirements. Vested deferred benefits commence effective as of the first day of the month next following the month in which the vested former participant both meets the age eligibility requirements and applies for benefits, accompanied by all required documentation.

Maximum Benefit Payable by MERS

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code (IRC). Benefits in excess of the maximum benefit will be paid by the MERS Qualified Excess Benefit Plan under Plan Section 88.

Act 88 (Reciprocal Retirement Act)

If the municipality has elected to come under the provision of Act 88, service with former and future public employers in Michigan may be used to satisfy the eligibility requirements for that municipality.

Final Average Compensation

Final average compensation (FAC) is computed using the FAC-3 under the Defined Benefit Plan. The compensation used in calculating final average compensation cannot exceed the limit set by IRC Section 401(a) (17).

Disability Benefit – Duty or Non-Duty

Benefits are the same as are provided in the Defined Benefit Plan, except that optional benefit program D-2 does not apply.

Death Allowance – Duty or Non-Duty

Benefits are the same as are provided in the Defined Benefit Plan, except that the optional benefit program D-2 does not apply.

Participant Contributions

In the event the municipality elects an employer cap under Plan Document section 66(3), each participant is required to contribute a percentage of their annual compensation, up to the compensation limit under IRC Section 401(a) (17), once the employer cap is exceeded. Interest is credited to accumulated participant contributions each December 31 at a rate determined by MERS.

Currently MERS is using the 1-year U.S. Treasury bill rate determined as of December 31.

If a participant leaves the municipality or dies without a retirement allowance or other benefit payable on their account, the participant's accumulated contributions plus interest are refunded with spousal consent to the participant, if living, or to the participant's surviving spouse or a named beneficiary.

Post-Retirement Adjustments

There are no post-retirement adjustments within the Hybrid Plan.

Forms of Benefit Payment

The participant elects a payment option as part of the retirement application process. Once the election is made, the selection is irrevocable after receipt of the first payment. The payment options include:

- Straight Life paid over the retiree's life only.
- A reduced benefit paid over the joint lives of the retiree and beneficiary and continuing as 100% of the original reduced amount for the life of the beneficiary if s/he survives the retiree. If the retiree survives the beneficiary, the retiree's benefit is prospectively converted to a straight life benefit.
- A reduced benefit paid over the life of the retirement, continuing as 75% or 50% of the original reduced amount for the life of the beneficiary if s/he survives the retiree. If the retiree survives the beneficiary, the retiree's benefit is prospectively converted to a straight life benefit.

A reduced benefit paid to the retiree for life, and if the retiree dies before the number of monthly benefits elected at retirement (60, 120, 180, or 240) is reached, the reduced benefit continues to the beneficiary until the sum of the number of the monthly benefits paid to the retiree and to the beneficiary reaches the number elected at retirement.

Deferred Retirement Option Program (DROP): Traditional

There is no DROP option in the Hybrid Plan.

Deferred Retirement Option Program (DROP+) Partial Lump Sum

There is no DROP+ option in the Hybrid Plan.

Annuity Withdrawal

There is no Annuity Withdrawal option in the Hybrid Plan.

Part II - Defined Contribution Portion of Hybrid Plan

Contributions — Employer

The employer shall contribute the amount determined under the contribution plan elected in the Adoption Agreement. Such contribution plans may include contributions determined as a flat dollar amount, as a percentage of compensation, as a combination of these, or contingent upon and/or in proportion to the amount of employee contributions elected under this or a related plan sponsored by the employer. Contributions are limited by the requirements of Internal Revenue Code Section 415.

There are 3 vesting schedules from which an employer may choose to adopt:

- Immediate vesting upon participation
- 100% vesting after stated years (the maximum vesting period is 5 years)
- Graded vesting percentages per year of service, with the following limitations
 - (i) Not less than 25% vesting after 3 years of service
 - (ii) Not less than 50% vesting after 4 years of service
 - (iii) Not less than 75% vesting after 5 years of service
 - (iv) Not less than 100% vesting after 6 years of service

Notwithstanding the above, a participant shall be vested in his/her entire employer contribution account, to the extent that the balance of such account has not previously been forfeited, if s/he is employed on or after his/her Normal Retirement Age. "Normal Retirement Age" is age 60 or as otherwise specified by the employer in the Adoption Agreement.

In the event of the disability or death of an active participant, the participant shall be 100% vested in his/her entire employer contribution account.

Contributions — Participant

Mandatory employee pre-tax employee contributions and voluntary after-tax employee contributions are allowed. No pre-tax elective deferral contributions are permitted. Participant contributions are vested immediately.

Contributions are limited by the requirements of Internal Revenue Code Section 415.

Note: The Annual Actuarial Valuation addresses assets and liabilities for participation under the MERS Defined Benefit Plan and the Defined Benefit portion of the Hybrid Plan. The Defined Contribution portion of the Hybrid Plan is not addressed in the valuation results.

STATISTICAL

STATISTICAL SUMMARY

The Statistical Section provides pertinent information to assist readers when viewing the Financial Statements, Notes to the Financial Statements, and Required Supplementary Information to help in understanding and assessing the System's overall financial condition. The information reported here is in compliance with GASB Statement No. 44, Economic Condition Reporting: The Statistical Section. This statement establishes standardized reporting requirements for the supplementary information provided in this section.

The schedules and graphs beginning on the next page show financial trend information about the growth of the MERS assets for the past 10 years. These schedules provide detailed information about the trends of key sources of additions and deductions to the System's assets, and assist in providing a context framing of how MERS' financial position has changed over time. The financial trend schedules presented are:

- Changes in Fiduciary Net Position – Last 10 Years
- Schedule of Changes in Reserves

The schedules below show demographic, economic, operating and trend information about the MERS environment.

- Schedule of Average Benefit Payments
- Schedule of Benefit Payments by Type
- Schedule of Retired Members by Type of Benefit
- Schedule of Retired Members by Type of Option Selected

Changes in Fiduciary Net Position – Last 10 Years (Dollars in Thousands)

Year	2014	2015	2016	2017
Defined Benefit Plan				
Additions:				
Plan Member Contributions	\$102,446	\$86,553	\$87,043	\$88,192
Employer Contributions	523,372	635,581	566,815	609,707
Nonemployer Contributions				
Net Investment Gain (Loss)	501,254	(140,903)	867,584	1,176,099
Total Additions to Net Assets	1,127,072	581,231	1,521,442	1,873,998
Deductions:				
Benefits and Employee Refunds	707,268	754,978	917,084	849,734
Special Litigation Expense				4,250
Administrative Expenses	17,822	17,665	17,446	17,389
Total Deductions from Net Assets	725,090	772,643	934,530	871,373
Net Increase (Decrease)	401,982	(191,412)	586,912	1,002,625
Net Position				
Balance Beginning of Fiscal Period	7,676,542	8,078,524	7,887,112	8,473,498
Balance End of Fiscal Period	\$8,078,524	\$7,887,112	\$8,474,024	\$9,476,123
Defined Contributions				
Additions:				
Plan Member Contributions	\$20,805	\$23,496	\$20,882	\$22,259
Employer Contributions	26,112	38,151	56,696	32,666
Net Investment Gain (Loss)	25,208	(7,482)	45,744	85,984
Total Additions to Net Assets	72,125	54,165	123,322	140,909
Deductions:				
Benefits and Withdrawals	63,304	34,797	61,088	34,722
Administrative Expenses	623	601	619	648
Total Deductions from Net Assets	63,927	35,398	61,707	35,370
Net Increase (Decrease)	8,198	18,767	61,615	105,539
Net Position				
Balance Beginning of Fiscal Period	472,721	480,919	499,686	561,301
Balance End of Fiscal Period	\$480,919	\$499,686	\$561,301	\$666,840
Health Care Savings Program				
Additions:				
Employer Employee Contributions	\$11,649	\$20,275	\$27,158	\$23,477
Net Investment Gain (Loss)	3,480	(1,779)	11,393	19,926
Miscellaneous Income				
Total Additions to Net Assets	15,129	18,496	38,551	43,403
Deductions:				
Medical Disbursements Paid	3,011	3,694	4,925	5,645
Forfeitures and transfers	469	355		
Administrative Expenses	163	145	165	187
Total Deductions from Net Assets	3,643	4,194	5,090	5,832
Net Increase (Decrease)	11,486		33,461	
Net Position				
Balance Beginning of Fiscal Period	85,769	97,255	111,557	145,018
Balance End of Fiscal Period	\$97,255	\$111,557	\$145,018	\$182,589

2018	2019	2020	2021	2022	2023
\$87,739	\$86,400	\$88,986	\$88,179	\$88,520	\$87,118
707,958	622,384	722,022	899,518	785,582	721,728
					464,446
(394,517)	1,193,686	1,404,124	1,503,832	(1,383,633)	1,263,610
401,180	1,902,470	2,215,132	2,491,529	(509,531)	2,536,902
892,536	934,739	975,756	1,029,742	1,069,073	1,110,046
17,463	19,708	17,854	17,801	22,540	25,339
909,999	954,447	993,610	1,047,543	1,091,613	1,135,385
(508,818)	948,023	1,221,522	1,443,986	(1,601,144)	1,401,517
9,476,123	8,967,305	9,915,328	11,136,850	12,580,836	10,979,692
\$8,967,305	\$9,915,328	\$11,136,850	\$12,580,836	\$10,979,692	\$12,381,209

\$25,412	\$28,036	\$45,952	\$35,335	\$39,800	\$54,144
49,077	76,517	54,032	64,154	57,232	92,576
(41,168)	136,874	111,772	155,438	(180,503)	180,179
33,321	241,427	211,756	254,927	(83,471)	326,899
39,015	39,619	47,353	58,600	70,069	75,362
555	628	717	905	3,055	3,677
39,570	40,247	48,070	59,505	73,124	79,039
(6,249)	201,180	163,686	195,422	(156,595)	247,861
666,840	660,591	861,771	1,025,457	1,220,879	1,064,284
\$660,591	\$861,771	\$1,025,457	\$1,220,879	\$1,064,284	\$1,312,145

\$27,846	\$36,192	\$35,495	\$44,519	\$45,693	\$57,787
(6,817)	30,913	33,788	44,348	(58,080)	60,513
21,029	67,105	69,283	88,867	(12,387)	118,300
5,954	7,267	7,623	9,545	16,475	17,089
168	195	229	299	979	1,344
6,123	7,462	7,852	9,844	17,454	18,433
14,906		61,431		(29,841)	
182,589	197,495	257,138	318,569	397,592	367,751
\$197,495	\$257,138	\$318,569	\$397,592	\$367,751	\$467,619

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Changes in Fiduciary Net Position – Last 10 Years (Dollars in Thousands)

Year	2014	2015	2016	2017
Retiree Health Funding Vehicle				
Additions:				
Employer Contributions	\$64,161	\$73,764	\$71,741	\$59,219
Net Investment Gain (Loss)	32,947	(8,833)	70,585	107,415
Total Additions to Net Assets	97,108	64,931	142,326	166,634
Deductions:				
Disbursements Paid to Municipalities	9,556	22,002	24,893	12,286
Transfers and Special Expenses				
Administrative Expenses	692	732	773	841
Total Deductions from Net Assets	10,248	22,734	25,666	13,127
Net Increase (Decrease)	86,860	42,197	116,660	153,507
Net Position				
Balance Beginning of Fiscal Period	507,296	594,156	636,352	753,012
Balance End of Fiscal Period	\$594,156	\$636,352	\$753,012	\$906,519

Investment Services Program				
Additions:				
Employee and Employer Contributions	\$74,660	\$19,721	\$289	\$142
Net Investment Gain (Loss)	2,781	138	6,699	7,385
Total Additions to Net Assets	77,441	19,859	6,988	7,527
Deductions:				
Disbursements and Transfers	280	40,798	3,309	3,355
Administrative Expenses	81	82	74	71
Total Deductions from Net Assets	361	40,880	3,383	3,426
Net Increase (Decrease)	77,080	(21,021)	3,605	4,101
Net Position				
Balance Beginning of Fiscal Period	9,054	86,134	65,113	68,718
Balance End of Fiscal Period	\$86,134	\$65,113	\$68,718	\$72,819

2018	2019	2020	2021	2022	2023
\$88,650	\$98,326	\$57,878	\$57,450	\$50,421	\$40,467
(42,560)	133,376	164,540	170,147	(162,578)	156,141
46,090	231,702	222,418	227,597	(112,157)	196,608
35,004	14,531	16,291	106,822	16,429	22,462
731	811	913	1,107	1,893	2,342
35,735	15,342	17,204	107,929	18,322	24,804
10,355	216,360	205,214	119,668	(130,479)	171,804
906,519	916,874	1,133,234	1,338,448	1,458,116	1,327,637
\$916,874	\$1,133,234	\$1,338,448	\$1,458,116	\$1,327,637	\$1,499,441

		\$3,479	\$535	\$950	\$649
\$(2,035)	\$6,207	7,067	7,458	(6,793)	5,843
(2,035)	6,207	10,546	7,993	(5,843)	6,492
10,554	16,459	4,105	2,738	2,827	4,387
55	42	39	45	73	90
10,609	16,501	4,144	2,783	2,900	4,477
(12,644)	(10,294)	6,402	5,210	(8,743)	2,015
72,819	60,175	49,881	56,283	61,493	52,750
\$60,175	\$49,881	\$56,283	\$61,493	\$52,750	\$54,766

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Changes in Fiduciary Net Position – Last 10 Years (Dollars in Thousands)

Year	2014	2015	2016	2017
457 Program				
Additions:				
Employee Contributions	\$5,788	\$12,442	\$20,646	\$22,566
Employer Contributions	132			
Net Investment Gain (Loss)	786	(747)	3,643	11,698
Total Additions to Net Assets	6,706	11,695	24,289	34,264
Deductions:				
Benefits	1,230	1,066	1,717	3,389
Administrative Expenses	70	51	66	86
Total Deductions from Net Assets	1,300	1,117	1,783	3,475
Net Increase (Decrease)	5,406	10,578	22,506	30,789
Net Position				
Balance Beginning of Fiscal Period	13,905	19,311	29,889	52,395
Balance End of Fiscal Period	\$19,311	\$29,889	\$52,395	\$83,184
IRA Program				
Additions:				
Employee Contributions				
Employer Contributions				
Net Investment Gain (Loss)				
Total Additions to Net Assets				
Deductions:				
Benefits				
Administrative Expenses				
Total Deductions from Net Assets				
Net Increase (Decrease)				
Net Position				
Balance Beginning of Fiscal Period				
Balance End of Fiscal Period				

The Changes in Fiduciary Net Position over the last 10 years chart shows contributions being received from municipalities, investment gains/losses and disbursements to retirees/municipalities. The IRA program has been in existence for less than 10 years.

	2019	2020	2021	2022	2023
\$36,803	\$52,039	\$48,986	\$44,007	\$53,473	\$69,895
1,048	1,254	1,944	2,332	3,011	3,580
(7,729)	24,199	22,596	33,332	(45,073)	49,125
30,122	77,492	73,526	79,671	11,411	122,601
4,386	8,550	11,068	15,131	15,846	22,690
93	129	173	229	634	884
4,479	8,679	11,241	15,360	16,480	23,574
25,642	68,813	62,285	64,311	(5,069)	99,027
83,184	108,826	177,639	239,924	304,235	299,166
\$108,826	\$177,639	\$239,924	\$304,235	\$299,166	\$398,193

\$53	\$2,022	\$1,791	\$2,647	\$3,897	\$4,253
(2)	139	537	735	(1,269)	1,689
51	2,161	2,328	3,382	2,628	5,942
5	5	244	266	366	658
	9	23	34	42	69
5	14	267	300	408	727
46	2,147	2,061	3,082	2,220	5,213
-	46	2,193	4,254	7,336	9,556
\$46	\$2,193	\$4,254	\$7,336	\$9,556	\$14,769

Schedule of Changes in Reserves (Dollars in Thousands)

	Reserve for Employee Contributions	Reserve for Employer Contributions and Benefit Payments	Reserve for Expenses and Undistributed Investment Income	Total Reserve for Defined Benefit Plan
Additions				
Member Contributions	\$87,118			\$87,118
Employer Contributions		\$721,728		721,728
Nonemployer Contributing Entity Contributions		464,446		464,446
Net Investment Income			\$1,263,518	1,263,518
Miscellaneous Income			92	92
Total Additions	87,118	1,186,174	1,263,610	2,536,902
Deductions				
Benefits and Withdrawals	11,663	1,098,383		1,110,046
Administrative Expense			25,339	25,339
Total Deductions	11,663	1,098,383	25,339	1,135,385
Net Increase (Decrease)	75,455	87,791	1,238,271	1,401,517
Other Changes in Reserves				
Investment Income Allocations	41,459	1,168,884	(1,210,343)	-
Retirement and Division Transfers	(84,222)	84,222		-
Total Other Changes in Reserves	(42,764)	1,253,106	(1,210,343)	(0)
Net Increase in Reserves After Other Changes	32,691	1,340,897	27,928	1,401,517
Reserve Balance Beginning of Year	949,629	10,032,911	(2,848)	10,979,692
Reserve Balance End of Year	\$982,320	\$11,373,808	\$25,080	\$12,381,209

The Schedule of Changes in Reserves shows the balance in each of the reserves and changes to those reserve balances over the year. The Employee Contributions, Employer Contributions and Reserve for Expenses and Undistributed Investment Income are components of the Defined Benefit Plan. A balance in the Reserve for Expenses and Undistributed Investment Income will be allocated at a future date.

Reserve for Defined Contribution	Reserve for Health Care Savings Program	Reserve for Individual Retirement Account	Reserve for Retiree Health Funding Vehicle	Reserve for Investment Services Program	Reserve for 457 Program	Total Reserve for Pension Trust Funds
\$54,144	\$16,284	\$4,253		\$649	\$69,895	\$232,343
92,576	41,503		\$40,467		3,580	899,854
						464,446
176,490	59,231	1,653	152,658	5,713	48,055	1,707,318
3,690	1,282	36	3,483	130	1,070	9,783
326,900	118,300	5,942	196,608	6,492	122,601	3,313,744
75,362	17,089	658	22,462	4,387	22,690	1,252,694
3,677	1,344	69	2,342	90	884	33,745
79,039	18,433	727	24,804	4,477	23,574	1,286,439
247,861	99,868	5,213	171,804	2,016	99,028	2,027,305
						-
						-
-	-	-	-	-	-	(0)
247,861	99,868	5,213	171,804	2,016	99,028	2,027,306
1,064,284	367,751	9,556	1,327,637	52,750	299,165	14,100,835
\$1,312,145	\$467,619	\$14,769	\$1,499,441	\$54,766	\$398,193	\$16,128,141

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Schedule of Average Benefit Payments – Defined Benefit Plan

Valuation Date December 31	Number of Retirees and Beneficiaries	Average Yearly Benefit
2013	32,460	\$19,350
2014	35,754	20,224
2015	37,467	20,768
2016	38,774	21,216
2017	40,148	21,588
2018	41,350	21,982
2019	42,486	22,339
2020	43,597	22,775
2021	44,723	23,181
2022	45,839	23,588

The Schedule of Average Benefit Payments shows the historical record and trends of retirees and the benefits they are drawing.

Schedule of Benefit Payments by Type – Defined Benefit Plan (Dollars in Thousands)

Fiscal Year Ended	Pension Benefits and Employer Withdrawals	Disability Benefits	Employee Refunds and Withdrawals	Total
December 31, 2014	\$670,032	\$27,959	\$9,277	\$707,268
December 31, 2015	715,638	31,364	7,976	754,978
December 31, 2016	870,741	35,829	10,514	917,084
December 31, 2017	802,037	37,250	10,432	849,719
December 31, 2018	845,688	38,209	8,633	892,530
December 31, 2019	885,698	38,858	10,182	934,738
December 31, 2020	927,312	39,210	9,220	975,742
December 31, 2021	978,676	39,524	11,529	1,029,729
December 31, 2022	1,013,932	40,420	14,706	1,069,058
December 31, 2023	1,057,470	40,910	11,663	1,110,043

The Schedule of Benefit Expenses by Type shows the benefits paid as regular pension benefits, disability benefits and refunds for employees who have been terminated and requested refunds of their employee contributions.

Schedule of Retired Members by Type of Benefit – Defined Benefit Plan

Tabulated by Optional Form of Benefit Being Paid, Tabulated by Type of Benefit Being Paid

Type of Benefit	Number of Retirees	Total Monthly Benefits
Normal Retirement for age and service	37,732	\$79,324,610
Non-Duty Disability ¹	1,089	1,649,221
Duty Disability ¹	565	1,160,305
Beneficiaries ²	5,508	6,765,355
Non-Duty Death	894	1,137,001
Duty Death	51	67,495
Totals	45,839	\$90,103,987

¹At age 60, these benefit types are converted to normal retirement for age and service

²Includes EDRO alternate payees

Schedule of Retired Members by Type of Option Selected – Defined Benefit Plan

Tabulated by Optional Form of Benefit Being Paid

Type of Benefit	Number of Retirees	Total Monthly Benefits
Beneficiary draws 100% of retiree's benefit	15,181	\$31,464,533
Beneficiary draws 67% of retiree's benefit	3	\$12,816
Beneficiary draws 75% of retiree's benefit	3,314	8,583,953
Beneficiary draws 60% of retiree's benefit	385	1,448,853
Beneficiary draws 50% of retiree's benefit	6,257	14,385,114
Equated Option (changing at Social Security age)	271	281,067
5 year certain and life	339	614,407
10 year certain and life	787	1,611,367
15 year certain and life	303	530,200
20 year certain and life	625	1,022,139
Straight life allowance	18,374	30,149,538
Totals	45,839	\$90,103,987

The Schedule of Retired Members by Type of Benefit and by Type of Option Selected present distributions of retirees and beneficiaries on the rolls by the types of benefit being paid and option selected.



This publication contains a summary description of MERS benefits, policies or procedures. MERS has made every effort to ensure that the information provided is accurate and up to date. If this publication conflicts with the relevant provisions of the Plan Document, the Plan Document Controls.

MERS, as a governmental plan, is exempted by state and federal law from registration with the SEC. However, it employs registered investment advisors to manage the trust fund in compliance with Michigan Public Employee Retirement System Investment Act. Past Performance is not a guarantee of future returns. Please make independent investment decisions carefully and seek the assistance of independent experts when appropriate.