

PLANNING
RETIREMENT
TOGETHER FOR

70
YEARS



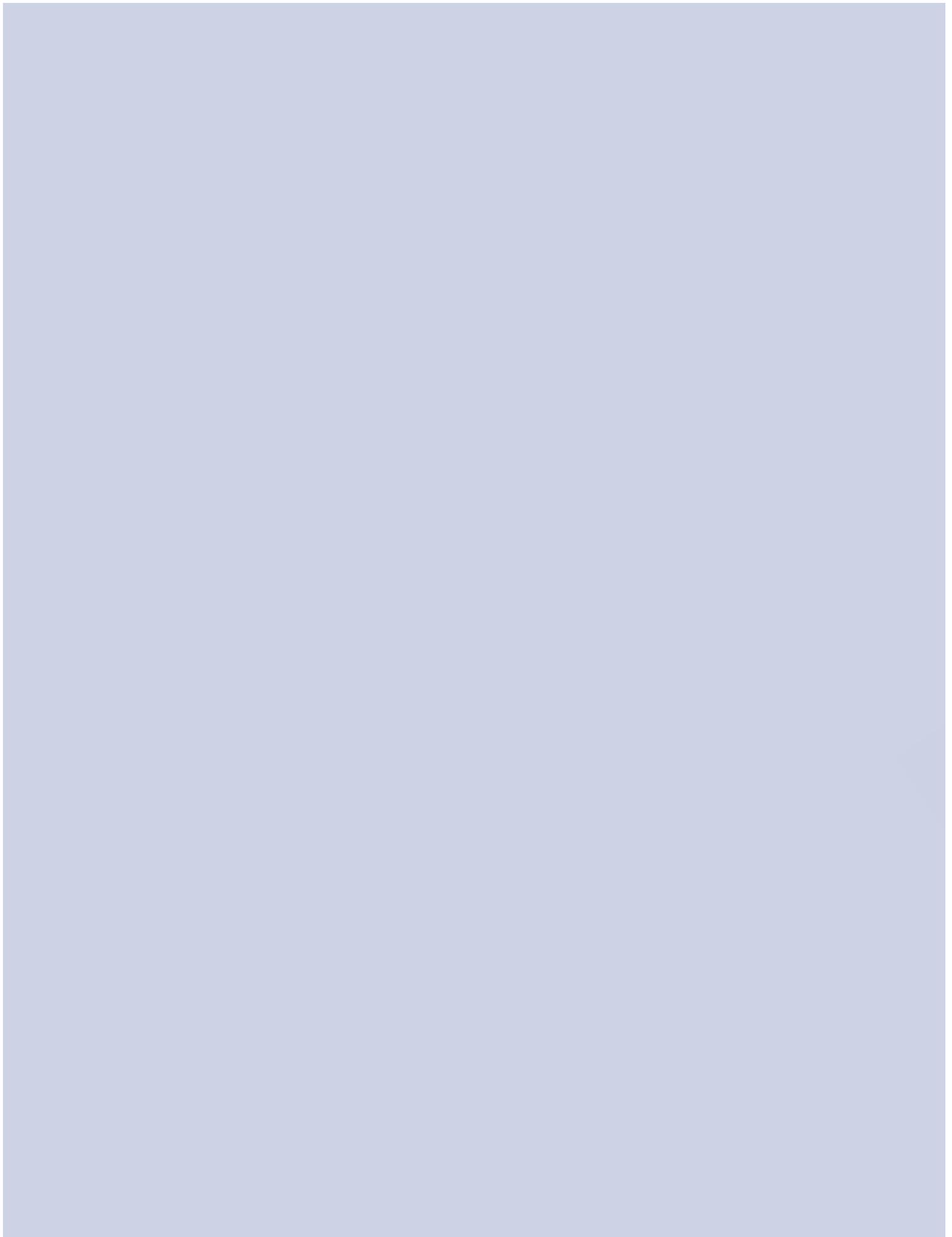
MERS[®]

Municipal Employees' Retirement System

COMPREHENSIVE ANNUAL
FINANCIAL REPORT

for the fiscal year ending

12.31.2016



PLANNING
RETIREMENT
TOGETHER FOR

70
YEARS

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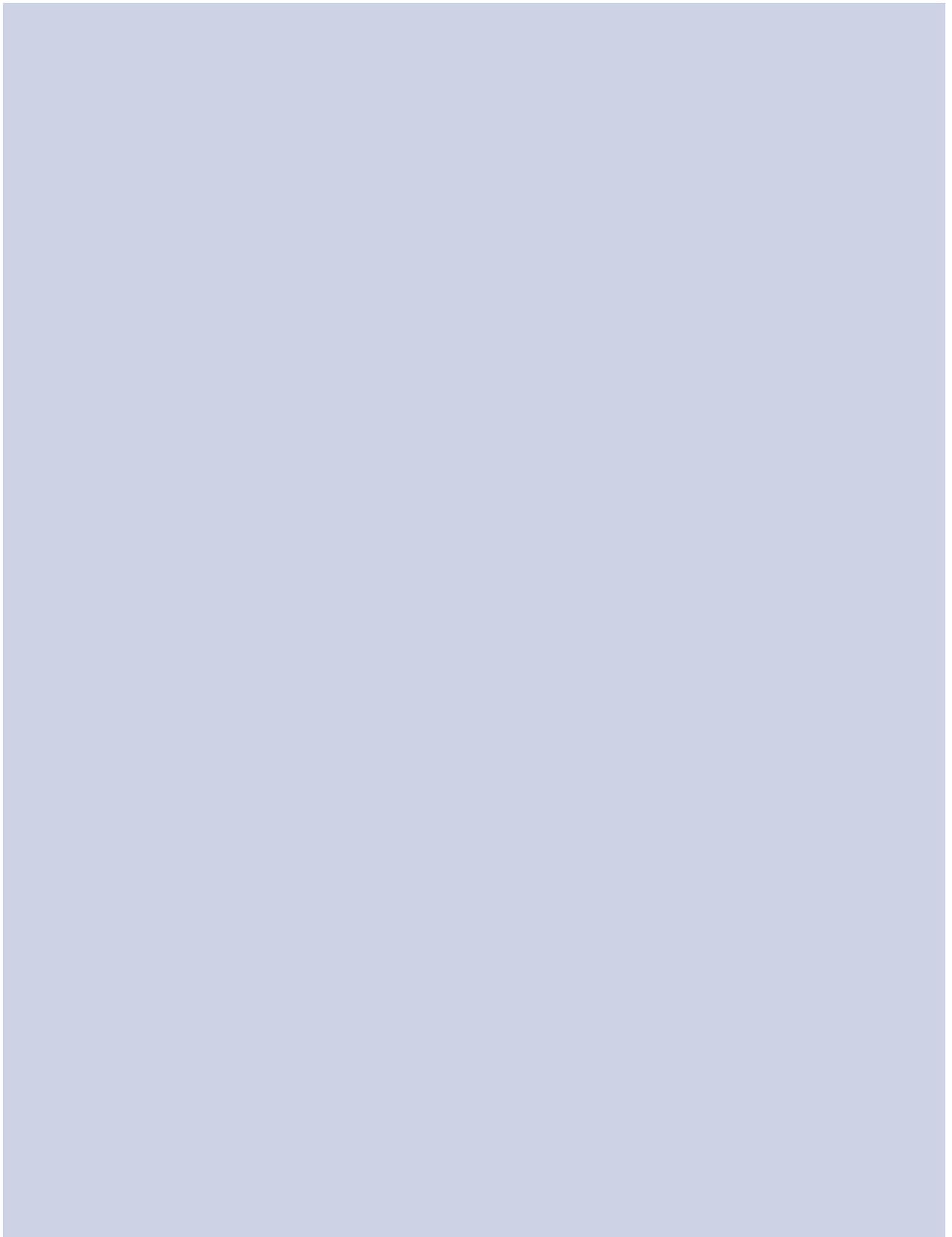
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2016 ACHIEVEMENTS



Certificate of Achievement for Excellence in Financial Reporting

MERS received the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association for the December 31, 2015, Comprehensive Annual Financial Report. This marks the 28th consecutive year MERS has received this honor.



Public Pension Standards Award

MERS also received the Public Pension Coordinating Council (PPCC), Public Pension Standards Award for 2016, 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 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

2016 comprehensive annual financial report

Municipal Employees' Retirement System



Letter of Transmittal, May 10, 2017

Dear Board Members:

We are pleased to submit the Comprehensive Annual Financial Report (CAFR) for the Municipal Employees' Retirement System (MERS) of Michigan for the fiscal year ending December 31, 2016.

During the year, MERS completed its final year of a three-year strategic plan that focused on four broad goals: Enhancing Partnerships with Employers; Meeting the Needs of Participants; Strengthening Growth, Retention, Efficiency and Cost Management; and Operating as an Outcome-Based Culture. Supported by numerous projects and measured by meaningful data, this has resulted in noticeable success at every level of the organization. It also set the stage for continuing to progress through our next four-year strategic plan.

Based on employer and participant feedback, major initiatives for 2016 included several portal enhancements. The MERS Employer Portal added functionality to improve the performance of Defined Benefit reporting, ultimately saving time for employers. New pages were also added to ease the reporting of voluntary contributions. In addition to the portals, forms and processes were also updated to streamline the employer and participant's experience with MERS.

MERS had a large focus on participant education during 2016 to increase our participants' retirement readiness. Communications were sent on a regular basis on relevant issues and benefit information, including explanations of our various retirement investment strategies and tips to help understand investment fees.

With the implementation of the 2015 Experience Study results, MERS directed specific attention to assisting our municipalities in managing their unfunded liabilities. In doing this, we recognize there is no one-size-fits-all approach. MERS has expanded its toolbox of options for municipalities to proactively address their plans, and we're proud of the fact that over the last five years, 73% of MERS members have taken voluntary steps to reduce unfunded liabilities. This approach aligns the unique nature of each municipality with the appropriate strategies to address their specific needs. The majority of these plans are on a schedule to eliminate their unfunded liabilities within a period of 23 years.

MERS Profile

MERS is a statutory public corporation that serves members across the state of Michigan. We are one of the largest, most established, and successful shared services stories in Michigan, providing administration, investment expertise, fiduciary responsibility, and oversight for benefit plans. This allows local governments to focus on core services, leaving day-to-day plan administration to us. Services include: plan governance, on-staff auditor, legal counsel, actuarial services, financial management, information technology support, legislative advocacy, administration of benefits, and investments.

MERS offers a full range of customizable plans and services. We work in partnership with our members to develop the plan that best meets their unique needs. We listen to our members and regularly add new, updated products and tools, such as new options to help manage unfunded liability and enhancements to the Defined Contribution Plan. The MERS Retirement Board (Board) serves as the fiduciary of the funds and has oversight responsibilities.

Report Structure and Contents

Section 38.1536 of the Michigan Compiled Laws requires the Board to prepare this annual report in accordance with U.S. Generally Accepted Accounting Principles (GAAP). 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, rather than absolute, 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 a part of continually strengthening internal controls, MERS completed an Internal Control Evaluation (ICE) in 2016 of its operations. As part of the ICE process, management evaluated its controls designed to protect assets, facilitate accurate financial reporting, and ultimately assist in achieving the MERS vision. In 2016, MERS also completed a Service Organization Control Audit (SOC 1, Type II audit) that disclosed no significant deficiencies in MERS internal control.

This CAFR is divided into five sections: Introduction, Financial, Investment, Actuarial, and Statistical. The Introductory Section outlines the achievements and structure of MERS; the Financial Section contains the Financial Statements, Notes, Required Supplementary Information, Management's Discussion and Analysis (MD&A), which is the MERS management team's narrative and overview of the financial statements. This Transmittal Letter is designed to supplement and complement the MD&A. The two documents should be read together to get a thorough overview of MERS' financial condition. The Investment Section reports investment activities and performance information; the Actuarial Section contains the actuarial assumptions and methods as well as the actuary's certification letter. The Statistical Section provides various schedules on member data and 10-year trends.

Financial Summary

Investment returns for the MERS Defined Benefit Portfolio gained 11.10% (gross of fees). This year-end figure exceeds the performance of many of our peer groups in the retirement security services industry and exceeds our actuarial assumption of 7.75%. Our 2016 investment performance ranked MERS second in the country among our peer group of 55 funds with assets greater than \$1 billion and within the Wilshire TUCS (Trust Universe Comparison Services) according to State Street. More information regarding our investment management performance is found in the Investments Section.

MERS also grew its net position held for members to a new record level of \$10.1 billion, the first time exceeding that plateau. The most significant factor in that growth was net revenue of \$1.9 billion. Cost control measures were maintained with MERS holding its administrative costs to \$19.1 million, consistent with last year, and within comparable costs all the way back to its 2009 spending level. As an indicator of how municipalities are more aggressively funding their other post-employment benefit obligations, MERS experienced its most significant growth in the Retiree Health Funding Vehicle, where net plan assets grew by over \$116 million to a total of

INTRODUCTION

2016 comprehensive annual financial report

\$753 million. One other 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, 389 of MERS' municipalities, were funded at 70% or higher (54% of all municipalities).

We continue to partner with all municipalities in helping them set fiscal goals and discussing options to find the programs and provisions that best fit each municipality's unique needs. There are 803 municipalities within MERS Defined Benefit and Hybrid Plans, which results in 2,680 divisions with unique benefit designs. Overall, 54% of municipalities have one or more divisions where new hires have either a hybrid plan or a lower tier defined benefit. About 34% of municipalities have one or more divisions where new hires have a defined contribution plan. There were also 36 divisions that increased cost sharing to their employees. Over a quarter of our employers made voluntary contributions to their plan, contributing an additional \$144 million to help increase funding levels. These efforts helped strengthen the financial condition of all these plans. In addition, new municipalities joining the MERS system brought in an extra \$38 million.

More detail on these financial metrics is included in the Management Discussion & Analysis document. A complete copy of the CAFR 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 CAFR and Summary Report are available on our website, www.mersofmich.com.

Acknowledgements

We are honored that for the 28th consecutive year, the Government Finance Officers Association (GFOA) awarded MERS its Certificate of Achievement for Excellence in Financial Reporting award for our 2015 CAFR.

We are very grateful to our Board members for their time and dedication, which makes it possible for MERS to be successful, for our members and participants. Your conscientious oversight and diligence of our well-run system is greatly appreciated. On behalf of all MERS members and participants, thank you for your dedication to public service.

We also express our deep gratitude to the entire staff for their hard work and dedication to ensure the successful operation of MERS. Our staff uses innovation, skill, and a commitment to service every day to ensure the security of a retirement plan for all of our participants.

Keeping MERS running as a strong organization also requires outstanding organizations and advisors who work in partnership with MERS to ensure our continued success. We also thank these talented firms and individuals for their work on our members' behalf.

Respectfully submitted,

Chris DeRose
Chief Executive Officer

Leon E. Hank, CPA
Chief Financial Officer

Letter from the Chairperson, May 10, 2017

Dear MERS Members:

On behalf of the MERS Retirement Board, it is my pleasure to present the Comprehensive Annual Financial Report (CAFR) of the Municipal Employees' Retirement System of Michigan. This is the 70th year MERS has provided professional retirement services to municipal members across the state of Michigan. Included in this year's report is all of the required financial information for the fiscal year ending December 31, 2016.

MERS is governed by an elected board that operates without compensation. This governance ensures MERS continues to grow in financial strength as well as provides superior value to members. We just completed the third year of our three-year Strategic Plan and are building a new, four-year plan under the leadership of Chris DeRose, our Chief Executive Officer.

Our board remains committed to fairness, transparency, and accountability for our members, holding the line on administrative costs and watching out for the best interests of our members. Our board adheres to strong conflict of interest provisions and best fiscal practices, all of which have made MERS the go-to expert for retirement security in Michigan.

We continue to grow in the number of members and participants we serve. MERS manages retirement and employee benefit plans for more than 850 municipal members across the state, from the western Upper Peninsula to the southeastern Lower Peninsula, with a combined net position value of more than \$10.1 billion. MERS proudly serves over 100,000 participants, including police officers and firefighters, road crews, medical staff, librarians, clerks, and countless other roles that protect and serve the many communities across Michigan that we call home.

We are actively partnering with our membership to listen to their unique needs. As a result of those discussions, we have planned and prioritized our actions and our work projects based on feedback received. We continue to focus on providing more information and resources to assist our members with managing their unfunded liabilities, enhancing online account access, and providing educational resources to assist participants in preparing for retirement.

Readying Michigan for retirement is no small feat. However, I know our staff will continue to work diligently with our members to find the appropriate solutions. All of this speaks to the dedication of our leadership, the competency of our staff, and our passion for excellence in all we do for you, our members.

In closing, I would like to take this opportunity to thank the Board members and staff for their expertise and professionalism. It is my pleasure to serve as your MERS Chairperson and, like all of you, I am proud to have played a role in serving all MERS members and participants in our mission to provide a secure retirement.

Sincerely,

Michael Brown, Chairperson
MERS Board of Trustees

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2016 comprehensive annual financial report

RETIREMENT BOARD AND CHIEF EXECUTIVE OFFICER



Front row from left to right: Dale Feldpausch, Sally Dreves, John Ogden, Randy Girard
Back row from left to right: Amy Deford, James R. Wiersma, Jason Sarata, Michael Brown, Mike Gilmore

Officer Members: **Michael Brown** (Chairperson), Barry County; **Randy Girard**, Charter Township of Marquette; **Dale Feldpausch**, Capital Region Airport Authority

Employee Members: **Sally Dreves**, Grand Traverse County; **Jason Sarata**, Delta Township;
Amy Deford, Saginaw County

Expert Members: **Michael Gilmore**, Delta Dental, Okemos; **James R. Wiersma**, Haworth, Holland

Retiree Member: **John Ogden**, City of Port Huron

MERS OFFICERS



From left to right:

Carrie Lombardo, Chief Strategic and External Affairs Officer

Denise Boucke, Chief Customer Service Officer

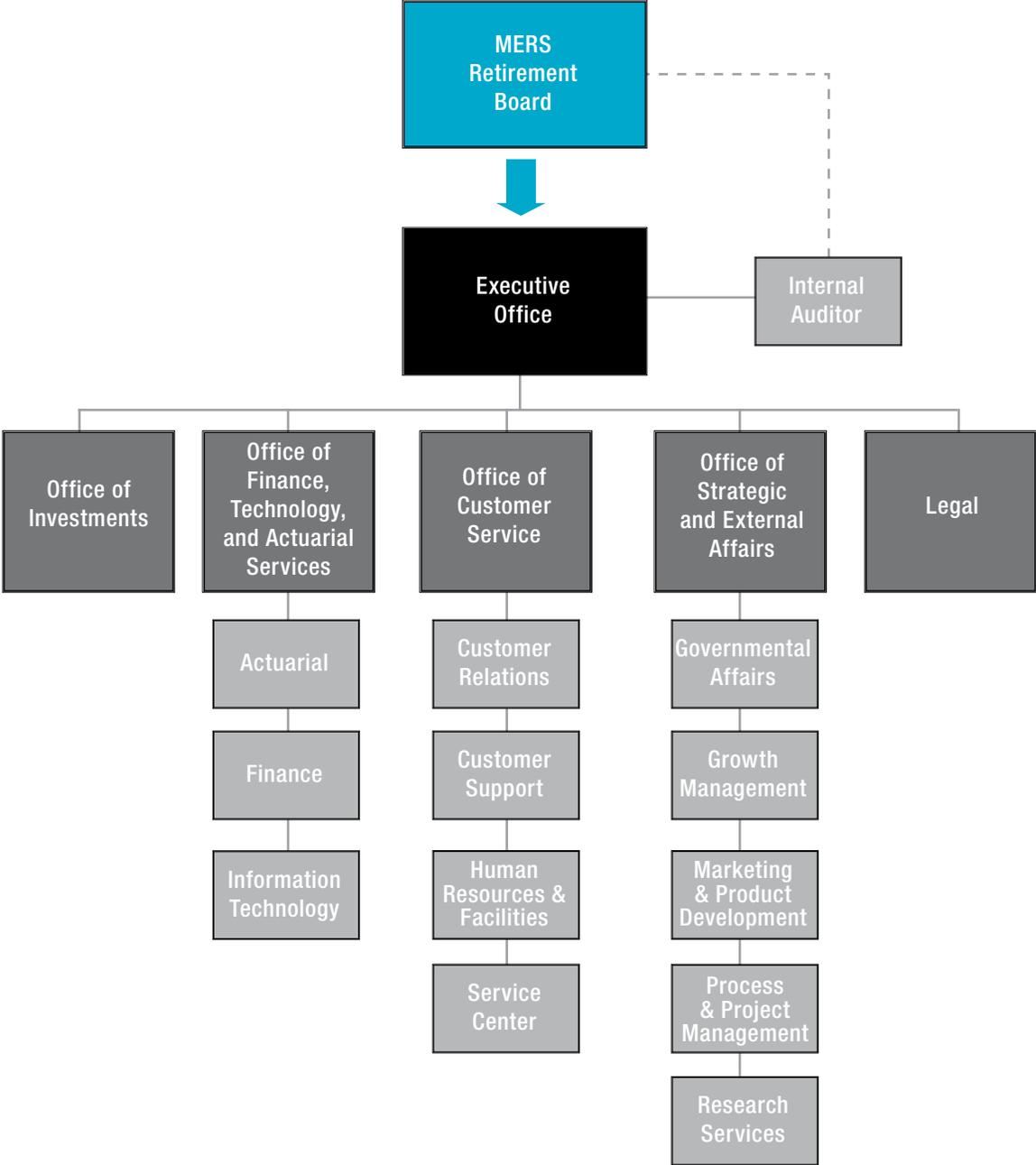
Chris DeRose, Chief Executive Officer

Jeb Burns, Chief Investment Officer

Leon Hank, Chief Financial Officer

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

Organizational Structure – 2016



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OUTSIDE PROFESSIONAL SERVICES

Actuaries

CBIZ Benefits & Insurance Services, Inc

Auditors

Plante & Moran, PLLC

Banking

Commerce Bank
JP Morgan Chase
Northern Trust
State Street Corporation

Business Consulting

Byrum & Fisk Communications
Mayotte Group
Maximus Inc.
Moore Trosper
Orion Development Group
Robert Half Technology

Human Resource Advisors

Gallagher Benefit Services, Inc.

Investment Custodian and Security Lending Agent

State Street Corporation

Investment Consulting and Research Firm

BCA Research
Bloomberg Finance L.P.
Evestment Alliance
Gavekal Capital
Informa Investment Solutions
Ned Davis Research
Stephen Morrow

Legal Counsel

Ice Miller, LLP
Jackson Walker LLP
Miller, Canfield, Paddock and Stone, P.L.C.

Legislative Consultants

Karoub Associates
Michigan Legislative Consultants

Medical Advisor

Managed Medical Review Organization

Systems Implementation and Maintenance

Atrio Systems
Dewpoint, Inc.
Innovative Communications, Inc.
Maner Costerisan
Optima Consulting LLC
Rapid7 LLC
Tegrit Software Ventures, Inc.
Total Solutions, Inc.
Viawest, Inc.

Third-Party Administrator

Alerus Retirement Solutions

Investment Managers

Acadian Asset Management
AlpInvest Partners
Comvest Partners
Connor, Clark, & Lunn Investment Management
Consillium Capital Management
C.S. McKee Investment Management
EAM Investors
ElmTree Funds
Frontier Market Asset Management
Grosvenor Private Markets
Hancock Natural Resource Group
Irving Magee Investment Management
Janus Capital Management
Kennedy Capital Management
LMCG Investments
MC Credit Partners
Mellon Capital Management
Mesirow Financial
Morgan Dempsey Capital Management
Mountain Pacific Advisors
Parametric
Polunin Capital Partners
Punch & Associates
SPI Strategies, LLC
TCW Group
Terra Partners
The Townsend Group
William Blair

ACKNOWLEDGEMENTS

The MERS Comprehensive Annual Financial Report (CAFR) for the year ended December 31, 2016, was prepared by the Office of Finance and Technology Services. Special thanks to the individuals who contributed significant amounts of time and energy to help complete this report.

Office of Finance and Technology Services

Betsy Waldofsky, Finance Director
Carrie Barton, Office Administrator
Courtney Allen, Accountant
Danielle Williams, Accountant
Luke Huelskamp, Senior Finance Manager
Ryan Ruby, Actuarial Analyst

Office of Investments

Claudia Konieczny, Investment Compliance and Operations Analyst
Ed Mikolay, Senior Investment Officer and Portfolio Manager
Julian Ramirez, Investment Analyst
Lori Smith, Office Administrator
Mike Schrauben, Investment Officer and Portfolio Manager
Mike Charette, Senior Investment Officer and Portfolio Manager
Peter Wujkowski, Investment Officer and Portfolio Manager
Paul VanGilder, Investment Analyst

Office of Strategic and External Affairs

Betsy Schaeffer, Digital Print and Mail Services Supervisor
James Scofield, Design Coordinator
Janie Olivarez, Office Administrator
Jennifer Mausolf, Marketing Director
Richard Taylor, Print Production Specialist

Executive Office

Carri Simon, Internal Auditor

Special thanks are also extended to Plante & Moran PLLC, Alerus Retirement Solutions, CBIZ, State Street Bank and Trust Company, and Tegrit Software Ventures.

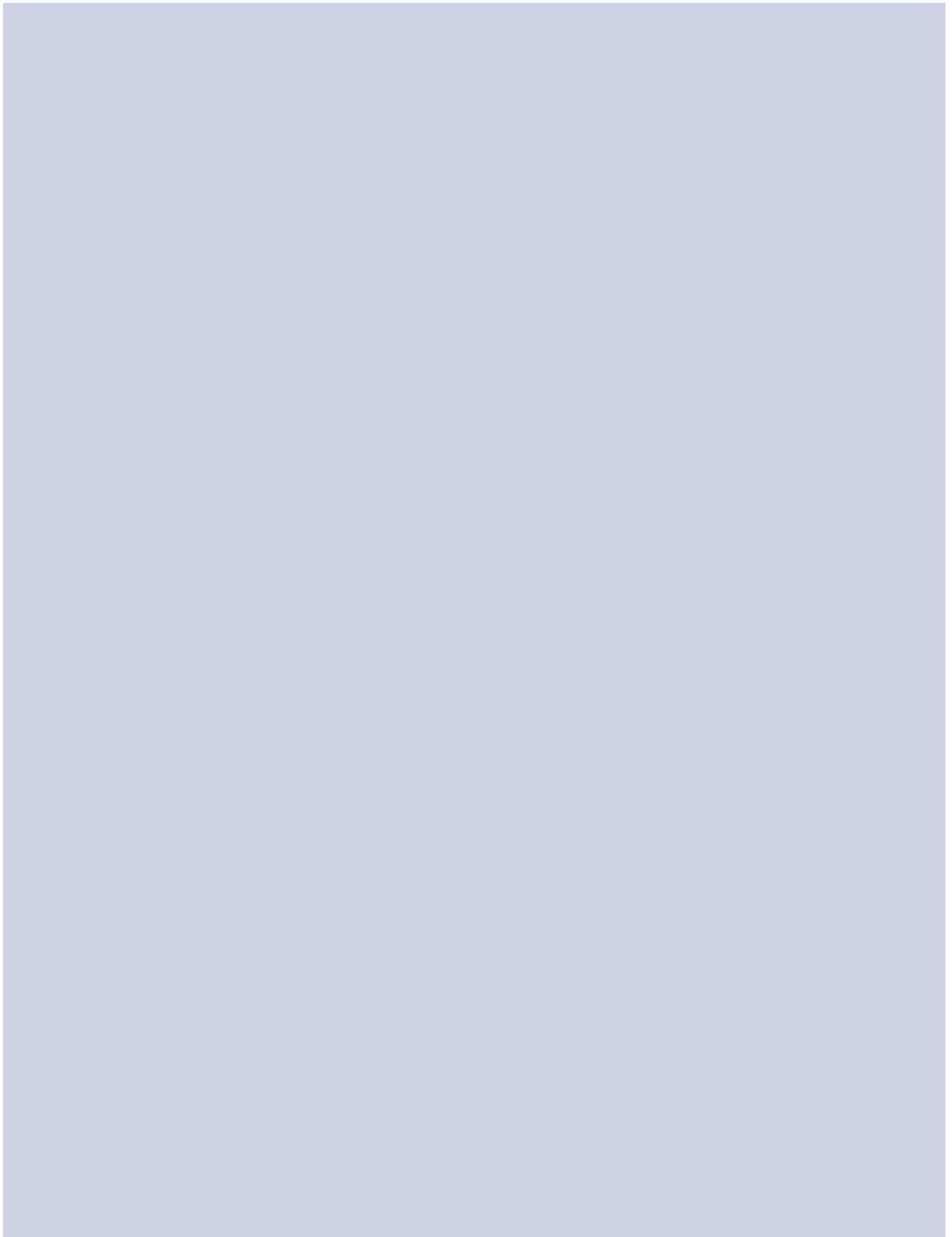
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FINANCIAL



INDEPENDENT AUDITOR'S REPORT



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Southfield, MI 48037-0307
Tel: 248.352.2500
Fax: 248.352.0010
plantemoran.com

***To the Retirement Board
Municipal Employees' Retirement System of Michigan***

Report on the Financial Statements

We have audited the accompanying financial statements of Municipal Employees' Retirement System of Michigan (MERS) as of and for the year ended December 31, 2016 and the related notes to the financial statements, which collectively comprise MERS' basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the plan net position of Municipal Employees' Retirement System of Michigan as of December 31, 2016 and the changes in plan net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.



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2016 comprehensive annual financial report

To the Retirement Board Municipal Employees' Retirement System of Michigan

Emphasis of Matter

As explained in Note 4, the financial statements include investments valued at approximately \$2.9 billion (29 percent of net position) at December 31, 2016, whose fair values have been estimated by management in the absence of readily determinable market values. Management's estimates are based on information primarily provided by fund managers, general partners, etc. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of investment returns, schedule of employer contributions, and the schedule of changes in the net pension liability be presented to supplement the basic financial statements. Such information, 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 Information

Our audit was conducted for the purpose of forming opinions 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 and introductory, investments, actuarial, and statistical sections are presented for the purpose of additional analysis and are not a required part of the basic financial statements.

The schedule of administrative expenses, schedule of investment expenses, and schedule of payments to consultants are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the 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.

The introductory, investments, actuarial, and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

***To the Retirement Board
Municipal Employees' Retirement System of Michigan***

Report on Summarized Comparative Information

We have previously audited Municipal Employees' Retirement System of Michigan's December 31, 2015 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated April 26, 2016. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2015 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 9, 2017 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 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 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.

May 9, 2017

Plante & Moran, PLLC

MANAGEMENT'S DISCUSSION AND ANALYSIS

This narrative overview and analysis of Municipal Employees' Retirement System (MERS) of Michigan's financial condition for the year ended December 31, 2016, is presented in conjunction with the Chief Executive Officer and Chief Financial Officer's Letter of Transmittal. The Financial Section is comprised of the Independent Auditor's Report, Management's Discussion and Analysis, two basic financial statements with explanatory notes, three required supplementary schedules with explanatory notes, and three supplementary expense schedules.

FINANCIAL HIGHLIGHTS

The following financial highlights occurred during the year ended December 31, 2016:

- Total fiduciary net position for the Defined Benefit Plan, Defined Contribution Plan, Health Care Savings Program, Retiree Health Funding Vehicle, 457 Program, and Investment Services Program increased by 9%, primarily due to investment gains for the year. MERS finished the year with \$10.1 billion in net fiduciary position, the highest level in our history.
- Defined Benefit investment returns saw a gain of 10.85% net of investment expenses for the year. The 30-year return was 8.26%, which is above the target of MERS expected investment rate of return of 7.75%.
- Contribution revenue decreased by 6% from \$910 million in 2015 to \$851 million in 2016. Most of this decrease happened because MERS brought in fewer new assets for Defined Benefit municipalities than in the previous year.
- Total annual benefits, transfers, and withdrawals increased by \$156 million for a total of over \$1 billion. This is due to the withdrawal of \$108 million for a Defined Benefit employer who terminated its plan with MERS because it privatized.
- Administrative expenses remained level at \$19 million while MERS grew significantly and brought in 145 new municipal programs. MERS has continued to keep costs down through the growth of our pool and stronger ongoing budgeting and cost-control measures.
- Investment expenses totaled \$17 million, a decrease from the previous year. Most of these expenses are related to investment manager fees. The decrease in expenses compared to the previous year was due to a performance bonus paid in 2015, and bringing in additional assets to be managed in-house by MERS Office of Investments.
- MERS' most recent actuarial valuation dated December 31, 2015, showed 389 of MERS' 717 Defined Benefit municipalities are funded 70% or better, with 54 municipalities over 100% funded.
- The difference between MERS' actuarial and market value assets remained consistent with last year, as the actuarial calculation for 2016 is 108% of the market value of assets as calculated by the actuaries. Total Defined Benefit Plan actuarial assets and market value of assets were valued at \$9.14 billion and \$8.49 billion respectively at December 31, 2016.

Basic Financial Statements

This Management's Discussion and Analysis is an introduction to 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 "Statement of Fiduciary Net Position" and "Statement of Changes in Fiduciary Net Position" provide the current financial condition of each MERS product.

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.

Required Supplemental Information

1. Schedule of Investment Returns
2. Schedule of Employer Contributions
3. Schedule of Changes in Net Pension Liability 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, 2016	December 31, 2015	Increase (Decrease) Amount	Increase (Decrease) Percent
Assets				
Cash and Short-Term Investments	\$131,920	\$24,594	\$107,325	436%
Receivables	214,316	391,250	(176,932)	(45)
Interfund Receivables	81	69	12	17
Loans	5,064	5,004	60	1
Investments, at fair value	9,863,926	9,133,777	730,149	8
Invested Securities Lending Collateral	750,384	773,608	(23,224)	(3)
Other Assets/Prepays	651	2,108	(1,457)	(69)
Net Capital Assets	15,126	14,339	786	5
Total Assets	10,981,468	10,344,749	636,719	6%
Outflows Related to Pension	5,130	2,424	2,706	112
Liabilities				
Purchase of Investments	171,383	329,126	(157,743)	(48)
Securities Lending Collateral	750,429	774,753	(24,324)	(3)
Administrative/Investment Costs/Reserves	10,763	14,041	(3,278)	(23)
Interfund Payables	81	69	12	17
Total Liabilities	932,656	1,117,989	(185,333)	(17%)
Net Position Restricted for Pension and Health Benefits and Investment Accounts Held for Others	\$10,053,942	\$9,229,184	\$824,758	9%

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

	Year ended December 31, 2016	Year ended December 31, 2015	Increase (Decrease) Amount	Increase (Decrease) Percent
Additions				
Contributions	\$851,270	\$909,983	\$(58,713)	(6%)
Investment Net Income (Loss) Investing Activities	1,000,473	(166,023)	1,166,496	703
Investment Net Income-Securities Lending	5,073	4,037	1,036	26
Miscellaneous Income	101	2,380	(2,279)	(96)
Total Additions	1,856,917	750,377	1,106,540	147%
Deductions				
Benefits/Transfers and Withdrawals	1,013,016	857,335	155,681	18
Forfeitures, Miscellaneous		355	(355)	(100)
Administrative Expense	19,143	19,276	(133)	(1)
Total Deductions	1,032,159	876,966	155,193	18%
Net Increase/Decrease	824,758	(126,589)	951,347	752%
Net Position-Restricted for Pension and Health Benefits and Investment Accounts Held for Others				
Balance Beginning of Year	9,229,184	9,355,773	(126,589)	(1%)
Balance End of Year	\$10,053,942	\$9,229,184	\$824,758	9%

Analysis of Fiduciary Net Position

The fiduciary net position increased by more than \$825 million over the previous fiscal year primarily due to investment gains of nearly \$1.2 billion.

MERS receivables consist chiefly of investment and employer contribution billings that settled in early 2017. Investment receivables are the bulk of the receivables for securities that were purchased in late 2016 and then cleared in the new year.

Combined employer and employee contributions decreased in 2016 due to fewer new municipalities joining MERS. There was, however, an increase in the employer contributions being paid in excess of the required contributions for Defined Benefit to help their funding goals.

MERS had capital assets, net of accumulated depreciation, of \$15.1 million. Of the total, \$7 million is software needed to run the pension administration and financial programs; \$1 million is office furniture and equipment; and \$7 million is buildings 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 in 2017, accrued administrative and investment expenses, and securities' lending collateral.

Investment Activities

The performance of the Defined Benefit Portfolio was favorable when compared to the investment benchmark over the past 30 years. The net return of 10.85% was above the 7.75% actuarial return assumption target for the year. By comparison for three, five, ten, and thirty-year periods, the net returns were 5.32%, 8.30%, 5.11%, and 8.26%, respectively. Net investment income (net appreciation in fair value less investment expenses plus securities lending income) increased over \$1 billion for the year. A further detailed analysis of investment returns is in the Investments Section.

MERS' investments are managed to control downside risk while maximizing long-term gain potential. This 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.

Investment activity is governed by the "prudent person rule." The "prudent person rule" establishes a standard for all fiduciaries that includes anyone who has authority with respect to the system. The "prudent person rule" states that fiduciaries shall discharge their duties solely in the interest of the system's participants and beneficiaries with a degree of diligence, care, and skill that a prudent person would ordinarily exercise under similar circumstances.

The "prudent person rule" permits the Board to establish an investment policy based on certain investment criteria, and allows for the delegation of investment authority to professional investment managers. Investment constraints are outlined, including the appropriate degree of risk. Investment managers are hired to execute the investment policy. They have full discretion for investment decisions within statutory authority, Board policy, and their respective guidelines. A list of investment managers under contract as of December 31, 2016, is in the Investments Section. A summary of MERS' total assets are on page 72.

Funding Status

A pension plan is well funded when it has sufficient assets invested to meet all 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. 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 MERS Retirement Board (Board) has adopted a funding methodology for MERS to achieve the following major objectives:

- Adequacy;
- Inter-Period Equity (in particular intergenerational equity) and Transparency; and
- 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.

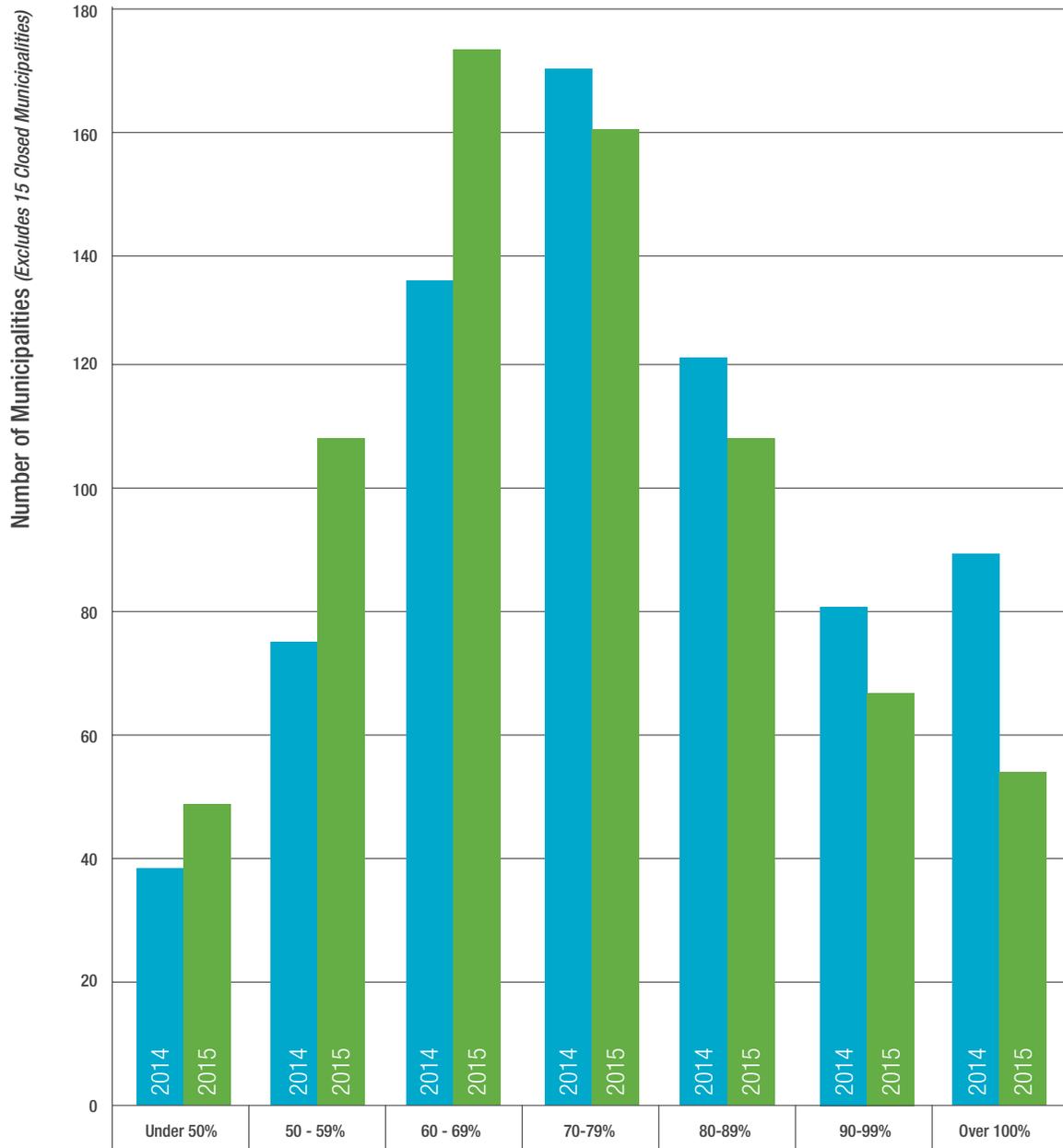
The most recent MERS actuarial valuation is as of December 31, 2015. On that date, of all 717 municipalities, 54 municipalities (8% of all Defined Benefit Plan and Hybrid Plan municipalities) were funded at 100% or higher and the majority, 389 municipalities, were funded at 70% or higher (54% of all municipalities).

MERS partners with our local governments to determine the best retirement fit for each municipality, to offer cost-reducing strategies, and to provide fiscal best practices.

The difference between MERS' actuarial and fair value of assets declined in 2016. The end of the year actuarial calculation of assets is higher at 1.08% of the fair value of assets. Ideally, the differences between actuarial value and fair value of assets should be small. The higher actuarial value of assets reflects smoothing losses of the 2008 downturn, and lower investment returns than the MERS expected rate of return of 7.75%. If investment returns are higher in the next few years than the MERS expected rate of return, the difference will continue to narrow between the actuarial and fair values.

Based on the most recent actuarial experience study, MERS consulting actuaries recommended, and MERS Board approved, shortening the amortization smoothing period from ten years to five years, effective with the 2016 valuations.

Distribution of Funded Percentage of Actuarial Accrued Liability among the 717 participating municipalities as of December 31, 2015, and the 713 participating municipalities as of December 31, 2014



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Statement of Fiduciary Net Position as of December 31, 2016 (Dollars in Thousands)

	Defined Benefit*	Defined Contribution	Health Care Savings Plan
Assets			
Cash and Short-Term Investments	\$119,359	\$1,989	\$1,494
Receivables			
Employer and Member Contributions	42,605	407	233
Sale of Investments	138,917	3,036	2,280
Investment Income	10,721	233	176
Loans		4,918	
Interfund Receivables	81		
Other	344		
Total Receivables	192,668	8,594	2,689
Investments, at fair value			
Investments with custodial bank			
Global Equities	4,595,277	100,414	75,428
Global Fixed Income	1,884,684	41,183	30,936
Real Assets	1,006,523	21,994	16,521
Diversifying Strategies	812,271	17,749	13,333
Cash Equivalents			
Mutual Funds		372,718	7,102
Total Investments	8,298,755	554,059	143,320
Invested Securities Lending Collateral	659,378	14,408	10,823
Prepaid Expenses	651		
Capital Assets, at Cost, Net of Accumulated Depreciation	15,126		
Total Assets	9,285,937	579,050	158,326
Outflows related to pension	5,130		
Liabilities			
Purchase of Investments	150,598	3,291	2,472
Securities Lending Collateral	659,417	14,409	10,824
Reserves and Forfeitures			
Administrative and Investment Costs	7,554		
Interfund Payables		49	12
Total Liabilities	817,569	17,749	13,308
Net Position—Restricted for Pension and Health Benefits and Investment Accounts Held for Others	\$8,473,498	\$561,301	\$145,018

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

Retiree Health Funding Vehicle	Investment Services Program	457 Program	Year Ended December 31, 2016	Year Ended December 31, 2015
\$8,165	\$746	\$167	\$131,920	\$24,594
371		66	43,682	43,063
\$12,464	\$1,138	255	158,090	336,380
962	88	20	12,200	11,806
		145	5,063	5,005
			81	69
			344	1,482
13,797	1,226	486	219,460	397,805
412,298	37,644	8,446	5,229,507	2,065,431
169,098	15,439	3,464	2,144,804	4,752,647
90,307	8,245	1,850	1,145,441	838,405
72,879	6,654	1,493	924,379	755,839
				369,112
		39,974	419,794	352,343
744,582	67,983	55,227	9,863,926	9,133,777
59,161	5,402	1,212	750,384	773,608
			651	626
			15,126	14,339
825,705	75,357	57,092	10,981,467	10,344,749
			5,130	2,424
13,512	1,234	276	171,383	329,126
59,165	5,402	1,212	750,429	774,753
		3,208	3,208	3,849
			7,554	10,192
16	3	1	81	69
72,693	6,639	4,697	932,655	1,117,989
\$753,012	\$68,718	\$52,395	\$10,053,942	\$9,229,184

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Statement of Changes in Fiduciary Net Position for the Year Ended December 31, 2016 (Dollars in Thousands)

	Defined Benefit	Defined Contribution	Health Care Savings Plan	Retiree Health Funding Vehicle
Additions				
Contributions and Transfers In				
Employer Contributions and Other	\$566,815	\$56,696	\$27,158	\$71,741
Plan Member Contributions	87,043	20,882		
Total Contributions and Transfers In	653,858	77,578	27,158	71,741
Net Appreciation/Depreciation in Fair Value	784,319	43,853	9,963	62,793
Interest and Dividend Income	93,958	2,054	1,541	8,430
Subtotal of Investment Income	878,277	45,907	11,504	71,223
Less Investment Expense	15,253	260	184	1,038
Net Investment Income Before Securities Lending Activities	863,024	45,647	11,320	70,185
Security Lending Activities				
Security Lending Income	7,678	168	126	689
Security Lending Expenses				
Borrower Rebates	2,106	46	35	189
Management Fees	1,114	25	18	100
Total Securities Lending Expenses	3,220	71	53	289
Net Income from Security Lending Activities	4,458	97	73	400
Total Net Investment Income	867,482	45,744	11,393	70,585
Miscellaneous Income	102			
Total Additions	1,521,442	123,322	38,551	142,326
Deductions				
Benefits/Transfers and Withdrawals	917,084	61,088	4,925	24,894
Forfeitures, and Other Miscellaneous				
Administrative Expenses	17,446	619	165	773
Total Deductions	934,530	61,707	5,090	25,667
Net Increase/Decrease	586,912	61,615	33,461	116,660
Net Position-Restricted for Pension and Health Benefits and Investment Accounts Held for Others				
Balance Beginning of Fiscal Period	7,886,586	499,686	111,557	636,353
Balance End of Fiscal Period	\$8,473,498	\$561,301	\$145,018	\$753,012

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

Investment Services Program	457 Program	Year Ended December 31, 2016	Year Ended December 31, 2015
\$289		\$722,699	\$787,492
	\$20,646	128,571	122,491
289	20,646	851,270	909,983
5,991	3,483	910,402	(237,366)
770	173	106,926	92,733
6,761	3,656	1,017,328	(144,633)
99	21	16,855	21,390
6,662	3,635	1,000,473	(166,023)
63	14	8,738	5,500
17	4	2,397	453
9	2	1,268	1,010
26	6	3,665	1,463
37	8	5,073	4,037
6,699	3,643	1,005,546	(161,986)
		102	2,380
6,988	24,289	1,856,918	750,377
3,309	1,717	1,013,016	857,335
		-	355
74	66	19,143	19,276
3,383	1,783	1,032,159	876,966
3,605	22,506	824,759	(126,589)
65,113	29,889	9,229,184	9,355,773
\$68,718	\$52,395	\$10,053,942	\$9,229,184

NOTES TO BASIC FINANCIAL STATEMENTS

Year ended December 31, 2016

1. REPORTING ENTITY AND PLAN DESCRIPTION

MERS is a statutory public corporation, independent from the State of Michigan, which was established to provide a pooled program for retirement, survivor and disability benefits on a voluntary basis to the State of Michigan's local government employees. MERS has helped provide retirement plans for municipal employees for 70 years.

MERS was established by the Michigan Legislature under Public Act 135 of 1945 to provide pooled retirement plans specifically for Michigan municipalities on a voluntary basis. This act was repealed and replaced by successor Municipal Employees' Retirement Act of 1984 (PA 427), as last amended by 2004 PA 490, embodied in the MERS Plan Document (as revised). 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 nine-member retirement 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:

- Two members, appointed by the Board, who have knowledge or experience in retirement systems, administration of retirement systems, investment management, or advisory services;
- One member, a retiree of the System, is appointed by the Board;
- Three members of the System, officers of a participating municipality or of a participating court, who are elected as Officer Board members by the delegates at the MERS Annual Meeting; and
- Three employee members of the System, who are not officers of a participating municipality or of a participating court, who are elected as Employee Board members by the delegates at the MERS Annual Meeting.

The regular term of office for members of the Board is three 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 the benefit plans and provisions that are available for adoption. The local municipality's governing body adopts all 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 Internal Revenue Service (IRS) 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 major portion of a retiree's pension becomes taxable upon periodic distribution. 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).

The IRC Section 401(a) (17) limits the amount of compensation an active employee can receive for pension benefit calculation purposes and, correspondingly, limits the amount of employer and employee contributions. Compensation in excess of the limit (\$265,000 and \$270,000 for 2016 and 2017 respectively) will not be credited by MERS. Employee contributions in excess of the limit will not be collected or accepted, nor figured into 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 Michigan Compiled Law 38.1686. The QEBA shall be 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, and otherwise not payable by the trust under the terms of the MERS qualified plan. The Internal Revenue Service approval of the QEBA was pursuant to Private Letter Ruling issued 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. 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 members 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 on page 22.

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

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participants. Medical expenses are reimbursed, as defined in Code Section 213, once participants terminate employment, are on medical leave for six months or longer, or are on disability from any public pension plan. There are four 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, Code Section 213, reimbursements 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 enable municipalities to accumulate monies to provide or subsidize health benefits for retirees and beneficiaries as defined by Code Section 213. 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.

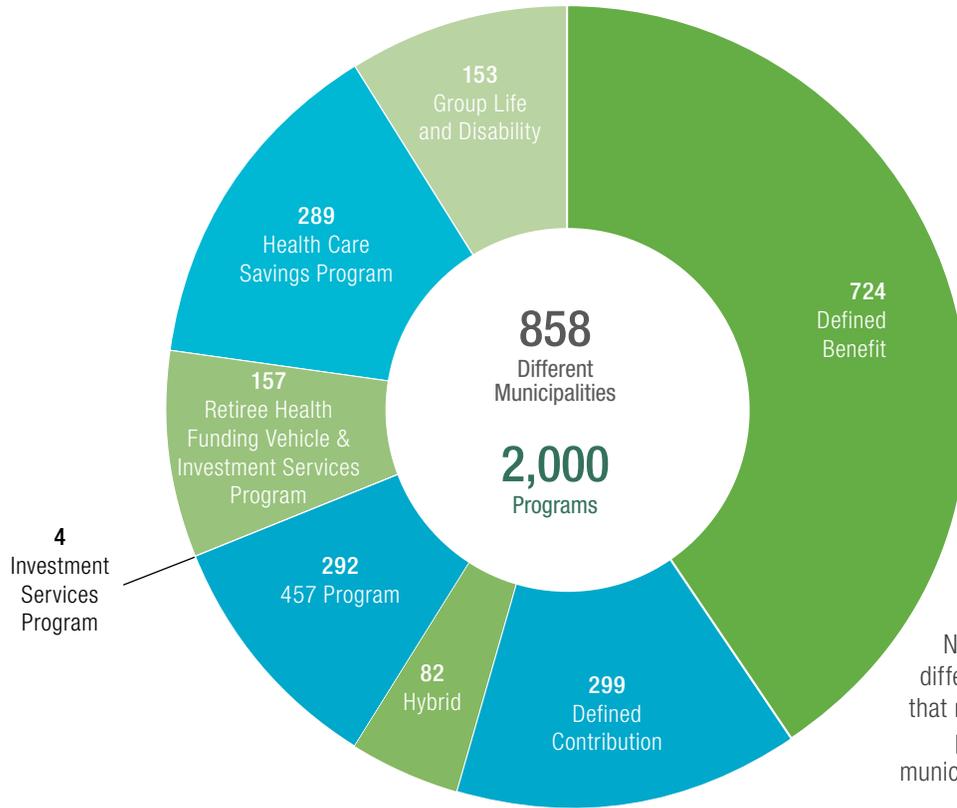
The MERS 457 Program was established as a deferred compensation plan and trust and became operational November 8, 2011. Its purpose is to provide benefits under the Program to participants and beneficiaries upon retirement, termination, disability, or death, upon the terms and conditions, and subject 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 qualify under 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 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 Public Act 314. Like the other non-retirement plans, participation in the Investment Services Program does not qualify as membership in MERS, and the participating employer does not have a vote at the MERS Annual Conference.

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.

Any "municipality" (a term defined by Section 2b (2) of the Retirement Act, Michigan Compiled Law 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 available to bargaining units after approval by a majority vote of the municipality's governing body.

MERS Participating Municipalities as of December 31, 2016



Note: There are 858 different municipalities that make up the 2,000 programs, as many municipalities have more than one product.

MERS Participants as of December 31, 2016

	Defined Benefit	Defined Contribution	Hybrid	Health Care Savings Program	457 Program
Active	33,111	10,836	2,273	13,404	2,581
Deferred	8,612	NA	156	NA	NA
Retired	38,412	NA	47	NA	NA
Contributions not Vested	10,990	NA	8	NA	NA
Terminated	NA	3,967	NA	4,125	326
Product Totals	91,125	14,803	2,484	17,529	2,907
Total MERS Employment*					<u>128,848</u>
Total MERS Membership**					<u>109,120</u>

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

** Total MERS Participants represents the number of unique individuals that have a liability in a program. At least one of the individual's employments fell into the following categories: Active Status, Retired Status, Terminated Status Defined Benefit vested, Terminated Status Defined Benefit not vested but has a contribution balance, Terminated Status Hybrid vested, Terminated Status Hybrid not vested but has a contribution balance, Terminated Status Defined Contribution with a contribution balance, or Terminated Status Health Care Savings Program with a contribution balance.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The Board is responsible for the administration of the MERS Retirement 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 is a statutory public corporation. MERS financial statements are not included in the financial statements of any other organization; it is the only entity included in this financial report.

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, and Investment Services Program are allocated out to the employers and participants based on an administrative expense percentage for each employer and participant.

Basis of Accounting

The financial statements for MERS are prepared on the 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 and Investment Services Program 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 which are invested in the MERS portfolio. Investment purchases and sales and the associated investment payables and investment 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 does not provide post-employment benefits to its employees and accordingly does not have any expense or liabilities for these benefits.

Fair Value of Investments

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 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 12/31 are estimated based on the 3rd quarter capital statements plus 4th quarter cash flows, adjusted for any other known events.

Investment Act Disclosures

Section 38.1133-1140 of the Michigan Compiled Laws (Public Employee Retirement System Investment Act – PERSIA) requires MERS to follow certain financial management practices and provide related disclosures. Compliance with these requirements is shown throughout the CAFR, in our Summary Report, and Annual Actuarial Valuations found at www.mersofmich.com. Section 38.1133 (6) requires limits on board member professional training, education and travel expenses. MERS compliance with the statute is shown 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.

Capital Assets

Capital Assets	Buildings	Land	Leasehold Improvements	Office Furniture and Equipment	Software	Total Capital Assets
Balances Dec. 31, 2015	\$5,629,932	\$1,266,516	\$155,811	\$2,841,691	\$23,375,635	\$33,269,584
Additions	636,703			644,767	2,686,334	3,967,805
Deletions and Transfers				(83,952)		(83,952)
Balances Dec 31, 2016	\$6,266,635	\$1,266,516	\$155,811	\$3,402,505	\$26,061,969	\$37,153,437
Accumulated Depreciation						
Balances Dec 31, 2015	\$367,144		\$25,629	\$2,135,878	\$16,402,191	\$18,930,842
Depreciation Expense	195,918		31,162	333,121	2,618,986	3,179,187
Deletions and Transfers				(82,439)		(82,439)
Balances Dec 31, 2016	\$563,062		\$56,792	\$2,386,560	\$19,021,176	\$22,027,590
Net Capital Assets December 31, 2016	\$5,703,573	\$1,266,516	\$99,020	\$1,015,945	\$7,040,793	\$15,125,846

In 2016, MERS reduced the value of its actuarial valuation software by \$631,000 in recognition that it would be retired faster than previously anticipated. This had the effect of increasing 2016 depreciation expense over normal depreciation.

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Total Columns on Statements

The “Total” columns on the “Statement of Plan Net Position” and “Statement of Changes in Plan 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, and Investment Services Program 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, 2015, from which the summarized information was derived.

Certain prior year amounts have been reclassified to conform to the current year presentation.

New Accounting Pronouncements

In February 2015, the GASB Issued Statement No. 72 on Fair Value Measurement and Application, primarily as they relate to investments. This will require disclosures according to their relative reliability and to describe positions held in many alternative investments. MERS will work with its custodial banker and investment managers to disclose the new requirements in the financial statements and notes. The effective date of the Statement on financial statements is for periods beginning after June 15, 2015. MERS implemented GASB Statement No. 72 for the year ending December 31, 2016.

In June 2015, the GASB issued Statement No. 75 - Accounting and Financial Reporting for Post-employment Benefits Other Than Pensions. The Statement will apply to local governments and how they record and measure their net OPEB liability in a manner also similar to GASB Statement No. 68. MERS will supply statements of the fair market values for those municipalities who are enrolled in the Retiree Health Funding Vehicle. MERS will also supply information for employers in regard to the Health Care Savings Program, which is similar to a defined contribution-type program for post-employment health care costs. The effective date of the Statement No.75 on financial statements is for periods beginning after June 15, 2017.

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 Board resolution adopted November 9, 2005, the interest rate for each year beginning in 2005 is the one-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.

Contributions to the Defined Contribution Plan are reported directly to 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 member pays a fixed dollar or percentage. If the municipality has a match contribution type, the member will elect the amount of contribution at the time of enrollment and will not be allowed to make any changes. Municipalities may also choose to allow additional after-tax contributions through payroll deduction.

Participating municipalities may, upon adoption of a Defined Contribution resolution for new hires, offer current Defined Benefit employees as an opportunity to opt into Defined Contribution. MERS transfers the actuarial present value of the employee's accrued benefit in the Defined Benefit Plan into the employee's Defined Contribution account (at a stipulated funded ratio that shall not exceed 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 Supplemental 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.

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 participant 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 amounts the employer wishes.

Defined Benefit Plan Reserves

Three reserves have been established pursuant to the MERS Plan Document. 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. 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. The December 31, 2016, balance was \$821 million.

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

All additions to and deductions from this reserve are for the Defined Benefit 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 including interest are transferred into this reserve from the “Reserve for Employee Contributions.” Monthly benefits paid to retirees reduce this reserve. The December 31, 2016, balance was \$7.7 billion.

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

All additions to and deductions from this reserve are for the Defined Benefit Plan and 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 reserve at the end of the year was -\$19 million that had been unallocated.

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, 2016, reserve balances were as follows: Defined Contribution Plan \$561 million, Health Care Savings Program \$145 million, Retiree Health Funding Vehicle \$753 million, Investment Services Program \$69 million, and 457 Program \$52 million.

A more detailed analysis of the reserves can be found in the Statistical Section.

4. 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 statutory regulations imposed under the Michigan Public Employee Retirement System Investment Act, 1965 PA 314, as amended, and the investment policy guidelines established by the Retirement Board. Michigan law allows diverse investment in stocks, corporate and government bonds, mortgages, real estate, and other investments. This act sets forth prudent standards and requires the assets of the Retirement System be invested solely in the interest of the participants and beneficiaries. Under Plan Document Section 55(6), 1965 PA 314, and Section 401(a)(2) of the IRC, the investments shall be made for the exclusive purpose of providing benefits to the participants and their beneficiaries and defraying reasonable expenses to the System.

The Board's 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, 2016, all securities held met the required statutory provisions and Board policy. As of the same dates, no investments were in default or subject to bankruptcy proceedings that had not been previously recorded.

MERS asset allocation policy is an important determinant of achieving the investment goals of the Plan. An asset allocation study is conducted every three years to assess portfolio construction and design. The study is presented to the MERS Board for adoption. Factors influencing the allocation policy include projecting actuarial liabilities, historical and expected long-term market returns and risk, future economic conditions, inflation and interest rate risks, and liquidity requirements.

Other investment policies include periodic rebalancing of the portfolio to reflect asset reallocation and ensuring investments remain within the Board approved parameters.

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, weekly portfolio review, monthly account reconciliation, performance reporting and review, bi-annual conference calls, and asset reallocation and 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 actually invested throughout the year, measured on monthly inputs with expenses measured on an accrual basis. For the year 2016, the annual money weighted rate of return net of investment expenses measured on monthly inputs was 10.78%. (See Required Supplemental Information)

MERS' Investment Policies are directed by the Board with the Chief Executive Officer (CEO) responsible for all activities and duties of the fund. The CEO has delegated to the Office of Investments authority to manage MERS pension funds, other trust funds, and direct all investment management activities. The Board appoints public members with investment expertise to serve on the Investment Committee (IC), which then reports directly to the Board concerning investment guidelines, principles, and procedures. The Board also acts as a sole fiduciary and sets general investment policy, including the Plan's asset allocation, Investment Guidelines, and Investment Policy Statements. The Board also acts as the "investment fiduciary" following state law and prudent person standards of due diligence. The Board is granted authority and fiduciary responsibility for investment policies under 1945 PA 135 and 1965 PA 314 under Michigan statute.

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The IC serves as the Board's investment policy development arm and monitors investment management activity and policy development recommendations developed by MERS Office of Investments. The IC is composed of three voting Board members, including two public members with investment experience. The CEO and Chief Investment Officer (CIO) also serve on the committee, but with non-voting responsibilities. The IC approves recommendations to hire and terminate managers with the exception of the Emerging Manager Program. The IC also appoints one additional Board member to observe meetings; this observer does not have voting privileges.

There is also a Portfolio Review Committee (PRC) that reports to the IC made up of staff from the Office of Investments. The voting members of the committee are assigned by the CIO. The PRC determines tactical shifts within the portfolio and is chaired by the CIO. The committee has the final say for the Emerging Manager Program, and reports decisions to the IC.

The Office of Investments carries out all investment activity for the fund, providing a monthly report on the fund's activities and performance, monitors external investment managers, and reports any material changes to the IC and the Board.

Amending the Board's investment policy decisions is delegated to the IC, PRC, and then on to the Office of Investments for further analysis and action. Generally, this concerns asset allocation and investment manager changes. The IC makes recommendations to the Board for deliberation and approval. The Board then reviews and decides by voting on amending investment policy decisions.

During the year 2016, the Board made decisions to approve new investment managers to be added to the portfolio. The Board also made decisions with reference to the implementation of the 2013 Asset Allocation Study. The allocation is as follows:

Global Equity	57.5%
Global Fixed Income	20.0
Real Assets	12.5
Diversifying Strategies	10.0

There are two investment managers who exceed 5% of the pension plan's net position: Mellon Tangent and Janus. These firms however, have many individual diversified investments under each firm's control, so that no one specific position exceeds the investment guideline 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, diversified strategies, and real assets;
- The Defined Contribution Plan, Health Care Savings Program and 457 Program 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 approaches 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.

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. Balances in excess of FDIC limits are uninsured. MERS has not experienced any losses in its accounts and believes it is not exposed to a significant credit risk on its cash.

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. Other criteria based on the Board's investment policy, includes that if a security is downgraded below investment grade after purchase, a review with a written explanation shall be forwarded to the Investments staff. Board policy also allows that when calculating the average rating of the portfolio, the manager may use the highest rating of the major rating agencies to calculate the average. Board policy, with regard to global fixed income securities, is that no more than 10% of the portfolio may be invested in corporate bonds or sovereign bonds rated below investment grade, as defined by Moody's and Standard & Poor's rating agencies. Board policy for global fixed income securities is that the average weighted credit of the portfolio will be a minimum of A-. When calculating the average rating of the global portfolio, the manager may use the highest rating of the major agencies to calculate the average. Board policy with regard to global, non-investment grade fixed income securities includes criteria that credit quality must maintain a minimum of 10% of the portfolio in investment grade fixed income with at least two ratings of BBB-/Baa3 or higher at the time of purchase (as assigned by Standard & Poor's or Moody's). Each portfolio is managed in accordance with investment guidelines that are specific as to permissible credit quality ranges, exposure levels within individual security quality rating tiers, and/or the average credit quality of the overall portfolio.

As of December 31, 2016, the domestic fixed income portfolio consisted of fixed income investments with respective quality ratings, excluding those obligations of the U.S. government. Investments issued by or explicitly guaranteed by the U.S. government are not considered to have credit risk. The Plan's exposure to credit risk as of December 31, 2016, is presented on the following pages, by investment category as rated by Standard & Poor's, Moody's, and Fitch credit ratings.

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Credit Ratings Summary – December 31, 2016

Quality Rating	Agencies	Asset Backed	Corporate Bonds	Foreign Currency	LMTD Part Units	Mortgage Backed Securities
AAA/Aaa		\$15,197,509	\$6,764,295			\$11,928,559
AA+/Aa1	\$47,727,326		5,685,612			16,890,266
AA/Aa2			19,532,063			1,302,955
AA-/Aa3	883,598	1,030,090	16,280,453			232,439
A+/A1			31,413,297			
A/A2		1,201,911	62,378,701			
A-/A3			48,960,085			178,201
BBB+/Baa1		2,779,340	85,285,077			577,468
BBB/Baa2		7,579,462	60,198,281			
BBB-/Baa3		1,632,887	94,469,894			5,508,081
BB+/Ba1			17,884,498			1,115,937
BB/Ba2			11,935,340			552,000
BB-/Ba3			5,841,725			3,995,783
B+/B1			3,887,833			1,007,117
B/B2			1,008,522			459,365
B-/B3			8,220,873			1,830,052
CCC+/Caa1			124,290			
CCC/Caa2		681,667	1,196,732			361,166
CCC-/Caa3						
CC/Ca			639,204			963,032
C		20,500				
D/C						
NA						
Cash with no ratings			1,573,152	\$(85,481)		
NR*	1,559,499	159,910	26,132,446		\$208,201,271	185,954,759
Totals	\$50,170,423	\$30,283,276	\$509,412,370	\$(85,481)	\$208,201,271	\$232,857,180

*The Not Rated classification includes \$208 million in commingled funds and limited partnerships without credit ratings. There is also \$185 million in mortgage backed securities most of which are believed to be AAA or AA+. Removing those classifications leaves the overall portfolio at 1.6% Not Rated.

Reconciliation of Investments

Fixed income from page 72	\$2,049,466,759
Difference from Investments	(9,730,419)
Payables settling in 2017	(23,520,069)
Margin Variation settling in 2017	476,173
Receivables settling in 2017	26,638,855
Equities Holdings Difference	6,135,460
Total	\$9,730,419

Municipals	Op-Foreign Currency	Quasi Sovereign	Short-Term Cash	Sovereign	U.S. Treasuries	Total	% of Portfolio
	\$107,759					\$33,998,122	1.67%
			\$677,147		\$764,108,897	835,089,248	40.94
\$2,600,363	4					23,435,385	1.15
						18,426,580	0.90
						31,413,297	1.54
						63,580,611	3.12
						49,138,286	2.41
		\$1,282,890		\$5,253,648		95,178,423	4.67
		602,139		2,465,858		70,845,740	3.47
		1,441,788		5,904,360		108,957,010	5.34
		2,403,537		9,842,884		31,246,856	1.53
	2,066	2,231,259		9,137,374		23,858,039	1.17
		1,006,910		4,123,463		14,967,880	0.73
		1,746,202		7,150,989		13,792,141	0.68
		475,021		1,945,288		3,888,195	0.19
		3,872,087		15,856,838		29,779,849	1.47
		58,541		239,736		422,567	0.02
		563,669		2,308,317		5,111,551	0.25
		301,069		1,232,929		3,136,234	0.15
						20,500	
	(4,790,759)	740,965	156,224,276	3,034,375		156,696,529	7.68
			4,745,412			426,753,297	20.92
\$2,600,363	\$(4,680,931)	\$16,726,076	\$161,646,836	\$68,496,060	\$764,108,897	\$2,039,736,340	100.00%

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Concentration of Credit Risk Debt Securities

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 debt and equity of any one company shall not exceed 5% of the fair value of the Plan's portfolio. MERS did not hold a single organization's securities that exceeded 5% of the Plan's investment portfolio other than those issued or explicitly guaranteed by the U.S. government as of December 31, 2016.

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. Sensitivity to changing interest rates may derive from prepayment options embedded in an investment. The Board policy, in regard to interest rate risk, is that the effective duration of the domestic portfolio shall be (+/-) 20% of the Barclays Capital Aggregate Index or the Barclays Universal Bond Index. Board policy in regard to global non-investment grade fixed income securities is that the portfolio's duration is (+/-) 2 years of the benchmark duration. The benchmark for global non-investment grade fixed income securities is 1/3 Barclays Capital U.S. Treasury Inflation Protected Securities Index, 1/3 Citigroup High Yield Market Index, and 1/3 JP Morgan Emerging Markets Global Bond Index. As of December 31, 2016, the Plan's exposure to interest rate risk (as measured by the effective duration method summary) is listed below by investment type.

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 – December 31, 2016

Investment Type	Fair Value	Weighted Effective Duration
Agency	\$39,057,182	0.59
Asset Backed	30,627,837	1.64
Cash Equivalent	9,740,466	4.51
CMBS	11,922,691	0.32
CMO	21,933,840	0.75
Corporate	478,291,242	2.91
Financials	2,967,838	
Mortgage Pass-Through	198,656,088	2.35
Preferred Stock	4,847,038	4.27
Quasi Sovereign	16,726,076	5.87
Sovereign	68,496,060	5.87
US Treasury	729,365,009	1.94
Yankee (Intl bonds in U.S. dollars)	34,466,300	2.29
	\$1,647,097,667	

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 portfolio will be limited to the maximum net currency exposure of 25% at any given time.

MERS' exposure to foreign currency risk in U.S. dollars as of December 31, 2016, is summarized below.

Foreign Currency Risk in U.S. Dollar Denominations – December 31, 2016

Currency	Equities	Currency	Private Equity	Real Estate	Total
Australian dollar	\$13,266,155	\$164,712	\$45,957,256	\$1,439	\$59,389,563
Brazilian real	1,118,347	63,859		132,040	1,314,246
British pound sterling	33,058,003	5,106		522,765	33,585,875
Canadian dollar	13,962,928	1,785,788	(1,347,603)		14,401,113
Danish krone	1,876,900	245			1,877,145
Euro	41,725,748	(47,111)	56,199,285	44,291	97,922,214
Hong Kong dollar	7,334,090	12,910			7,347,000
Indonesian rupiah	197,015	23,232			220,248
Israeli shekel	3,002,551	35,573		262,297	3,300,420
Japanese yen	72,232,890	7,902			72,240,792
Malaysian ringgit	669,146	20,436			689,582
Mexican peso	699,476			627,640	1,327,116
New Zealand dollar	786,889	3,870			790,760
Norwegian krone	6,505,855	2,325			6,508,180
Philippine peso		17,907			17,907
Polish zloty	298,650	2,161			300,812
Singapore dollar	2,350,445	20,826			2,371,271
South African rand	2,784,711	3,338		85,611	2,873,660
South Korean won	1,183,550	13,970			1,197,520
Swedish krona	9,812,468				9,812,468
Swiss franc	10,510,967				10,510,967
Taiwan dollar	2,540,233	3,870			2,544,103
Thailand baht	3,438,656	(1,855)			3,436,801
Turkish lira	290,724			90,088	380,812
Investment Securities	\$229,646,397	\$2,139,065	\$100,808,939	\$1,766,171	\$334,360,572

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Custodial Credit Risk

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, 2016, the \$131.9 million carrying amount of the Plan's cash and short term investments was comprised of \$103.6 million of short-term investments and \$28.3 million in deposits, which was subject to custodial credit risk because it was uninsured and uncollateralized.

Securities Lending

MERS policy authorizes participation in a securities lending program administered by its global custodian, State Street Bank and Trust Company. MERS receives income as the owner of securities, as well as 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.

The borrower collateralizes the loan with cash at 102% of market value plus accrued interest on domestic securities, and 105% of market value plus accrued interest on international securities loaned. 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. Cash collateral is invested for MERS in a dedicated short-term investment fund consisting of investment grade fixed income securities. The custodian provides for full indemnification to MERS for any losses that might occur in the event of borrower default resulting from negligence or intentional misconduct. Securities on loan are marked to market 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 has never experienced a loss on securities lending transactions resulting from the default of a borrower or lending agent since it commenced lending securities in March 1995. As of December 31, 2016, the fair market value of fixed income securities invested in the cash collateral pool was below the original cost, resulting in a cumulative unrealized loss of \$44 thousand that is reflected in the financial statements. Security lending produced a net income of \$5 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
\$732,181,420	Cash	\$750,428,985
	Calculated Mark	(984,414)
-	Non-Cash	39,660
\$732,181,420		\$749,484,232

Securities Lending Collateral

	S & P Rating	Percentage	Amount
Short-Term Credit Ratings	A-1+/P-1 *	10.40%	78,073,498
	A-1/P-1 *	38.16	286,368,541
Long-Term Credit Ratings	AAA	0.02	183,420
	AA	15.11	113,360,546
	A	33.43	250,874,668
	BBB+	0.00	
	BBB	0.00	
	BBB-	0.00	
	BB+	0.00	
	BB	0.00	
	BB-	0.00	
	Split	0.00	
	N/A	2.87	21,568,312
	100.00%	750,428,985	
Net accumulated depreciation in fair value			(44,763)
Invested Securities Lending Collateral			<u>\$750,384,222</u>

* A short term obligation rated A-1/P-1 is rated in the highest category by both Standard & Poor's (S&P) and Moody's Investor Services. These Issuer's 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 into 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, and to 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, 2016. The notional value associated with these derivative instruments are generally not recorded on the 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.

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Foreign Currency Forward Contracts

Pending Receivable	\$3,746,233
Pending Payable	(36,671)
Foreign Currency Forward Contract Asset (Liability)	\$3,709,562

Futures and Options Contracts – December 31, 2015

Futures Contract	Expiration Date	Long/Short	Cost	Market Value	Unrealized Gain/(Loss)
Mini MSCI Emg Mkt Mar 17	3/17/2017	Long	\$80,083,010	\$78,202,845	\$(1,880,165)
Mini MSCI EAFE Mar 17	3/17/2017	Long	395,667,285	391,671,500	(3,995,785)

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

The Board has approved \$1,266,571,863 for investment in private equity securities. As of December 31, 2016, \$1,092,579,197 was invested in private equity leaving \$173,997,666 available for future investments. Investments in private equity market values reflect capital returns, income and gains or losses.

MERS has various investments that can be difficult to value in that there are not readily accessible comparable market values. MERS has level 2 investment values of approximately \$2.0 billion, (chiefly in global fixed income and participant directed mutual funds). Level 2 investments typically have quoted prices for similar type assets and have pricing models that can be derived principally from observable market data. MERS also has level 3 investments of approximately \$2.9 billion (chiefly in real estate, private equity, timber, commingled funds and limited partnerships). These investments tend to be illiquid and do not trade frequently, and 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 their 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 tables on page 46 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 higher 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 following tables shows the fair value leveling of the investments for MERS.

Global equities classified in Level 1 are valued using prices quoted in active markets for those securities. Global equities classified in Level 2 are securities whose values are derived daily from associated traded securities. Global equities classified in level 3 are values with last trade data having limited trading volume.

Global fixed income classified in Level 2 and Level 3 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. Level 3 fixed income securities use proprietary information or single source pricing. Global fixed income classified in Level 1 are securities whose values are derived daily from actively traded securities. Global fixed income classified in level 3 are investments with values in leases that are not readily traded and are valued using a pricing model.

Real assets and Diversifying Strategies in Level 1 are valued using prices quoted in active markets. Real assets classified in Level 3 are real estate investments generally valued using the income approach by internal manager reviews or independent external appraisers. Level 2 securities for Real assets and Diversifying Strategies have non-proprietary information that was readily available to market participants, from multiple independent sources, which are actively involved in the market. Level 3 Diversifying Strategies are valued using appraisals, cash-flow analysis and sales of similar investments. MERS policy is to obtain an external appraisal a minimum of every three years for properties that MERS has some degree of control or discretion. In practice, some appraisals 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 property type.

Mutual funds and self-directed accounts are valued at quoted prices for those securities in active markets. Alternative investments such as private equity, real assets and diversifying strategies where no readily ascertainable market value exists; management in consultation with their investment managers, value these investments in good faith based upon audited financials, cash-flow analysis, purchase and sales of similar 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.

The valuation method for investments measured at the net asset value (NAV) per share is presented in the table on page 46. The system holds shares or interests in investment companies at where the fair value of the investments are measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient. Global equity, real assets and diversifying strategy investments at NAV are generally long term private equity 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 realized. As of December 31, 2016, it is probable 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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Fair Value Investments	12/31/2016	Quoted Prices in	Significant	Significant	Totals
		Active Markets	Other	Unobservable	
		Assets	Observable	Inputs	
		Level 1	Level 2	Level 3	
Global Equities		\$2,917,810,207	\$127,870,376	\$1,430,713,376	\$4,476,393,959
Global Fixed Income		6,134,561	1,835,533,210	217,780,673	2,059,448,444
Real Assets		112,297,388	1,865,002	830,631,183	944,793,574
Diversifying Strategies		24,667,380	86,176,471	416,017,948	526,861,799
Mutual Funds (DC, 457, HCSP)		31,940,843			31,940,843
Self Directed accounts (DC, 457)		2,998,310			2,998,310
Total investments by fair value		3,095,848,689	2,051,445,059	2,895,143,181	8,042,436,929

Investments at net asset value (NAV)	NAV	Totals			
Global Equities	\$1,025,516,386	1,025,516,386			
Global Fixed Income					
Real Assets	80,247,805	80,247,805			
Diversifying Strategies	326,103,472	326,103,472			
Mutual Funds (DC, 457, HCSP)	384,855,711	384,855,711			
Total investments at NAV	1,816,723,374	1,816,723,374			

Total fair value and NAV investments	1,816,723,374	3,095,848,689	2,051,445,059	2,895,143,181	9,859,160,303
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Securities Lending Collateral			750,384,422		750,384,422
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Total fair value and NAV investments with Securities Lending Collateral	\$1,816,723,374	\$3,095,848,689	\$2,801,829,481	\$2,895,143,181	\$10,609,544,725
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Reconciliation to Investments on Financial Statements	
Investments at fair value and NAV	\$9,859,160,303
Cash	(6,259)
Investment/interest/Dividend receivables	(170,291,366)
Investment and margin variation payables	175,063,321
Adjusted investments	9,863,926,000
Investments from page 23	\$9,863,926,000

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

At the year ended December 31, 2016, the fair value, unfunded commitments, and redemptions rules of those investments are a follows:

Investment Type	Fair Value	Unfunded Commitments	Redemption Frequency (if Eligible)	Redemption Notice Period
Global Equities	\$1,025,516,386	\$25,075,851	Monthly, quarterly, semi-annually, annually	30 days
Real Assets	80,247,805	14,900,000	Monthly, quarterly, semi-annually, annually	N/A
Diversifying Strategies	326,103,472	44,023,942	Monthly, quarterly, semi-annually, annually	N/A
Mutual Funds (DC, 457, HCSP)	384,855,711		Daily	N/A
Total investments at NAV	\$1,816,723,374	\$83,999,793		

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 to 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 have been estimated using the net asset value of the investments.

The Real Assets 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. The majority of the investments within this portfolio will be private investments making the portfolio relatively illiquid and longer duration. The fair value of the investments have been estimated using the net asset value of the investments.

Diversifying 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 have been estimated using the net asset value of the investments.

Mutual fund strategies are 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 have been estimated using the net asset value of the investments.

5. RISK MANAGEMENT AND INSURANCE

MERS maintains insurance for workers' compensation, its two buildings, owned and leased vehicles, blanket property, fiduciary, fidelity, and faithful performance to cover other risk of loss such as personal injury to employees or others, property damage, or other liability.

6. SELF INSURANCE

MERS self-insured for its dental insurance in 2016 with a third party administrator to assist with coverage.

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 benefit claim is ultimately the responsibility of the affected municipality — it becomes a funding obligation.

In 1998, MERS entered into a contractual agreement with a municipality and its bargaining units to pay for a certain portion of the municipality's and employees' benefit costs to settle a legal dispute. MERS' position is that its funding obligations under that agreement ended on December 31, 2015. The municipality and bargaining units believe MERS has additional obligations, in an unknown amount. Litigation is pending on the issue of whether MERS' funding obligations ended on December 31, 2015. The potential amount in controversy is unknown.

8. RELATED PARTIES

Cobalt Community Research is a 501(c) (3) nonprofit, non-partisan coalition that helps local governments, schools and membership organizations measure, benchmark, and manage their efforts through shared data, high-quality affordable surveys, focus groups and meetings that use instant audience feedback technology. MERS facilitated the creation of Cobalt and MERS employees perform the regular work required to run Cobalt. Cobalt maintains separate financial reporting and is responsible for repaying MERS for all administrative costs including staff time. In 2016, Cobalt paid MERS \$65,000 to cover the year's expenses.

9. FUNDED STATUS AND FUNDING PROGRESS

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 2016 were determined by actuarial valuations as of December 31, 2014. Approximately 78% of the participating municipalities have fiscal years that begin January 1 or July 1.

10. INTERFUND BALANCES

The general purpose of the interfund receivables and payables in the financial statements relates to transactions that occurred between the various product positions within MERS that did not settle until 2017.

11. 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, disability, and death benefits to plan members and beneficiaries. MERS is an agent multiple employer, statewide public employee pension plan established by the Michigan Legislature under Public Act 135 of 1945 and administered by a nine member Retirement Board. MERS issues a publicly available financial report that includes financial statements and required supplementary information. This report may be obtained accessing the MERS website at www.mersofmich.com.

Benefits Provided

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

At the December 31, 2015 valuation date, the following employees were covered by the benefit terms:

Inactive Employees or Beneficiaries Currently Receiving Benefits: 30
Inactive Employees Entitled to but Not Yet Receiving Benefits: 34
Active Employees: 121
Total Employees: 185

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 2016 was 7.63% of payroll. MERS total employer contributions totaled \$1,672,934. MERS employees are required to contribute 4% of their salaries to help fund the pension.

Article 9, Section 24 of the State of Michigan constitution requires that financial benefits arising on account of employee service rendered in each year be funded during that year.

Net Pension Liability

MERS Net Pension Liability, measured as of December 31, 2016, was \$1,295,066, and the total pension liability used to calculate the Net Pension liability was determined by an annual valuation rolled forward to that date.

Actuarial Assumptions

The total pension liability in the December 31, 2015 annual actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation: 2.5%
Salary Increases: 3.75% in the long term
Investment Rate of Return: 8.0% net of investment expense, including inflation

The mortality table used to project the mortality experience of non-disabled plan members is a 50% male/50% female blend of the following tables:

1. The RP-2014 Healthy Annuitant Mortality Tables, with rates multiplied by 105%
2. The RP-2014 Employee Mortality Tables
3. The RP-2014 Juvenile Mortality Tables

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The mortality table used to project the mortality experience of disabled plan members is 50% Male/50% Female blend of RP-2014 Disabled Retiree Mortality Tables.

The actuarial assumptions used in the valuation were based on the results of the most recent actuarial experience study of 2009-2013.

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 Real Rate of Return
Global Equity	57.50%	5.02%
Global Fixed Income	20.00	2.18
Real Assets	12.50	4.23
Diversifying Strategies	10.00	6.56

Discount Rate

The discount rate used to measure the total pension liability is 8.00% for 2015. 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 current 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

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at 12/31/14	\$20,330,504	\$21,484,849	\$(1,154,345)
Changes for the Year			
Service Cost	1,269,997		1,269,997
Interest on Total Pension Liability	1,706,312		1,706,312
Changes in benefits			
Difference Between Expected and Actual Experience	313,939		313,939
Changes in Assumptions	1,386,692		1,386,692
Employer Contributions		2,099,146	(2,099,146)
Employee Contributions		520,710	(520,710)
Net Investment Income		(343,573)	343,573
Benefit Payments, Including Employee Refunds	(565,862)	(565,862)	1
Administrative Expenses		(48,754)	48,754
Other Changes			
Net changes	4,111,078	1,661,667	2,449,411
Balances as of 12/31/15	\$24,441,582	\$23,146,516	\$1,295,067

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the Net Pension Liability of MERS, calculated using the discount rate of 8.00%, as well as what the employer's Net Pension Asset would be using a discount rate that is 1% lower (7.00%) or 1% higher (9.00%) than the current rate.

Sensitivity of Net Pension Liability

	1% Decrease (7%)	Current Discount Rate (8%)	1% Increase (9%)
Net Pension Liability		1,295,066	
Change in Net Pension Liability	3,994,395		(3,263,615)
Adjusted Net Pension Liability	5,289,461	1,295,066	(1,968,549)

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, 2016, MERS recognized pension expense of \$1,478,172. 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	\$269,091	\$-
Differences in Assumptions	1,188,593	-
Excess (Deficit) Investment Returns	1,999,804	-
Contributions Subsequent to the Measurement Date*	1,672,933	-
Total	\$5,130,421	\$-

**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, 2016, which is recorded in 2017.*

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

Year Ended	Deferred Outflow
2017	\$762,963
2018	762,963
2019	762,963
2020	682,705
2021	242,947
2022	242,947

There were changes in the actuarial assumptions or methods affecting the 2015 valuation for smoothing, price and wage inflation, discount rate, and mortality tables based on the most recent experience study. This calculation was done with an effective date of December 31, 2015.

12. SUMMARY INFORMATION – ACTUARIAL FUNDING METHODS AND ASSUMPTIONS

Valuation Date	December 31, 2015
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Payroll, Open
Remaining Amortization Period	<p>There are 24 years for positive unfunded liabilities, and 10 years for negative unfunded liabilities. This period will be reduced by one year in each successive annual valuation, until the unfunded liability is paid off.</p> <p>For divisions that are closed to new hires, and the new hires that are not covered by the MERS Defined Benefit Plan or Hybrid Plan provisions (in a linked division), the amortization period is shortened in order to ensure adequate funding of the closed division. The employer has two amortization options. Under Amortization Option A, the amortization period for positive unfunded liabilities is decreased annually by 2 years until the period reaches 6 or 5 years. Each year thereafter the amortization period decreases one year each valuation year until the unfunded liability is paid off. Under Amortization Option B, the amortization period for positive unfunded liabilities is decreased annually by 2 years until the period reaches 16 or 15 years and thereafter, the period is decreased annually by 1 year until the unfunded liability is paid off. In addition, the minimum contribution requirement for a closed division is equal to the excess of three years of annual retiree benefit payments over the current market value of assets. An employer that elected Amortization Option A may later change to Amortization Option B.</p>
Asset Valuation Method	A 5-year smoothed market asset valuation method was adopted December 31, 2015.
Actuarial Assumptions	Investment Rate of Return – 7.75% net of administrative and investment expenses
Projected Salary Increases	A 3.75% for base inflation, plus a percentage based on an age-related scale to reflect merit, longevity and promotional pay increases.
Post-Retirement Benefit	A 2.5% annual post-retirement benefit adjustment – if adopted by individual municipalities.

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 straight life 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: 4, 5, 6, 7, or 8%.

Benefit Program DROP+ may not be adopted after June 30, 2013. Two employers adopted this benefit prior to it ending.

Deferred Retirement Option Program (DROP): Traditional

If a member is covered by the Benefit Program DROP and is eligible for retirement, they have the option to elect a specified DROP period in which they will cease to accrue any additional retirement benefits, but remain employed by the participating municipality or court. The member must elect a DROP end date at least six months after the beginning date, but no more than sixty months after the beginning date, in one-month increments.

Upon the member's election of DROP and the receipt of an application to enroll in DROP, MERS will calculate the member's service retirement and benefit payment as of the beginning date. The Retirement System also shall calculate any age differential between the member and the member's beneficiary as of the calendar year of the DROP exit date in accordance with Treas. Reg. § 1.401(a)(9)-6. Upon the beginning date of the DROP period, the member shall be responsible to continue employee 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 member 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 member. 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 twelve months.

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

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 Investment Returns

	2013	2014	2015	2016
Annual money-weighted rate of return, net of investment expenses	14.97%	7.32%	(0.99%)	10.78%

This schedule is 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.

The following schedules refer to MERS' staff only. A measurement date of December 31, 2015, was used.

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 ten years.

Schedule of Employer Contributions

	2016	2015	2014	2013	2012
Actuarial Determined Contributions	\$1,172,934	\$1,088,267	\$1,089,079	\$1,006,942	\$1,276,266
Contributions in Relation to the Actuarially Determined Contribution	1,672,934	2,099,146	2,089,079	2,506,942	1,276,266
Contribution Deficiency (Excess)	(500,000)	(1,010,879)	(1,000,000)	\$(1,500,000)	
Covered Employee Payroll	9,694,637	9,184,670	9,184,670	9,741,710	9,400,436
Contributions as a Percentage of Covered Employee Payroll	12%	12%	12%	10%	14%

	2011	2010	2009	2008	2007
Actuarial Determined Contributions	\$1,194,741	\$1,136,057	\$1,070,451	\$935,463	\$768,376
Contributions in Relation to the Actuarially Determined Contribution	1,194,741	1,136,057	1,070,451	935,463	768,376
Contribution Deficiency (Excess)					
Covered Employee Payroll	10,195,504	9,113,922	8,198,952	7,802,747	5,879,341
Contributions as a Percentage of Covered Employee Payroll	12%	12%	13%	12%	13%

Notes to Schedule of Employer Contributions:

Actuarial Cost Method: Entry Age Normal	Investment Rate of Return: 8.0%
Amortization Method: Level percentage of payroll, open	Normal Retirement Age: 60
Remaining Amortization Period: 23 years	Mortality: 50% Female/50% Male blend of the RP-2014
Asset Valuation Method: 10 year smoothed	Healthy Annuitant Mortality Tables with rates multiplied
Inflation: 3.75% long-term wage inflation	by 105%, the RP-2014 Employee Mortality Tables, and
Salary Increases: 3.75%	the RP-2014 Juvenile Mortality Tables

Schedule of Changes in Employer's Net Pension Liability 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 and Related Ratios

Total Pension Liability	2014	2015
Service Cost	\$1,203,192	\$1,269,997
Interest	1,523,654	1,706,312
Difference Between Expected and Actual Experience		313,939
Changes of Assumptions		1,386,692
Benefit Payments Including Employee Refunds	(526,561)	(565,862)
Other		1
Net Change in Total Pension Liability	2,200,285	4,111,079
Total Pension Liability Beginning Balance	18,130,219	20,330,504
Total Pension Liability Ending Balance	20,330,504	24,441,583
Plan Fiduciary Net Position		
Contributions-Employer	2,089,079	2,099,146
Contributions-Employee	398,940	520,710
Net Investment Income	1,193,652	(343,573)
Benefit Payments Including Employee Refunds	(526,561)	(565,862)
Administrative Expense	(44,244)	(48,754)
Net Change in Plan Fiduciary Net Position	3,110,866	1,661,667
Plan Fiduciary Net Position Beginning Balance	18,373,983	21,484,849
Plan Fiduciary Net Position Ending Balance	21,484,849	23,146,516
Employer Net Pension Liability	\$(1,154,345)	\$1,295,067
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	106%	95%
Covered Employee Payroll (from GASB 68 actuarial page)	\$9,184,670	\$9,694,637
Employer's Net Pension Liability as a percentage of covered employee payroll	(13%)	13%

There were changes in the actuarial assumptions or methods affecting the 2015 valuation for smoothing, price and wage inflation, discount rate, and mortality tables based on the most recent experience study. This calculation was done with an effective date of December 31, 2015.

OTHER SUPPLEMENTARY INFORMATION

Schedule of Administrative Expenses for the Year Ended December 31, 2016

	Budget	Actual	Balance	Percentage of Budget
Personnel Services				
Salaries	\$10,069,275	\$9,822,698	\$246,577	98%
Social Security	741,300	693,203	48,097	94
Retirement	1,134,200	1,261,028	(126,828)	111
Insurance	2,061,800	1,789,141	272,659	87
Total Personnel Services	14,006,575	13,566,070	440,505	97%
Professional Services				
Third Party Administrator	1,711,500	1,696,876	14,624	99
Actuarial Services	1,200,000	1,168,606	31,394	97
Audit Services	205,000	208,704	(3,704)	102
Commercial Banking	85,000	85,616	(616)	101
Payroll Processing	16,000	23,984	(7,984)	150
IT Services/Continuity/Records	212,000	159,085	52,915	75
Business Consultants	351,040	379,289	(28,249)	108
Legal Services	470,500	387,559	82,941	82
Medical Services	140,000	152,913	(12,913)	109
Total Professional Services	4,391,040	4,262,632	128,408	97%
Communication				
Annual Conference	125,000	107,133	17,867	86
Board Travel, Education and Meetings ¹	39,000	43,144	(4,144)	111
Outreach	258,795	168,880	89,915	65
Postage / Shipping	185,500	234,257	(48,757)	126
Printing and Copying Services	102,500	72,469	30,031	71
Telephone / Communications	204,000	234,314	(30,314)	115
Travel and Meetings	185,000	151,730	33,270	82
Total Communication	1,099,795	1,011,927	87,868	92%
Miscellaneous				
Depreciation	2,937,456	3,180,701	(243,245)	108
Equipment Purchases & Rental	27,000	37,693	(10,693)	140
Insurance	285,000	267,663	17,337	94
Building / Maintenance / Utilities	301,020	284,587	16,433	95
Office Supplies/Subscriptions	114,350	79,146	35,204	69
Operating Expenses	561,500	67,846	493,654	12
Personnel Support	149,250	154,154	(4,904)	103
Professional Development	304,500	233,101	71,399	77
Software Support	1,418,628	1,255,705	162,923	89
Service Fees ²	(4,012,700)	(5,258,218)	1,245,518	131
Total Miscellaneous	2,086,004	302,378	1,783,626	14%
Total Administrative Expenses	\$21,583,414	\$19,143,007	\$2,440,407	89%

¹ Board Travel, Education, and Meetings includes \$3,470 for board members training and educations, including related travel expenditures. These expenditures comply with the requirements of Section 38.1133 of the Michigan Compiled Laws.

² Service fees primarily come from fees paid on participant directed accounts intended to cover administrative expenses. They are treated as an expenditure credit and not revenue.

Schedule of Investment Expenses for the Year Ended December 31, 2015

	Budget	Actual	Balance	Percentage of Budget
Personnel Services				
Salaries	\$1,545,400	\$1,546,194	\$(794)	100%
Social Security	101,100	82,118	18,982	81
Retirement	142,900	217,144	(74,244)	152
Insurance	131,000	151,459	(20,459)	116
Total Personnel Services	1,920,400	1,996,915	(76,515)	104%
Professional Services				
Commercial Banking	1,250,000	978,658	271,342	78
Investment Managers	16,000,000	13,398,366	2,601,634	84
Business Consultants	95,000	90,625	4,375	95
Total Professional Services	17,345,000	14,467,649	2,877,351	83%
Miscellaneous				
Travel	138,000	88,223	49,777	64
Office Supplies	2,600	71	2,529	3
Professional Development	10,400	11,074	(674)	106
Operating Expenses	10,000	6,589	3,411	66
Research and Portfolio Management	285,000	284,328	672	100
Total Miscellaneous	446,000	390,285	55,715	88%
Total Investment Expenses	\$19,711,400	\$16,854,849	\$2,856,551	86%

Note: See accompanying Independent Auditor's Report

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Schedule of Payments to Consultants – December 31, 2016

Firm	Nature of Services	Amount
Tegrit Software Ventures, Inc.	Software Consulting and Configuration Services	\$2,796,690
Alerus Retirement Solutions	Third Party Administration	1,696,872
CBIZ Benefits & Insurance Services, Inc.	Actuarial Consultants	1,262,319
State Street Corporation	Depository Trust Banking Services	1,137,657
Moore Trosper	Construction and Building Modification	365,649
Miller, Canfield, Paddock, and Stone, P.L.C.	Legal Services	275,903
Dewpoint, Inc.	Project Management Services	224,430
Plante & Moran, PLLC	Auditing Services	188,004
Bloomberg Finance L.P.	Investment Data Services	130,968
Managed Medical Review Organization	Medical Advisors	108,895
Rapid7 LLC	Software Consulting and Configuration Services	88,474
Byrum & Fisk Communications	Marketing and Public Relations Services	87,298
Ice Miller LLP	Legal Services	70,151
Atrio Systems	Software Consulting and Configuration Services	58,515
Mayotte Group	Construction and Building Modification	47,126
Stephen Morrow	Investment Consultants	45,867
Michigan Legislative Consultants	Legislative Consultants	42,840
Total Solutions, Inc.	Software Consulting and Configuration Services	41,645
Gavekal Capital	Investment Consultants	40,000
Viawest, Inc	Business Continuity Services	38,862
BCA Research	Investment Consultants	35,000
Evestment Alliance	Investment Consultants	32,288
Maximus Inc.	Cost Allocation Consultants	24,975
Karoub Associates	Legislative Consultants	24,720
Ned Davis Research	Investment Consultants	22,500
Informa Investment Solutions	Investment Consultants	21,360
Optima Consulting LLC	Software Consulting and Configuration Services	21,358
Robert Half Technology	Recruiting and Placement Services	21,250

This schedule only includes firms whose annual payment amount was \$20,000 or above.

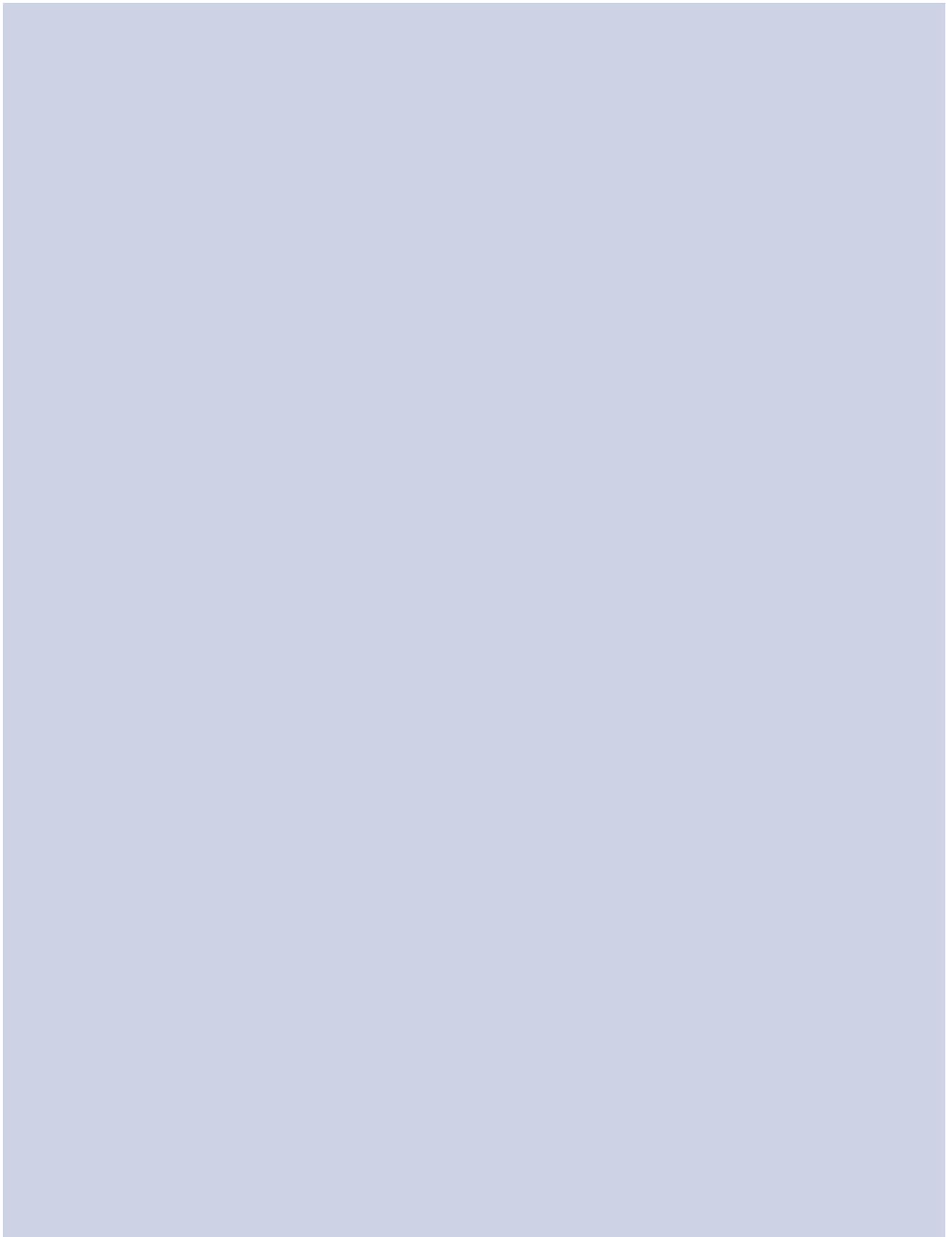
Fees paid to investment managers are included in the Investment Section.

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

See previous Independent Auditor's Report.

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CHIEF INVESTMENT OFFICER REPORT

Dear Members and MERS Retirement Board:

I respectfully submit the investment activity report for the Municipal Employees' Retirement System (MERS) of Michigan's Comprehensive Annual Financial Report for the year ending December 31, 2016.

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

Economic Overview

The year 2016 was dominated by political events domestically and abroad. The voter rebellions in Europe and the U.S. culminated in Brexit and a Trump presidential victory, much to the consternation of the establishments' elites in both regions. With the Global Financial Crisis (GFC) slowly fading from the forefront and much of the world focused on elections, we saw a significant rally in financial markets throughout the year. Quantitative easing and other policy tools used to push risk asset prices higher came to an end in the United States, but accelerated in Europe and other developed markets. The Fed continued toward monetary tightening, raising rates in December and communicating its intention to continue increasing at a moderate pace. The U.S. Dollar (USD) remained the strongest major global currency, negatively affecting emerging markets which hold significant amounts of dollar denominated debt. The strong USD also began to impact U.S. manufacturing and profits, although the service sector continued to produce positive gains. Commodity markets stabilized and global oil prices established themselves within a trading range around \$50 a barrel. The weakness in commodities stoked market volatility and will put stresses on political and social structures within these countries adding to geopolitical instability.

Last year I reported that the markets were at an inflection point which has proven out and applies equally to the political sphere where it is expected that increased government intervention in national economies will increase globally. Developed markets possess aging populations with high legacy costs while low interest rates compress returns across all asset classes. In a zero interest rate environment it is extremely difficult to meet return objectives, placing additional stress on financial systems. It should be noted that inflationary pressures are beginning to emerge in the U.S., but it is too early to tell if this trend will continue or spread globally. Until this normalizes, difficult policy choices will be the norm rather than the exception.

MERS Total Market Fund

MERS Total Market Fund performed well returning 11.10% gross of fees for the year, outperforming its blended benchmark by 4.80%. Absolute performance was driven largely by equities (micro cap, small cap, and emerging markets equities were strong contributors to the asset class) and strong returns from the Real Assets allocation. Strong relative returns in fixed income were driven by a strategic shift away from global bonds, a shortening of the duration of the portfolio, and the allocation to investment grade triple net lease real estate. Every asset class outperformed its respective benchmark for the year. The Fund continues to outperform for all time periods through ten years. Most importantly, it exhibits the downside protection and risk characteristics that have been carefully designed and approved by the Board. The strong portfolio returns were also exhibited in the Funds' performance versus peers. Through the fiscal year 2016 MERS was in the top decile of public funds greater than \$1B and was holding a position around the median plan through the ten year time period.

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MERS 2016 highlights:

- The MERS Total Market Fund return was 11.10%, gross of investment fees, outperforming the policy benchmark by 4.80%.
- MERS Office of Investments conducted an asset allocation study that is required every three years. The Board approved the recommended changes that the Office of Investments presented at the December MERS Board Meeting.
- The target asset allocation breakdown used through 2016 is shown below:

Global Equity	57.5%
Global Fixed Income	20.0
Real Assets	12.5
Diversifying Strategies	10.0

- The Board approved a new asset allocation for use starting January 1, 2017, as follows:

Global Equity	55.5%
Global Fixed Income	18.5
Real Assets	13.5
Diversifying Strategies	12.5

- At the broad asset class level, absolute returns gross of investment fees for the year were as follows:

Global Equity	11.86%
Global Fixed Income	6.71
Real Assets	19.67
Diversifying Strategies	5.21

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 has 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

MERS was organized for the express purpose of utilizing its collective resources to ensure that its member municipalities have sufficient financial resources to meet the pension obligations for which they are responsible under Article 9, section 24 of the Michigan Constitution. MERS also provides additional benefits and savings to its members as approved by the Board. MERS' statutory authority is found in the Municipal Employees' Retirement Act, MCL 38.1501 et seq.

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 investing 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 has a Defined Benefit Plan, Defined Contribution Plan, Hybrid Plan, Health Care Savings Program, Retiree Health Funding Vehicle, Investment Services Program, and a 457 Program. The Board has delegated all investment management operations and activities to the Chief Executive Officer, except those specifically reserved for the Board. The CEO is directly responsible for all day-to-day activities and duties of the System. The CEO has delegated management of MERS' trust assets to the Chief Investment Officer, including all investment management activities.

The MERS Investment Policy Statement (IPS) outlines the investment goals, objectives, and policies of the MERS Total Market Fund (the Fund). The purpose of the IPS is to ensure that the investment activities are carried out within the framework established by MERS' policy and administrative documents. The IPS assists the Board, Investment Committee, and staff in effectively monitoring the MERS investment program and offers a map to assist in making prudent and informed investment decisions. The IPS addresses the following issues:

- The goals of the MERS Investment Program;
- Investment policies;
- Performance objectives and evaluation;
- Major investment programs; and
- Investment processes and procedures.

The IPS is designed to provide sufficient flexibility in the management and oversight process to reflect the dynamic nature of the capital markets. It will serve as a working document and may be modified as needed or as market conditions change. The IPS will be reviewed annually and approved 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 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, private equity, and certain alternative investments typically have a quarter lag in reporting, which is the industry standard. Periodic and independent appraisals of these assets are carried out to ensure an accurate valuation to assist in properly assessing the value of the Fund.

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 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. The annual money weighted rate of return net of investment expenses measured on monthly inputs was 10.78%.

DEFINED BENEFIT PLAN

INVESTMENT OBJECTIVES AND ACTIVITY

The primary goal of the MERS investment program is to grow assets at a rate which, when coupled with employer and employee contributions, satisfies promised benefits to MERS' members. This should be done with a high degree of prudence to reduce risk. The following objectives are intended to assist in achieving this goal:

- Exceed the actuarial investment assumption on a long-term basis, which is currently 7.75% annually;
- Maintain adequate liquidity to pay promised benefits;
- Adopt a strategic asset allocation plan that reflects current and future liabilities, minimizes volatility, and maximizes the long-term total rate of return;
- Minimize the costs associated with the implementation of the asset allocation through the efficient use of internal and external resources;
- Maintain above median peer rankings for the 3, 5, and 10-year time periods; and
- Exceed the return of the Fund's Policy Benchmark. The Policy Benchmark currently consisting of 35% Bloomberg Barclays Global Aggregate Bond Index and 65% MSCI ACWI IMI (net).

FUND HIGHLIGHTS

Asset Allocation

The Fund's asset allocation is the single most important determinant of achieving the stated investment goals. The Office of Investments conducts a full asset allocation study every three years to assess portfolio construction and strategy. The Office of Investments conducted the most recent asset allocation study in 2016. MERS adopts and implements an asset allocation policy that is predicated on a number of factors, including:

- A projection of actuarial assets, liabilities and benefit payments, and the cost of contributions;
- Historical and expected long-term capital market risk and returns for each asset class;
- Expected correlations of returns among various asset classes;
- An assessment of future economic conditions, including inflation and interest rate levels;
- Various risk/return scenarios; and
- Liquidity requirements.

Criteria for Inclusion of Asset Classes

The following criteria will be used in assessing an asset class for inclusion by the Fund:

- Sufficient size and liquidity to permit an investment by the Fund;
- Staff, external managers, 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 Fund's assets; and
- Ability to readily measure performance and risk against appropriate benchmarks.

Below is the asset allocation in place for 2016 that was adopted in November 2013. In December 2016, the Board adopted the most recent asset allocation study recommendations. In January 2017, the MERS Office of Investments began implementing the new allocation in stages as investing permitted.

The Board sets target allocations to various asset classes that are designed to meet MERS' long-term objectives and establishes minimum and maximum allowable allocations for each asset class. The bands allow flexibility to pursue tactical shifts or investment strategies over shorter time periods.

2013 Asset Allocation Study				
Asset Class	Target Weight	Min/ Max Bands	Minimum Allocation	Maximim Allocation
Global Equity	57.5%	+/- 5.0%	52.5%	62.5%
Global Fixed Income	20.0	+/- 10.0	15.0	25.0
Real Assets	12.5	+/- 2.5	10.0	15.0
Diversifying Strategies	10.0	+/- 5.0	5.0	15.0
2016 Asset Allocation Study (effective 2017)				
Asset Class	Target Weight	Min/ Max Bands	Minimum Allocation	Maximim Allocation
Global Equity	55.5%	+/- 10.0%	45.5%	65.5%
Global Fixed Income	18.5	+/- 7.5	11.0	26.0
Real Assets	13.5	+/- 5.0	18.5	18.5
Diversifying Strategies	12.5	+/- 5.0	7.5	17.5

Portfolio Rebalance Policy

In conducting rebalancing activities, the Office of Investments operates in accordance with the following:

- Reviews the asset allocation at least monthly to ensure conformance with the asset allocation set by the Board;
- Initiates rebalancing transactions to bring all percentages to values inside the bands or promptly seek Board approval to remain outside the bands in the event that an asset class falls out of the said bands;
- Deviates from an asset class' target allocation, but stay within the allowable bands when implementing a tactical shift or investment strategy;
- Implements rebalancing activities at a reasonable cost using either index futures via an external derivatives manager or using hard dollars; and
- Approves all rebalancing transactions.

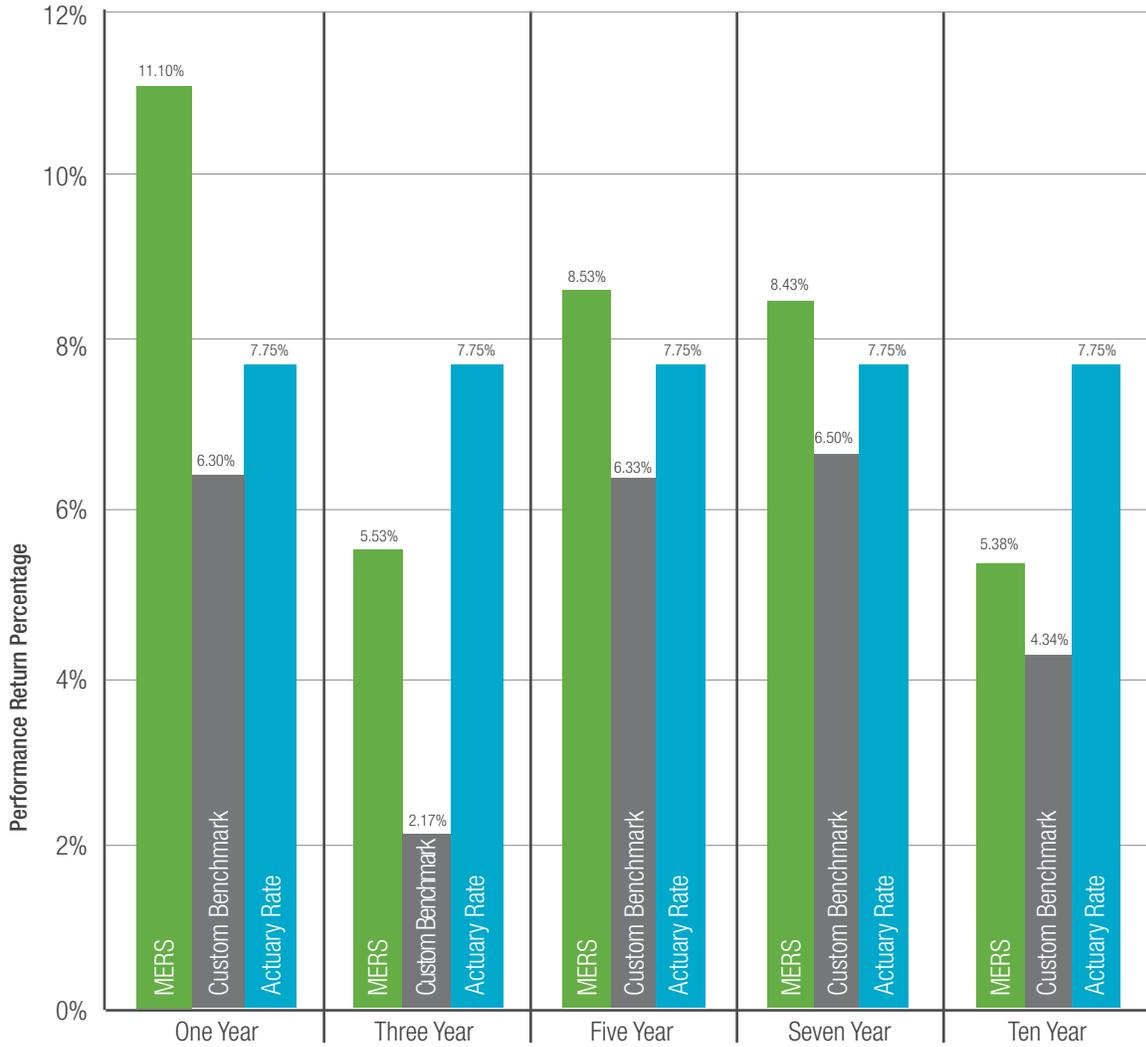
Sub-Asset Class/ Manager Rebalancing

The use of sub-asset class/manager level rebalancing is meant to exploit mean reversion at a more granular level. It is recognized that sub-asset classes/managers are poised to perform well at different times and in different market environments. Thus, by incorporating market information, rebalance rules or triggers can be established to guide the desired asset allocation tilts within the portfolio. A variety of factors will be included in the decision making process such as:

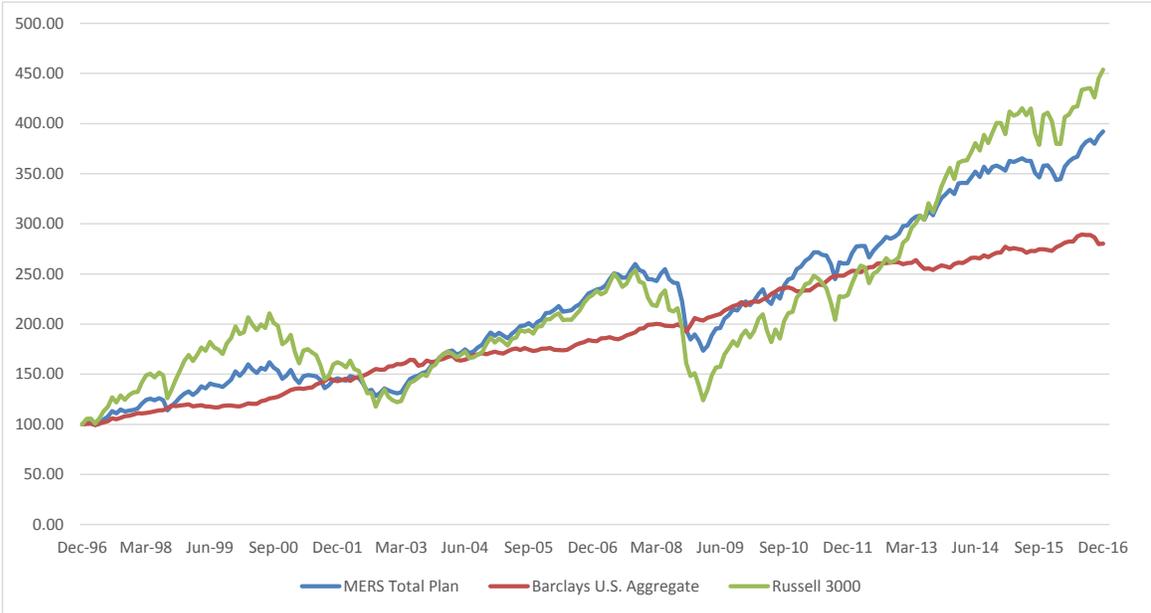
- Allocation level relative to target;
- Recent relative performance;
- Correlation;
- Valuation — whether an asset class is overvalued or undervalued;
- Economic activity — different economic conditions favor different asset classes;
- Seasonality;
- Technical Indicators — relative strength, momentum, etc.; and
- Market sentiment — volume, volatility, risk aversion, fund flows, etc.

The ultimate goal is overweighting a sub-asset class/manager when outperformance is likely and underweighting a sub-asset class/manager when it is likely to underperform. Doing so, systematically helps eliminate emotional decision making which leads to a better risk/return profile for the Fund. Allocations to external investment managers are limited to 15% of the total fund each; however, this excludes passive index strategies.

Performance Versus Custom Benchmarks as of December 31, 2016 (gross of fees)



Downside Protection, Upside Participation as of December 31, 2016

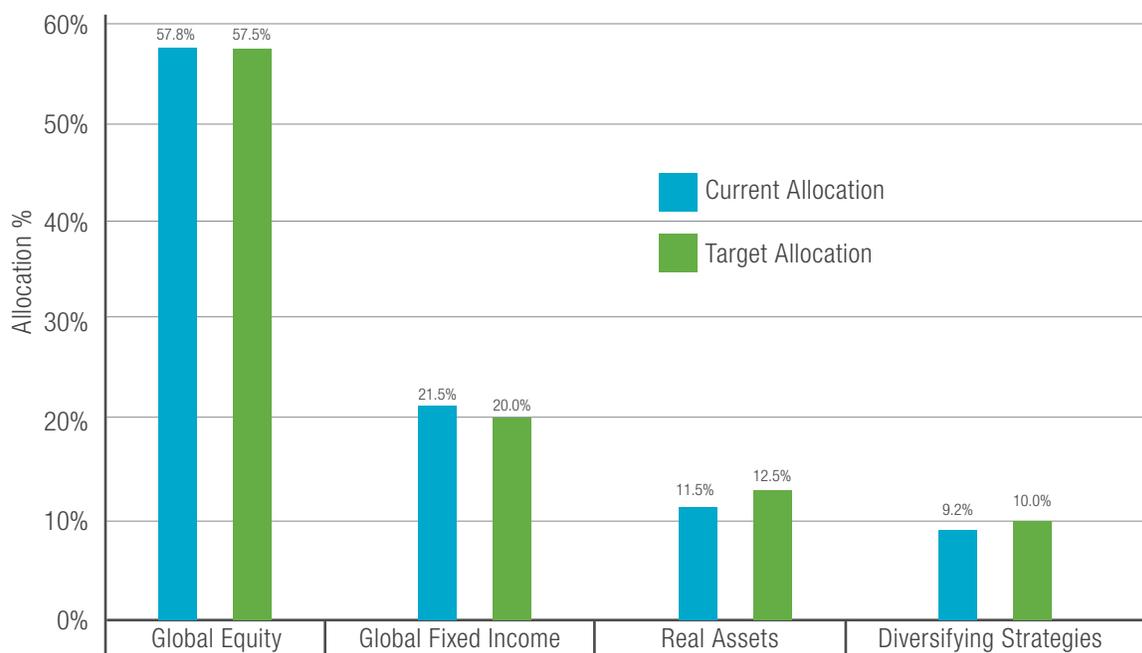


Diversification is a portfolio strategy designed to reduce exposure to the volatility of returns by combining a variety of investments (such as stocks, bonds, real estate, and commodities) which are unlikely to all move in the same direction. The goal of diversification is to reduce the risk in a portfolio. While it is impossible to foresee all market risks, the strategic goal of the MERS asset allocation policy and the portfolio is to create a well-diversified portfolio that provides downside market protection with upside market participation.

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Current Asset Allocation versus Target Allocation as of December 31, 2016



Statistical Performance

Portfolio Characteristics	1 Year	3 Year	5 Year	7 Year	10 Year
Annualized Return (gross of fees)	11.10%	5.53%	8.53%	8.43%	5.38%
Annualized Standard Deviation	5.66	5.88	5.96	7.49	9.39
Sharpe Ratio	1.90	0.92	1.41	1.11	0.49
Excess Return	4.80	3.35	2.20	1.93	1.04
Beta	0.60	0.68	0.76	0.82	0.83
Correlation to Policy Benchmark	0.89	0.91	0.93	0.96	0.97

Portfolio Returns	1 Year	3 Year	5 Year	7 Year	10 Year
Total Market Fund (Gross of Fees)	11.10%	5.53%	8.53%	8.43%	5.38%
Total Market Fund (Net of Fees)	10.85	5.32	8.30	8.18	5.11%
TMF Custom Benchmark*	6.30	2.17	6.33	6.50	4.34%

*65% MSCI ACWI IMI (Net), 35% BBG BARC Gbl Agg

Commission Recapture

MERS requests that all domestic equity managers direct a target of 25% of commission trades with the State Street Global Markets LLC (SSGM) for the purpose of commission recapture. Notwithstanding these instructions, brokerage transactions in the normal course of business should only be directed to this broker if in so doing the obligation to achieve best execution of the portfolio's transactions is fulfilled. The SSGM program provides a network of brokers with whom trades can be executed. MERS has the ability to waive commission recapture participation for investment managers via their investment guidelines as certain strategies are more sensitive to trade execution (i.e. micro cap). The recapture commissions are shared based on a contractually-negotiated split of 90% MERS/10% broker.

Securities Lending

MERS participates in the securities lending program at State Street Bank. Income earned from participation in the program is credited to each portfolio within 15 business days of the previous month's end. The goal of the securities lending program is to enhance the overall income of the Plan and to help offset investment management related expenses.

Securities Lending 2016 Rebates and Fees

	Gross Earnings	Rebates	Agent/Mgr fees	Net earnings
First Quarter	\$1,839,402	\$557,016	\$256,450	\$1,025,936
Second Quarter	1,949,096	547,582	280,285	1,121,229
Third Quarter	2,142,596	639,332	300,638	1,202,626
Fourth Quarter	2,807,822	653,297	430,895	1,723,630
Totals	\$8,738,916	\$2,397,227	\$1,268,268	\$5,073,421

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Investment Summary for Defined Benefit Plan, Defined Contribution Plan, Hybrid, Health Care Savings Program, Retiree Health Funding Vehicle, 457, and Investment Services Programs as of December 31, 2016

Type of Investment	Market Value	Percentage
Global Fixed Income	\$2,049,466,759	22%
Global Equities	5,526,197,110	58
Diversifying Strategies	883,290,424	9
Real Assets	1,094,526,312	11
Sub Total Investments	\$9,553,480,605	100%

Reconciliation of Investments to Financial Statements

Total Investments from above	\$9,553,480,605
Receivables - Sale of Investments, Interest & Dividends	(170,291,366)
Alternative asset adjustment not reflected on State Street portfolio	(6,777,345)
Bonds in default	(102,886)
Rounding adjustment	980
Investments not in MERS State Street' portfolio	419,794,863
Investments in cash	(103,561,675)
Payables - Purchases of Investments	171,382,824
Investments on Financial Statements	\$9,863,926,000

Note: Includes receivables and payables for sales and purchases of securities with settlement dates after December 31, 2016.

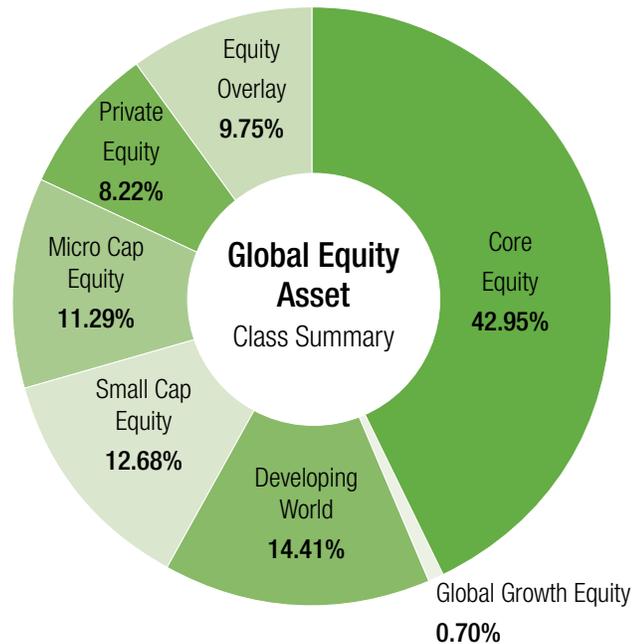
GLOBAL EQUITY ASSET CLASS SUMMARY

As of December 31, 2016, the Global Equity portfolio had a fair value of \$5.5 billion, representing 57.8% of the Fund. Performance for this portfolio was 11.86% gross of fees for the year.

The Global Equity portfolio as of December 31, 2016, had a target allocation of 57.5% of the Fund, representing the largest portion of MERS' Defined Benefit Portfolio. The portfolio included core, global growth, developing world, small cap, micro cap, and private equity sub-asset classes. These 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 while passive management is deployed in more efficient areas and used to reduce fees. Allocations of these classes are monitored in relation to asset class bands on an ongoing basis and rebalances take place when deemed appropriate. This portfolio is expected to perform well in periods of low to falling inflation and rising economic growth. It is also projected to provide ongoing income as well as downside protection in volatile markets.

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.

Equity Asset Class Summary



INVESTMENTS

2016 comprehensive annual financial report

Global Equity Performance as of December 31, 2016

	% of Plan	1 Year	3 Years	5 Years	10 Years
Global Equity	57.8%	11.86%	5.38%	11.68%	5.65%
MSCI ACWI IMI		8.36	3.25	9.61	3.84
Excess		3.50%	2.13%	2.07%	1.81%
Core Equity	24.8	13.24	8.51	15.58	8.76
Core Equity Blend*		12.58	8.43	14.72	7.38
Excess		0.66%	0.08%	0.86%	1.38%
Small Cap Equity	7.4	19.43	6.53	13.19	6.90
Russell 2000		21.31	6.74	14.46	7.07
Excess		(1.88%)	(0.21%)	(1.27%)	(0.17%)
Microcap Equity	6.5	23.17	6.39	16.57	
Russell Microcap Index (Daily)		20.37	5.77	15.59	
Excess		2.80%	0.62%	0.98%	
Global Growth Equity	0.4	(0.14)	0.65	8.13	
Global Growth Blend**		5.33	5.82	12.07	
Excess		(5.47%)	(5.17%)	(3.94%)	
Developing World	8.3	11.31	(0.37)	2.30	
Developing Equity Blend***		7.16	(2.10)	3.44	
Excess		4.15%	1.73%	(1.14%)	
Private Equity	4.8	1.91	8.80	9.06	7.94
State Street PE 1 Qtr Lag		8.49	9.58	11.11	8.83
Excess		(6.58%)	(0.78%)	(2.05%)	(0.89%)

*Core Equity Blend – 50% Russell Top 200 Index, 50% Russell Mid Cap Index

**Global Growth Blend – 50% Russell 3000 Growth, 50% MSCI AC World Growth

***Developing Equity Blend – 50% MSCI Emerging Markets Index, 50% MSCI Frontier Markets Index

Top 10 Public Equity Holdings as of December 31, 2016

Asset Description	Fair Value	Percentage of Total Public Equity Holdings
Apple Inc.	\$22,553,629	0.26%
Microsoft Corporation	18,210,127	0.21
Exxon Mobile Corporation	14,585,113	0.17
JPMorgan Chase & Co.	13,228,257	0.15
Berkshire Hathaway Inc. Class B	12,771,113	0.14
Evercore Partners Inc. Class A	12,568,665	0.14
Johnson & Johnson	12,549,825	0.14
Texas Capital Bancshares Inc.	12,112,486	0.14
General Electric Company	11,882,051	0.13
Amazon.com, Inc.	11,735,466	0.13

A complete list of portfolio holdings is available upon request.

Global Equity – Investment Strategies

External Management	Portfolio Fair Value
U.S. Tangent Added Tactical Asset Allocation	\$485,225,619
U.S. Mid Cap Core	1,691,369
Global Opportunity Fund	256,159,210
U.S. Small Cap Value	268,158,394
International Small Cap	236,246,334
U.S. Micro Cap Core	132,552,277
U.S. Small/ Micro Cap Value	114,327,286
U.S. Ultra Micro Cap Growth	107,643,624
U.S. Micro Cap Value	136,364,460
European CLO Equity	38,912,342
Frontier Markets	283,443,543
Emerging Markets Small Cap	512,661,370
Global Private Equity	358,184,802
International Equity Overlay	538,508,344
Domestic Equity Overlay	299,288
Total External	\$3,470,378,262

Internal Management	Portfolio Fair Value
U.S. Mid Cap Index	\$746,110,493
U.S. Large Cap Index	621,130,810
U.S. Large Cap Enhanced Index	263,131,700
U.S. Small Cap Index	164,892,766
U.S. Small Cap Enhanced Index	31,278,761
U.S. Micro Cap Core	133,295,669
Private Equity Funds and Direct Deals	95,978,649
Total Internal	\$2,055,818,848

Grand Total	\$5,526,197,110
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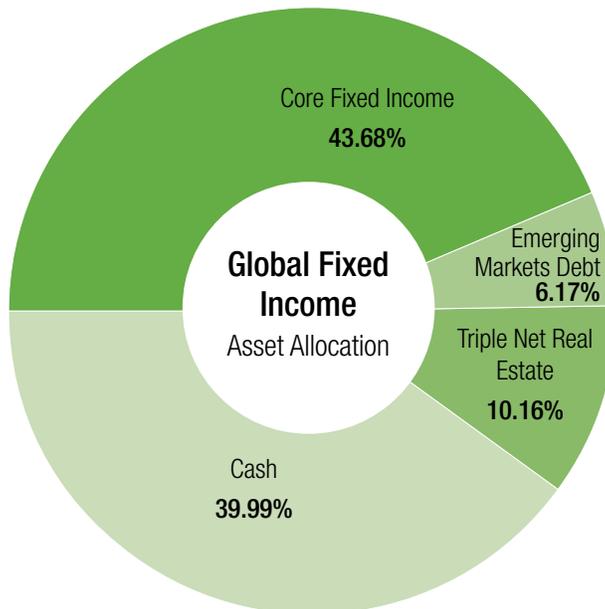
GLOBAL FIXED INCOME ASSET CLASS SUMMARY

As of December 31, 2016, the Global Fixed Income portfolio had a fair value of \$2.0 billion, representing 21.5% of the Fund. Performance for fixed income was 6.71% gross of fees for the year.

The Global Fixed Income allocation plays a vital role in the MERS Defined Benefit Portfolio. The Global Fixed Income portfolio has a target allocation of 20.0% of the Fund. This portfolio is designed to provide significant downside protection, diversification, and stable income. As a result of the low interest rate environment and likely upward pressure on interest rates, the allocation to traditional fixed income has been reduced in favor of other asset classes with a better risk/return profile. The portfolio includes U.S. and global fixed income allocations as well as triple-net lease real estate and emerging markets debt strategies. The majority of the portfolio is allocated to investment grade credits across all market sectors and diversified by geography. Active management has been deployed for each strategy as significant alpha has been achieved within the asset class.

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 Fixed Income Asset Allocation



Global Fixed Income Performance as of December 31, 2016 (gross of fees)

	1 Year	3 Years	5 Years	10 Years
Global Fixed Income	6.71%	4.12%	3.56%	4.50%
Global Fixed Income Blend*	5.09	2.71	2.87	4.73
Excess	1.62%	1.41%	0.69%	(0.23%)
Core Fixed Income	3.29	2.64	2.56	
Core Fixed Income Blend**	2.44	1.75	1.43	
Excess	0.85%	0.89%	1.13%	
Emerging Markets Debt	15.94	4.92	5.87	
JPM EMBI Global Diversified	10.15	6.19	5.91	
Excess	5.79%	(1.27%)	(0.04%)	
Triple Net Real Estate	22.74	17.50		
Barclays CMBS Investment Grade	3.50	2.88		
Excess	19.24%	14.62%		
Cash	1.39	0.94	0.94	(0.22)
91 Day Treasury Bill (Daily)	0.33	0.14	0.12	0.80
Excess	1.06%	0.80%	0.82%	(1.02%)

*Global Fixed Income Blend: 50.00% Core Fixed Income Blend, 14.15% JP Morgan EMBI Global Diversified Index, 14.20% BBG Barclays Investment Grade CMBS Index, 14.15% High Yield Blend, 7.50% U.S. 90-Day Treasury Bills

**Core Fixed Income Blend: 60% BBG BARC US Agg, 40% BBG BARC Gbl Agg

Top 10 Global Fixed Income Holdings as of December 31, 2016

Asset Description	Fair Value	Percentage of Global Fixed Income
United States Treasury 3.125% 5/19/2019	\$62,796,603	0.66%
United States Treasury 1.25% 12/15/2018	60,098,973	0.63
United States Treasury 0.75% 9/30/2018	48,193,702	0.51
United States Treasury 0.75% 7/31/2018	44,899,785	0.47
United States Treasury 1.375% 12/31/2018	40,177,041	0.42
United States Treasury 1.00% 11/15/2019	39,569,871	0.41
United States Treasury 1.5% 2/28/2019	35,367,873	0.37
United States Treasury 1.625% 4/30/2019	31,391,418	0.33
United States Treasury 0.875% 10/15/2017	25,050,775	0.26
United States Treasury 1.375% 2/28/2019	18,763,449	0.20

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

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Global Fixed Income – Investment Strategies

External Management	Portfolio Fair Value
U.S. Core Fixed Income	\$355,390,243
U.S. Core Plus Fixed Income	539,271,040
Global Fixed Income	377,634
Emerging Markets Debt	126,329,879
Residual	543,877
Triple Net Lease Real Estate	208,201,271
Short Duration Fixed Income	96,861,736
Total External	\$1,326,975,680
Internal Management	Portfolio Market Value
Short Duration Fixed Income	\$584,242,702
Cash Account	138,248,377
Total Internal	\$722,491,079
Grand Total	\$2,049,466,759

REAL ASSETS CLASS SUMMARY

As of December 31, 2016, the Real Assets portfolio had a fair value of \$1.1 billion, representing 11.5% of the Fund's portfolio. The targeted allocation of the portfolio is 12.5% of the portfolio. The Real Assets portfolio includes real estate, timber, infrastructure, commodities, and agriculture and farmland strategies. Performance for real assets was 19.67% gross of fees for the year.

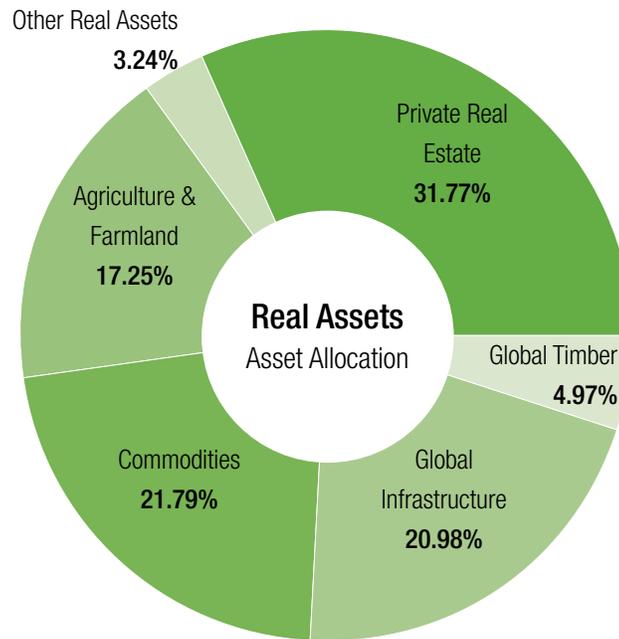
The real assets allocation is designed to provide a hedge against unexpected spikes in inflation as well as capitalize on long-term themes such as an emerging middle class in developing markets and global population growth. The majority of the investments within this portfolio will be private investments making the portfolio relatively illiquid and longer duration.

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.

Real Assets – Investment Strategies

Strategy	Market Value
Private Real Estate	\$347,722,086
Global Timber	54,364,005
Global Infrastructure	229,663,824
Commodities	238,456,015
Agriculture & Farmland	188,833,869
Other Real Assets	35,486,513
Total	\$1,094,526,312

Real Assets Allocation



Real Assets Performance as of December 31, 2016 (gross of fees)

	% of Plan	1 Year	3 Years	5 Years	10 Years
Real Assets	11.5%	19.67%	8.56%	5.41%	
Real Assets Blend*		6.90	2.57	3.32	
Excess		12.77%	5.99%	2.09%	
Real Estate	3.7	13.71	14.29	13.86	4.16%
NCREIF ODCE Value Weighted		7.79	11.04	11.16	4.84
Excess		5.92%	3.25%	2.70%	(0.68%)
Timber	0.6	12.53	4.44	4.63	
NCREIF Timberland Index Qtr Lag		3.28	7.60	6.91	
Excess		9.25%	(3.16%)	(2.28%)	
Infrastructure	2.4	10.59	6.99	2.63	
CPI + 3.5%		5.64	4.72	4.90	
Excess		4.95%	2.27%	(2.27%)	
Commodities	2.5	74.53	9.61	4.56	2.95
Bloomberg Commodity Index Total Return		11.77	(11.26)	(8.95)	(5.58)
Excess		62.76%	20.87%	13.51%	8.53%
Agriculture & Farmland	2.0	13.17	11.30		
CPI + 3.5%		5.64	4.72	4.90	
Excess		7.53%	6.58%		

* Real Assets Blend: 20.00% NCREIF ODCE, 20.00% NCREIF Timberland 1Q Lagged Index, 20.00% Private Infrastructure Blend, 20.00% DJ UBS Commodities Index, 20.00% Agriculture/Farmland Blend

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DIVERSIFYING STRATEGIES CLASS SUMMARY

As of December 31, 2016, the Diversifying Strategies portfolio had a fair value of \$883.3 million, representing 9.3% of the total portfolio. The targeted allocation of the portfolio is 10.0% of the total portfolio. It includes strategies in middle market direct lending, litigation finance, healthcare royalties, bank regulatory capital, and opportunistic credit, among others. Performance for the Diversifying Strategies portfolios was 5.21% gross of fees for the year.

The Diversifying Strategies allocation 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.

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.

Diversifying Strategies Performance as of December 31, 2016 (gross of fees)

	1 Year	3 Years
Diversifying Strategies	5.21%	5.60%
Diversifying Strategies Blend*	1.53	2.21
Excess	3.68%	3.39%

* HFRI Fund of Funds Index + 1%

Diversifying Strategies – Investment Strategies

Strategy	Market Value
Bank Regulatory Capital	\$115,982,890
Litigation Financing	19,435,904
Middle Market Direct Lending	29,634,558
Global Opportunistic Credit	238,383,926
Intangible/Tangible Assets	63,212,945
Structured Lending	115,873,906
Canadian Small/Mid Cap Market Neutral Equity	94,686,724
Lower Middle Market Direct Lending	47,365,140
Healthcare Royalties	13,473,842
Liquid Long/Short	92,373,724
Long/Short Alpha Plus	27,866,865
Insurance Linked Securities	25,000,000
Total	\$883,290,424

Investment Management Fees

Since management fees directly affect the returns of a manager, a best effort is made to achieve the best fee agreement possible. MERS leverages the scale of investments to negotiate deals that are at the lower end of industry standards and more than competitive with peers. While it is understood that superior managers often have higher fee structures, performance expectations and costs are carefully balanced. Fees are the only factor that one can be certain of ex-ante; thus it is critical to minimize them to the extent possible. All else being equal, managers with lower fees will be favored.

Schedule of Investment Fees – as of December 31, 2016

Investment Managers	Average Assets Under Management	Annual Fee	Average Basis Points
Global Equity	\$5,526,197,109	\$9,379,766	16.97
Global Fixed Income	2,049,466,758	2,435,922	11.89
Diversifying Strategies	883,290,424	1,425,872	16.14
Real Assets	1,094,526,312	156,806	1.43
Total	\$9,553,480,603	\$13,398,366	14.02
Investment Custodian			
State Street Bank and Trust		978,658	
Securities Lending Agent			
State Street Bank and Trust		1,268,268	
Total Investment Fees		\$15,645,292	

The above table presents the 2016 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.

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Schedule of Investment Commissions as of December 31, 2016

Brokerage Firm	Shares Traded	Total Dollars	Commission/ Share
Instinet, LLC	72,012,232	\$785,378	0.011
State Street Global Markets, LLC	1,673,250,801	179,942	0.000
Knight Equity Markets, LP	8,508,933	173,708	0.020
Instinet	13,769,557	139,905	0.010
Goldman Sachs & Company	6,388,387	138,285	0.022
RBC Dominion Securities, Inc	11,519,191	115,683	0.010
JonesTrading Institutional Services, LLC	5,221,942	97,102	0.019
Canaccord Genuity Corporation	10,515,390	95,856	0.009
TD Waterhouse CDA	7,463,188	91,835	0.012
CIBC World Markets, Inc.	7,948,004	91,480	0.012
Cantor Fitzgerald & Company	4,610,937	75,673	0.016
Nesbitt Burns	4,459,382	69,228	0.016
Raymond James, Ltd.	4,404,985	65,087	0.015
NBC Clearing Services Incorporated	4,309,618	61,471	0.014
Scotia Capital, Inc.	4,639,282	61,230	0.013
J.P. Morgan Securities, Inc.	5,312,064	57,712	0.011
Pershing LLC	3,292,637	55,506	0.017
Cormark Securities, Inc.	5,210,026	54,398	0.010
Credit Suisse Securities (USA) LLC	5,762,045	49,638	0.009
Bloomberg Tradebook, LLC	3,497,202	48,580	0.014
GMP Securities LTD.	4,429,012	47,236	0.011
BTIG, LLC	1,716,076	46,816	0.027
Barclays Capital, Inc.	1,774,253	44,714	0.025
Citigroup Global Markets, Inc.	9,676,178	44,691	0.005
RBC Capital Markets	1,581,715	43,054	0.027
Subtotal (25 Largest)	1,881,273,037	2,734,209	0.001
Remaining Total	163,084,927	1,103,469	0.007
Total Commissions	2,044,357,964	\$3,837,678	0.002

MERS INVESTMENT MENU SUMMARY (PARTICIPANT DIRECTED ACCOUNTS AND INSTITUTIONAL FUNDS)

The Board, together with the Office of Investments, selects the menu of investment options for the MERS' Defined Contribution Program, Hybrid Plan (Part II), Health Care Savings Program, and 457 Program (Participant Directed Accounts) and Retiree Health Funding Vehicle and Investment Services Program (Institutional Funds). In addition, the Board establishes and maintains investment guidelines, approves any material changes, and directs staff to help participants with investment education.

The MERS Investment Menu is divided into three categories consisting of Retirement Strategies, Premium Select Options, and a Self-Directed Brokerage Account. The availability of the investment options in these categories is dependent on the plan of which a participant or municipality partakes.

Retirement Strategies

Retirement Strategies, also known as Target Date Funds, are complete, diversified investment options whose asset allocation changes as the participants move toward and through retirement. They provide diversification across asset types and styles while managing volatility and disciplined rebalancing through active management. Retirement Strategies are the default investment selection for the Defined Contribution Program, Hybrid (Part II), and the 457 Program. Retirement Strategies are also available as an investment option in the Health Care Savings Program.

Premium Select Options

Premium Select Options are investment portfolios that are either constructed from portions of the MERS Total Market Fund or are portfolios managed by external managers outside of the MERS Total Market Fund.

Self-Directed Brokerage Account

The Self-Directed Brokerage Account offers access to a broader selection of funds. This option has requirements that are needed for participants to be eligible to use as well as a minimum account balance. Further description of the brokerage account can be found in the Understanding the MERS Investment Menu Summary on the MERS website at www.mersofmich.com/investments. The Brokerage Account is only available for the Defined Contribution Plan and the 457 Program.

On the next page is a list of the investment menu for both Participant Directed Accounts and Institutional Funds that are available for participants and municipalities to choose from.

INVESTMENTS

2016 comprehensive annual financial report

Participant Directed Accounts

1 Retirement Strategies

2005 Retirement Strategy
2010 Retirement Strategy
2015 Retirement Strategy
2020 Retirement Strategy
2025 Retirement Strategy
2030 Retirement Strategy
2035 Retirement Strategy
2040 Retirement Strategy
2045 Retirement Strategy
2050 Retirement Strategy
2055 Retirement Strategy
2060 Retirement Strategy

2 Premium Select Options

Portfolios Built for You

MERS Total Market Portfolio
MERS Global Stock Portfolio (100/0)
MERS Capital Appreciation Portfolio (80/20)
MERS Established Market Portfolio (60/40)
MERS Balanced Income Portfolio (40/60)
MERS Capital Preservation Portfolio (20/80)
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

TD Ameritrade (DC & 457 Only)

Institutional Funds

Portfolios Built for You

MERS Total Market Portfolio
MERS Global Stock Portfolio (100/0)
MERS Capital Appreciation Portfolio (80/20)
MERS Established Market Portfolio (60/40)
MERS Balanced Income Portfolio (40/60)
MERS Capital Preservation Portfolio (20/80)
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

A photograph of a white calculator and a pair of glasses on a desk. A green diagonal banner is overlaid on the image, containing the word 'ACTUARIAL' in white capital letters. The calculator is in the foreground, and the glasses are in the background. The banner is positioned diagonally from the bottom left towards the top right.

ACTUARIAL



September 14, 2016

The 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, and
- (2) amortize the unfunded costs of benefits earned based on past service, and which
- (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 purpose of the December 31, 2015 annual actuarial valuations was to (i) measure MERS' funding progress, (ii) establish contribution requirements for fiscal years beginning in 2017 that provide for the normal cost (i.e. the costs assigned by the valuation method to the year of service about to be rendered) and amortization of unfunded actuarial accrued liabilities over a reasonable period (generally 23 years), and (iii) provide actuarial information in connection with applicable Governmental Accounting Standards Board statements. The valuations should not be relied upon for any other purpose. The valuations were completed based upon population data, asset data, and plan provision data as of December 31, 2015.

The actuarial valuations are based upon financial data, plan provision data, and participant data which are prepared by MERS' administrative staff. We checked the data for internal and year-to-year consistency as well as general reasonableness, but did not otherwise audit the data. As a result, we do not assume responsibility for the accuracy or completeness of the data provided by MERS' administrative staff. The actuary summarizes and tabulates population data in order to analyze long term trends. MERS' external auditor audits the actuarial data annually.

This letter was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This letter may be provided to parties other than the System only in its entirety and only with the permission of the System.

Retirement Board
September 14, 2016
Page 2 of 2

Actuarial valuations are based on assumptions regarding future rates of investment return and inflation, rates of retirement, withdrawal, death, disability, and pay increase among MERS members and their beneficiaries. These assumptions are adopted by the Board after considering the advice of the actuary and other professionals. The assumptions and methods used for funding purposes were developed based on the parameters set by the Actuarial Standards of Practice. The assumptions and methods comply with the requirements of Governmental Accounting Standards Board Statement No. 68. The demographic assumptions adopted by the Retirement Board were based upon the actual experience of MERS during the years 2009 to 2013 and were first reflected in the December 31, 2015 annual valuations.

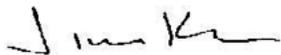
The economic assumptions were last revised by the Board for the December 31, 2015 annual valuations. Future actuarial valuation results may differ significantly from those presented in the annual valuations due to such factors as experience differing from that anticipated by the actuarial assumptions, or changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of the assignment, we did not perform an analysis of the potential range of future measurements.

Assets are valued on a market related basis that fully recognizes expected investment return and averages unanticipated market return over a 10 year period. Beginning in 2016, future unanticipated market returns will be reflected in the valuation assets over a 5 year period.

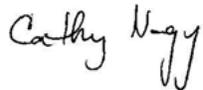
Based on the actuarial valuations, MERS' staff prepared various supporting schedules in the Comprehensive Annual Financial Report:

To the best of our knowledge, the actuarial valuations are complete and accurate and are made in accordance with generally recognized actuarial methods, in compliance with Act No. 220 of the Public Acts of 1996, as amended, and the MERS plan document, as revised. All of the undersigned are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial assumptions used in the December 31, 2015 annual actuarial valuation reports produce results that we believe are reasonable.

Respectfully submitted,



W. James Koss, MAAA, ASA



Cathy Nagy, MAAA, FSA



Curtis Powell, MAAA, EA

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

An actuarial valuation is the mathematical process that estimates plan liabilities and employer contribution requirements for the purpose of financing the Retirement System. This process is repeated annually to update the liabilities and contribution requirements for changes in participant census and plan features, and to reflect actual plan experience in the process. The valuation reflects the current language of the Municipal Employees' Retirement Act of 1984, as last amended by Public Act 490 of 2004, embodied in the MERS Plan Document (as revised).

In addition to using current membership and financial data, an actuarial valuation requires the use of a series of assumptions regarding uncertain future events. The assumptions and methods used in the December 31, 2015, actuarial valuations are those adopted by the MERS Retirement Board (Board). The actuarial assumptions have changed from those used in the December 31, 2014 valuations. The most recent experience study for the System was completed in 2015, and covered the period from January 1, 2009, through December 31, 2013.

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.

Valuation assets (cash and investments) were valued for each municipality using a 10-year smoothing method. For the 2006 valuation and later, the excess (shortfall) of actual investment income (including interest, dividends, realized and unrealized gains or losses) over the imputed income at the valuation interest rate, is considered the gain (loss) that is spread over 10 years. (Board adopted in 2006.)

The employer contribution rate has been determined for each municipality based on the entry age normal funding method (adopted 1994). 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 23 years. The 23 year period will decline by one each year until the unfunded accrued liability is paid off. For closed divisions (new hires are not covered by the MERS Defined Benefit Plan or Hybrid Plan (Part I) provisions in a linked division) of active municipalities electing Option A, the amortization period is decreased annually by two years until the period reaches six or five years, thereafter it decreases by one each year until the unfunded liability is paid off. For closed divisions of active municipalities electing Option B, the amortization period is decreased annual by two years until the period reaches 16 or 15 years, after which the amortization period is decreased annually by one year until the unfunded accrued liability is paid off. Negative unfunded accrued liabilities are amortized over 10 years. As of December 31, 2015, there were 1,306 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 covered by special funding. Employer's computed normal cost of benefits expressed as a percentage of valuation payroll is 7.15% and the total contribution rate expressed as a percentage of valuation payroll is 25.21%.

For employers that adopt E-1 or E-2 post-retirement benefit increases, retirement benefits are assumed to increase by an annual, non-compounded rate of 2.5%. (Board adopted in 1981.)

There have been no recent changes that have had an impact on the System. Municipalities have the ability to modify provisions that apply to their individual plan. The individual municipality contribution rates are modified to account for changes in provisions of the plan selected by the municipality.

MERS' staff has provided the data about persons currently covered and present assets. 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. Details on MERS' provisions, actuarial assumptions, and actuarial methodology follow this section.

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 program.

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 used to discount liabilities and project what plan assets will earn;
- A mortality table projecting the number of participants who will die before retirement, and the duration of benefit payments after retirement;
- Assumed retirement rates projecting 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; and
- Assumed rate of pay increases to project participant compensation in future years.

Interest Rate

Funding plan benefits involves the accumulation of assets to pay benefits in the future. 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 2015 actuarial valuation, the long-term investment yield, net of administrative and investment expenses, is assumed to be 7.75%. This assumption was first used for the December 31, 2015, actuarial valuations.

The reader should note that, given that the actuarial value of assets for 2015 was 13% higher than the market value, meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 7.75% investment return assumption.

Pay Increases

Because benefits are based on a participant's final average compensation (FAC), it is necessary to make an assumption with respect to each participant's estimated pay progression. The pay increase assumption used in the actuarial valuation projects annual pay increases of 3.75% 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 3.75% long-term wage inflation assumption was first used for the December 31, 2015, actuarial valuation. The merit and longevity pay increase assumption was first used for the December 31, 2015, actuarial valuation.

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Annual Percentage Increase in Salary

Sample Ages	Base Inflation	Merit and Longevity	Total Percentage Increase in Salary
20	3.75%	11.00%	14.75%
25	3.75	7.20	10.95
30	3.75	3.10	6.85
35	3.75	1.90	5.65
40	3.75	1.20	4.95
45	3.75	0.81	4.56
50	3.75	0.52	4.27
55	3.75	0.30	4.05
60	3.75	0.00	3.75

Inflation

Although no specific price inflation assumption is needed for this valuation, the assumed long-term annual rate of price inflation is 2.5%.

Payroll Growth

For divisions that are open to new hires, the number of active participants is projected to remain constant, and the total payroll is projected to increase 3.75% annually. This assumption was first used for the December 31, 2015, actuarial valuations.

Increase in Final Average Compensation

The 2009-2013 and two previous 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 pay 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 three 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 among municipalities.

The Board adopted new FAC assumptions to be first used for the December 31, 2015, annual actuarial valuations. These assumptions reflect an FAC load of 0% to 12% for each municipality, based on the municipality's experience in the 2009-2013 and earlier experience studies (it is anticipated that these assumptions will be updated after every 5 year experience study). The FAC increase assumption(s) for each municipality are shown in individual annual 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 members retiring during the next year. The retirement rates for Normal Retirement are determined by each member's replacement index at the time of retirement. The replacement index is defined as the approximate percentage of the member's pay (after reducing member contributions) that will be replaced by the member's benefit at retirement. The index is calculated as:

$$\text{Replacement Index} = 100 \text{ multiplied by } \frac{\text{Accrued Benefit}}{\text{Pay} - \text{Member Contributions}}.$$

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

The revised normal retirement rates below were first used for the December 31, 2015, actuarial valuations. The early retirement rates were first used for the December 31, 2015, actuarial valuations.

Normal Retirement – Service Based Benefit F(N) Adopted

Sample Replacement Index	Percent of Eligible Active Members Retiring Within the Next Year
5	8%
10	12
15	16
20	19
25	19.5
30	19.5
35	19.5
40	20
45	21
50	21
55	21
60	24
65	24
70	25
75	28
80	33
85	36
90	41
95	46
100+	50

Early Retirement – Reduced Benefit

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	2.00%
51	2.00
52	3.30
53	3.80
54	5.60
55	4.30
56	4.20
57	4.10
58	5.00
59	6.20

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Withdrawal Rates

The withdrawal rates are used to estimate the number of employees 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 scaled up or down according to each division's experience.

Sample rates of withdrawal from active employment, prior to the scaling factor, are shown. These rates were first used for the December 31, 2015, actuarial valuations.

The base withdrawal rates are multiplied by a scaling factor to obtain the assumed withdrawal rates. The scaling factor for each division is shown in each municipality's annual actuarial report.

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.

** 80% 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 (Excluding Death or Disability) from Active Employment Before Retirement

Sample Years of Service	Percent of Active Members Withdrawing Within the Next Year
0	19.6%
1	16.3
2	13.3
3	10.5
4	8.6
5	6.9
10	4.6
15	3.4
20	2.6
25	2.2
30 and over	2.2

Rates of Withdrawal Due To Disability*

Sample Ages	Percent of Active Members 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	0.39
65	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.

The mortality table used to project the mortality experience of non-disabled plan participants is a 50% male/50% female blend of the following tables:

1. The RP-2014 Healthy Annuitant Mortality Tables, with rates multiplied by 105%
2. The RP-2014 Employee Mortality Tables
3. The RP-2014 Juvenile Mortality Tables

For ages 0-17 we use the rates in Table 3; for ages 18-49 we use the rates in Table 2; for ages 70 and older we use the rates in Table 1; and for ages 50-69 we blend Table 1 and Table 2.

The mortality table used to project the mortality experience of disabled plan participants is 50% Male/50% Female blend of RP-2014 Disabled Retiree Mortality Tables.

These mortality tables were first used for the December 31, 2015, actuarial valuations.

It is assumed that 90% of active participants' deaths are non-duty and 10% of deaths are assumed to be duty related.

Possible future mortality improvements are reflected in the mortality assumption. The mortality assumptions include a 10% margin for future mortality improvements, relative to the actual mortality experience seen in the 2009-2013 Experience Study.

Mortality Tables (Non – Disabled)

Age	Expected Years of Life Remaining	Mortality Rates
20	63.06	0.03%
25	58.15	0.03
30	53.24	0.03
35	48.33	0.04
40	43.43	0.05
45	38.56	0.08
50	33.74	0.23
55	29.18	0.37
60	24.79	0.58
65	20.59	0.94
70	16.66	1.56
75	13.07	2.51
80	9.85	4.18

Mortality Tables (Disabled)

Age	Expected Years of Life Remaining	Mortality Rates
20	46.95	0.47%
25	43.14	0.54
30	39.24	0.55
35	35.33	0.65
40	31.52	0.82
45	27.98	1.30
50	24.87	1.62
55	21.91	1.89
60	18.97	2.18
65	16.04	2.63
70	13.19	3.43
75	10.54	4.77
80	8.18	6.88

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Schedule of Active Member Valuation Data

Valuation Dec 31	Participating Municipalities	Active Members	Active Members Annual Payroll	Annual Average Pay	Percent Increase in Average Pay	Persons on Deferred Status
2006	668	36,846	\$1,545,886,480	\$41,955	4.6%	6,235
2007	683	36,518	1,581,597,937	43,310	3.2	6,438
2008	692	36,092	1,624,855,145	45,020	3.9	6,662
2009	699	35,598	1,636,501,282	45,972	2.1	6,726
2010	715	35,816	1,683,983,258	47,018	2.3	6,961
2011	721	35,111	1,669,676,476	47,554	1.1	7,160
2012	726	34,187	1,640,390,877	47,983	0.9	7,262
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

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Valuation Dec 31	Added to Rolls		Removed from Rolls	
	Retirees/ Beneficiaries Number	Annual Allowance	Retirees/ Beneficiaries Number	Annual Allowance
2006	2,071	\$38,752,141	762	\$4,291,133
2007	2,030	36,947,384	894	5,928,199
2008	2,015	43,573,642	783	5,156,426
2009	1,871	36,164,024	773	4,545,379
2010	2,809	67,149,443	809	9,250,641
2011	2,212	50,594,419	940	11,072,125
2012	2,348	53,957,105	811	9,477,177
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

Valuation Dec 31	End-of-Year Rolls			
	Retirees/ Beneficiaries Number	Annual Allowance	Percent Increase in Annual Allowance	Average Annual Allowance
2006	21,464	\$322,522,645	12.0%	\$15,026
2007	22,600	353,541,830	9.6	15,643
2008	23,832	391,959,046	10.9	16,447
2009	24,930	423,577,691	8.1	16,991
2010	26,930	481,476,493	13.7	17,879
2011	28,202	520,998,787	8.2	18,474
2012	29,739	565,478,715	8.5	19,015
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

SUMMARY OF PLAN DOCUMENT PROVISIONS

There were no recent changes in the nature of the Plan that would have a material impact on the actuarial valuations for December 31, 2015. Pursuant to a collective bargaining agreement, a participating municipality may provide for retirement benefits that are modifications of standard retirement benefits otherwise included, although the Hybrid Plan is not modifiable. The actuary took the known modifications into consideration when determining the municipality contribution rates in the December 31, 2015, actuarial valuation.

The benefits summarized in this section are intended only as general information regarding the Municipal Employees' Retirement System. The Comprehensive 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 govern.

The December 31, 2015, actuarial valuation was based on the provisions of the MERS Plan Document.

Defined Benefit 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 member.

Vesting occurs after 10 years of credited service unless the municipality selects a lesser number of years.

Normal retirement for a member occurs after vesting and attaining age 60. The municipality may choose other combinations of age and service such as age 55 and 15 years of service, age 50 and 25 years of service, etc.

Early retirement benefits are available if the vested member meets either the age 55 with 15 years of service or age 50 with 25 years of service eligibility requirements. The monthly payment is reduced (unless waived by the municipality) for each month the member is younger than the age the unreduced retirement benefits are available.

Benefit Formula

The annual benefit equals a specified percentage of the member'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.

Deferred Retirement (Vesting)

Deferred retirement occurs when an employee leaves MERS covered employment after vesting, but before reaching the minimum retirement age. The member or beneficiary will become eligible for the deferred allowance once they reach the minimum retirement age. However, the member's contributions must remain on deposit with MERS.

Maximum Benefit Payable by MERS

The maximum benefit that may be paid by MERS is governed by Section 415 of the Internal Revenue Code. Benefits in excess of the maximum benefit will be paid by the MERS Excess Benefit Plan under Plan Section 55A.

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 service eligibility conditions of MERS.

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Final Average Compensation

Final average compensation (FAC) is the highest monthly average of a member'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 Internal Revenue Code Section 401(a)(17).

Disability Retirement Allowance – Duty or Non-Duty

Duty disability is available to a member who becomes totally and permanently disabled while employed by a participating municipality, and after meeting the vesting requirement of the benefit program. The service requirement is waived if the disability is the natural and proximate result of duty-related causes.

The allowance is computed in the same manner as a service retirement allowance, except that the reduction for retirement before age 60 is not applied.

If disability is due to duty-connected causes, the amount of the retirement allowance shall not be less than 25% of the member's final average compensation.

Death Allowance – Duty or Non-Duty

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

A contingent survivor beneficiary 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 an Option II election. The reduction for retirement before age 60 is not applied. Payment to the contingent survivor beneficiary of a deceased member commences immediately. Payment to the contingent survivor beneficiary of a deceased vested former member commences on the date the member would have first satisfied eligibility for retirement with an unreduced service retirement allowance.

If there is no named beneficiary and the member leaves a spouse, the spouse will receive an Option II survivor allowance. The amount shall be 85% of the deceased member's or the deceased former vested member'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. Payment to the surviving spouse of a deceased member commences immediately. Payment to the contingent surviving spouse of a deceased former vested member commences on the date the member would have first satisfied eligibility for retirement with an unreduced service retirement allowance. The amount of a surviving spouse's benefit is always the larger of (1) the benefit computed as a contingent survivor 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 member's or the deceased former vested member'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 the decedent's estate would receive a refund of the employee'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(ren) if death occurs as the natural and proximate result of performance of duty with a participating municipality. The vesting requirement is waived, and the minimum benefit is 25% of the deceased member's final average compensation.

Member Contributions

Each member may contribute a percentage of their annual compensation, if selected by the municipality, up to the compensation limit under Section 401(a)(17) of the Internal Revenue Code. The weighted average of member contributions in 2015 was 4.30%. Interest is credited to accumulated member contributions each December 31 at a rate determined by MERS. Currently MERS is using the one-year U.S. Treasury bill rate determined as of December 31.

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

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.

Forms of Benefit Payment

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

Straight Life over the retiree's life only.

1. A reduced benefit to cover retiree and beneficiary as long as either lives.
2. A reduced benefit to cover retiree for their lifetime and further reduced to 75% or 50% of the original reduced amount to cover beneficiary (if the beneficiary outlives the retiree).
3. A reduced benefit for the retiree's life guaranteed for a specified number of years. The reduced benefit continues for the beneficiary even if the retiree dies, but terminates after the guaranteed number of years.

Deferred Retirement Option Program (DROP): Traditional

If a member is covered by the Benefit Program DROP and is eligible for retirement, they have the option to elect a specified DROP period in which they will cease to accrue any additional retirement benefits, but remain employed by the participating municipality or court. The member must elect a DROP end date at least six months after the beginning date, but no more than sixty months after the beginning date, in one-month increments

Upon the member's election of DROP and the receipt of an application to enroll in DROP, MERS will calculate the member's service retirement and benefit payment as of the beginning date. The Retirement System also shall calculate any age differential between the member and the member's beneficiary as of the calendar year of the DROP exit date in accordance with Treas. Reg. § 1.401(a)(9)-6. Upon the beginning date of the DROP period, the member shall be responsible to continue employee 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 member 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 member. 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 twelve months.

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

Deferred Retirement Option Program (DROP+) Partial Lump Sum

If a member 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 member 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 member's lifetime benefit is reduced by the DROP+ percentage adopted by the employer. The employer can adopt any of the following DROP+ reduction percentages: 4, 5, 6, 7, or 8%.

As of June 30, 2013, Benefit Program DROP+ may no longer be adopted. Two employers adopted this benefit prior to it ending.

Annuity Withdrawal

Under the Annuity Withdrawal Program (AWP), a retiring member may elect to receive a refund of their accumulated member contributions with interest in a lump sum at retirement. The member's monthly pension would then be reduced by the actuarial equivalent of the lump sum payment. The employer has two 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 member contributions.

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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 member.

Vesting occurs after six years of credited service.

Normal retirement for a member occurs after vesting and reaching age 60. (There is not a mandatory or early retirement provision.)

Benefit Formula

The annual benefit equals a specified percentage of the member's final average compensation multiplied by the number of years and months of credited service. Percentage options are 1.0, 1.25, and 1.5%, and may be selected by a participating municipality.

Mandatory Retirement

There is no mandatory retirement age.

Deferred Retirement (Vesting)

Deferred retirement occurs when an employee leaves MERS covered employment after vesting, but before reaching the minimum retirement age. The member or beneficiary will become eligible for the deferred allowance once they reach the minimum retirement age. However, the member's contributions must remain on deposit with MERS.

Maximum Benefit Payable by MERS

Section 415 of the Internal Revenue Code governs the maximum benefit that may be paid by MERS. Benefits in excess of the maximum benefit will be paid by the MERS Excess Benefit Plan.

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 service eligibility conditions of MERS.

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 Internal Revenue Code 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.

Member Contributions

Each member may contribute a percentage of their annual compensation, if it required to comply with a state

statute that places restrictions on employee contributions to retirement plans, up to the compensation limit under Section 401(a)(17) of the Internal Revenue Code. Interest is credited to accumulated member contributions each December 31 at a rate determined by MERS. Currently MERS is using the one-year U.S. Treasury bill rate determined as of December 31.

If a member leaves the municipality, or dies without a retirement allowance or other benefit payable on their account, the member's accumulated contributions plus interest are refunded with spousal consent to the member, if living, or to the member'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 member 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 over the retiree's life only.

1. A reduced benefit to cover retiree and beneficiary as long as either lives.
2. A reduced benefit to cover retiree for their lifetime, and further reduced to 75% or 50% of the original reduced amount to cover beneficiary (if the beneficiary outlives the retiree).
3. A reduced benefit for the retiree's life guaranteed for a specified number of years. The reduced benefit continues for the beneficiary even if the retiree dies, but terminates after the guaranteed number of years.

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 of Hybrid Plan

Contributions — Employer

Any percentage of compensation that is allowed by federal law.

There are three optional vesting schedules for an employer to adopt:

- Immediate vesting upon participation,
- 100% vesting after stated years (the maximum vesting period is five years), or
- Graded vesting percentages per year of service (must be 100% vested after six years).

Contributions — Member

Any percentage of compensation that is allowed by federal law and subject to procedures established by the Retirement Board. Member contributions are vested immediately.

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.

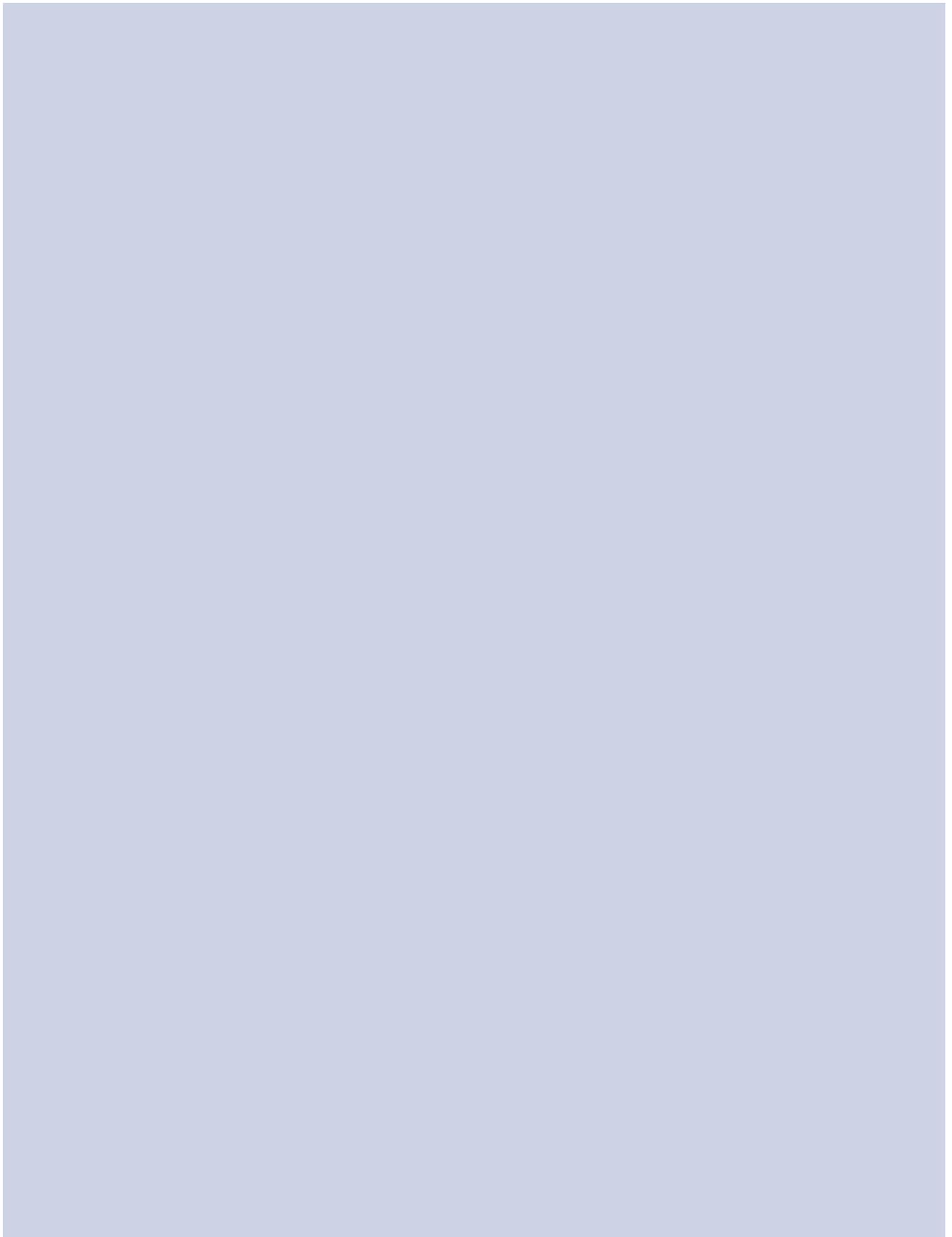
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STATISTICAL



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 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 and
- Schedule of Changes in Reserves.

The next schedules 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
- Defined Contribution Plan Participants and total MERS Participants

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Changes in Fiduciary Net Position – Last 10 Years Ended December 31, 2016 (Dollars in Thousands)

Year	2007	2008	2009	2010
Defined Benefit Plan				
Additions:				
Plan Member Contributions	\$61,772	\$64,871	\$62,677	\$83,573
Employer Contributions	320,204	310,717	350,737	341,354
Net Investment Gain (Loss)	456,280	(1,533,327)	789,800	754,011
Total Additions to Plan Net Assets	838,256	(1,157,739)	1,203,214	1,178,938
Deductions:				
Benefits and Employee Refunds	347,470	379,401	419,576	461,204
Administrative Expenses	14,492	16,936	19,254	21,340
Total Deductions from Plan Net Assets	361,962	396,337	438,830	482,544
Net Increase (Decrease)	476,294	(1,554,076)	764,384	696,394
Net Assets Held in Trust				
Balance Beginning of Fiscal Period	5,590,569	6,066,863	4,512,787	5,277,171
Balance End of Fiscal Period	\$6,066,863	\$4,512,787	\$5,277,171	\$5,973,565
Defined Contribution Plan				
Additions:				
Plan Member Contributions	\$6,995	\$6,978	\$8,086	\$8,694
Employer Contributions	19,816	20,147	21,994	26,374
Net Investment Gain (Loss)	13,411	(61,679)	39,951	28,971
Total Additions to Plan Net Assets	40,222	(34,554)	70,031	64,039
Deductions:				
Benefits and Withdrawals	12,764	12,406	8,868	10,902
Administrative Expenses				
Total Deductions from Plan Net Assets	12,764	12,406	8,868	10,902
Net Increase (Decrease)	27,458	(46,960)	61,163	53,137
Net Assets Held in Trust				
Balance Beginning of Fiscal Period	203,115	230,573	183,613	244,776
Balance End of Fiscal Period	\$230,573	\$183,613	\$244,776	\$297,913
Health Care Savings Program				
Additions:				
Employer Contributions	\$2,927	\$10,127	\$16,964	\$11,651
Net Investment Gain (Loss)	719	(4,604)	2,978	4,055
Miscellaneous Income	96	162	263	377
Total Additions to Plan Net Assets	3,742	5,685	20,205	16,083
Deductions:				
Medical Disbursements Paid	328	462	512	890
Forfeitures and transfers	118	212	322	458
Administrative Expenses	244	360	159	(439)
Total Deductions from Plan Net Assets	690	1,034	993	909
Net Increase (Decrease)	3,052	4,651	19,212	15,174
Net Assets Held in Trust				
Balance Beginning of Fiscal Period	6,766	9,818	14,469	33,681
Balance End of Fiscal Period	\$9,818	\$14,469	\$33,681	\$48,855

2011	2012	2013	2014	2015	2016
\$64,790	\$73,133	\$88,410	\$102,446	\$86,553	\$87,043
298,328	783,292	409,563	523,372	635,581	566,815
130,115	668,303	988,639	501,254	(140,903)	867,584
493,233	1,524,728	1,486,612	1,127,072	581,231	1,521,442
505,854	565,695	662,708	707,268	754,978	917,084
22,514	24,483	20,342	17,822	17,665	17,446
528,368	590,178	683,050	725,090	772,643	934,530
(35,135)	934,550	803,562	401,982	(191,412)	586,912
5,973,565	5,938,430	6,872,980	7,676,016	8,077,998	7,886,586
\$5,938,430	\$6,872,980	\$7,676,542	\$8,077,998	\$7,886,586	\$8,473,498
\$10,376	\$1,997	\$20,370	\$20,805	\$23,496	\$20,882
22,079	40,103	42,706	26,112	38,151	56,696
1,862	38,552	63,614	25,208	(7,482)	45,744
34,317	80,652	126,690	72,125	54,165	123,322
19,901	18,532	26,021	63,304	34,797	61,088
826	759	812	623	601	619
20,727	19,291	26,833	63,927	35,398	61,707
13,590	61,361	99,857	8,198	18,767	61,615
297,913	311,503	372,864	472,721	480,919	499,686
\$311,503	\$372,864	\$472,721	\$480,919	\$499,686	\$561,301
\$7,307	\$10,742	\$12,164	\$11,649	\$20,275	\$27,158
918	5,406	7,979	3,480	(1,779)	11,393
-	-	-	-	-	-
8,225	16,148	20,143	15,129	18,496	38,551
1,474	1,787	2,316	3,011	3,694	4,925
16	300	723	469	355	-
717	144	125	163	145	165
2,207	2,231	3,164	3,643	4,194	5,090
6,018	13,917	16,979	11,486	14,302	33,461
48,855	54,873	68,790	85,769	97,255	111,557
\$54,873	\$68,790	\$85,769	\$97,255	\$111,557	\$145,018

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Changes in Fiduciary Net Position – Last 10 Years Ended December 31, 2016 (Dollars in Thousands)

Year	2007	2008	2009	2010
Retiree Health Funding Vehicle				
Additions:				
Employer Contributions	67,014	42,377	48,029	52,613
Net Investment Gain (Loss)	6,486	(32,642)	23,525	29,278
Total Additions to Plan Net Assets	73,500	9,735	71,554	81,891
Deductions:				
Disbursements Paid to Municipalities	5,827	3,857	6,088	5,564
Transfers and Special Expenses	332	487	623	859
Administrative Expenses	185	319	54	1,039
Total Deductions from Plan Net Assets	6,344	4,663	6,765	7,462
Net Increase (Decrease)	67,156	5,072	64,789	74,429
Net Assets Held in Trust				
Balance Beginning of Fiscal Period	46,187	113,343	118,415	183,204
Balance End of Fiscal Period	\$113,343	\$118,415	\$183,204	\$257,633
Investment Services Program				
Additions:				
Employer Contributions	26,680	2,969	999	
Net Investment Gain (Loss)	2,177	(11,607)	3,376	867
Total Additions to Plan Net Assets	28,857	(8,638)	4,375	867
Deductions:				
Disbursements and Transfers		750	33,593	
Administrative Expenses	238	154	4	250
Total Deductions from Plan Net Assets	238	904	33,597	250
Net Increase (Decrease)	28,619	(9,542)	(29,222)	617
Net Assets Held in Trust				
Balance Beginning of Fiscal Period	16,236	44,855	35,313	6,091
Balance End of Fiscal Period	\$44,855	\$35,313	\$6,091	\$6,708
457 Program				
Additions:				
Employee Contributions				
Employer Contributions				
Net Investment Gain (Loss)				
Total Additions to Plan Net Assets				
Deductions:				
Benefits				
Administrative Expenses				
Total Deductions from Plan Net Assets				
Net Increase (Decrease)				
Net Assets Held in Trust				
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. Some products have been in existence for less than 10 years.

2011	2012	2013	2014	2015	2016
48,644	78,809	58,111	64,161	73,764	71,741
6,820	36,770	59,826	32,947	(8,833)	70,585
55,464	115,579	117,937	97,108	64,931	142,326
9,074	13,071	14,341	9,556	22,002	24,894
		4			
1,647	521	659	692	732	773
10,721	13,592	15,004	10,248	22,734	25,667
44,743	101,987	102,933	86,860	42,197	116,660
257,633	302,376	404,363	507,296	594,156	636,353
\$302,376	\$404,363	\$507,296	\$594,156	\$636,353	\$753,012
	700		74,660	19,721	289
162	791	1,148	2,781	138	6,699
162	1,491	1,148	77,441	19,859	6,988
	106	300	280	40,798	3,309
28	11	10	81	82	74
28	117	310	361	40,880	3,383
134	1,374	838	77,080	(21,021)	3,605
6,708	6,842	8,216	9,054	86,134	65,113
\$6,842	\$8,216	\$9,054	\$86,134	\$65,113	\$68,718
	\$8,170	\$4,582	\$5,788	\$12,442	\$20,646
		77	132		
	163	1,558	786	(747)	3,643
	8,333	6,217	6,706	11,695	24,289
	21	584	1,230	1,066	1,717
	6	34	70	51	66
	27	618	1,300	1,117	1,783
	8,306	5,599	5,406	10,578	22,506
		8,306	13,905	19,311	29,889
	\$8,306	\$13,905	\$19,311	\$29,889	\$52,395

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Schedule of Changes in Reserves – Year Ended December 31, 2016 (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	\$87,043			\$87,043
Employer Contributions		\$566,815		566,815
Net Investment Income			\$867,482	867,482
Miscellaneous Income			102	102
Total Additions	87,043	566,815	867,584	1,521,442
Deductions				
Benefits and Withdrawals	10,515	906,569		917,084
Administrative Expense			17,446	17,446
Total Deductions	10,515	906,569	17,446	934,530
Net Increase (Decrease)	76,528	(339,754)	850,138	586,912
Other Changes in Reserves				
Investment Income Allocations	6,239	860,236	(866,475)	
Retirement and Division Transfers	(55,823)	55,823		
Total Other Changes in Reserves	(49,584)	916,059	(866,475)	
Net Increase in Reserves After Other Changes	26,944	576,305	(16,337)	586,912
Reserve Balance Beginning of Year	793,658	7,095,601	(2,673)	7,886,586
Reserve Balance End of Year	\$820,602	\$7,671,906	(\$19,010)	\$8,473,498

The Schedule of Changes in Reserves shows the balance in each of the reserves and changes to those reserves' 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 Retiree Health Funding Vehicle	Reserve for Investment Services Program	Reserve for 457 Program	Total Reserve for Pension Trust Funds
\$20,882				\$20,646	\$128,571
56,696	\$27,158	\$71,741	\$289		722,699
45,744	11,393	70,585	6,699	3,643	1,005,546
					102
123,322	38,551	142,326	6,988	24,289	1,856,918
61,088	4,925	24,893	3,309	1,717	1,013,016
619	165	773	74	66	19,143
61,707	5,090	25,666	3,383	1,783	1,032,159
61,615	33,461	116,660	3,605	22,506	824,759
61,615	33,461	116,660	3,605	22,506	824,759
499,686	111,557	636,352	65,113	29,889	9,229,183
\$561,301	\$145,018	\$753,012	\$68,718	\$52,395	\$10,053,942

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Schedule of Average Benefit Payments – Defined Benefit Plan

Valuation Date December 31	Number of Retirees and Beneficiaries	Average Yearly Benefit
2006	21,464	\$15,026
2007	22,600	15,643
2008	23,832	16,447
2009	24,930	16,991
2010	26,930	17,879
2011	28,202	18,474
2012	29,739	19,015
2013	32,460	19,350
2014	35,754	20,224
2015	37,467	20,768

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, 2007	\$326,666	\$12,791	\$5,058	\$344,515
December 31, 2008	355,626	16,729	5,580	377,935
December 31, 2009	391,613	18,254	9,510	419,377
December 31, 2010	433,778	19,415	7,006	460,199
December 31, 2011	476,993	20,812	7,915	505,720
December 31, 2012	535,900	21,284	8,052	565,236
December 31, 2013	631,906	20,913	9,889	662,708
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

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**

December 31, 2015, 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	30,533	\$57,313,229
Non-Duty Disability ¹	1,181	1,487,945
Duty Disability ¹	539	847,730
Beneficiaries ²	4,361	4,284,624
Non-Duty Death	797	850,715
Duty Death	56	58,613
Totals	37,467	\$64,842,856

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

² Includes EDRO alternate payees

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

December 31, 2015, Tabulated by Optional Form of Benefit Being Paid

Type of Benefit	Number of Retirees	Total Monthly Benefits
Beneficiary draws 100% of retiree's benefit	11,441	\$20,742,113
Beneficiary draws 75% of retiree's benefit	2,367	5,708,540
Beneficiary draws 60% of retiree's benefit	292	937,453
Beneficiary draws 50% of retiree's benefit	5,580	11,286,113
Equated Option (changing at Social Security age)	452	420,376
5 year certain and life	309	478,315
10 year certain and life	809	1,536,668
15 year certain and life	223	335,968
20 year certain and life	431	619,036
Straight life allowance	15,563	22,778,274
Totals	37,467	\$64,842,856

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.

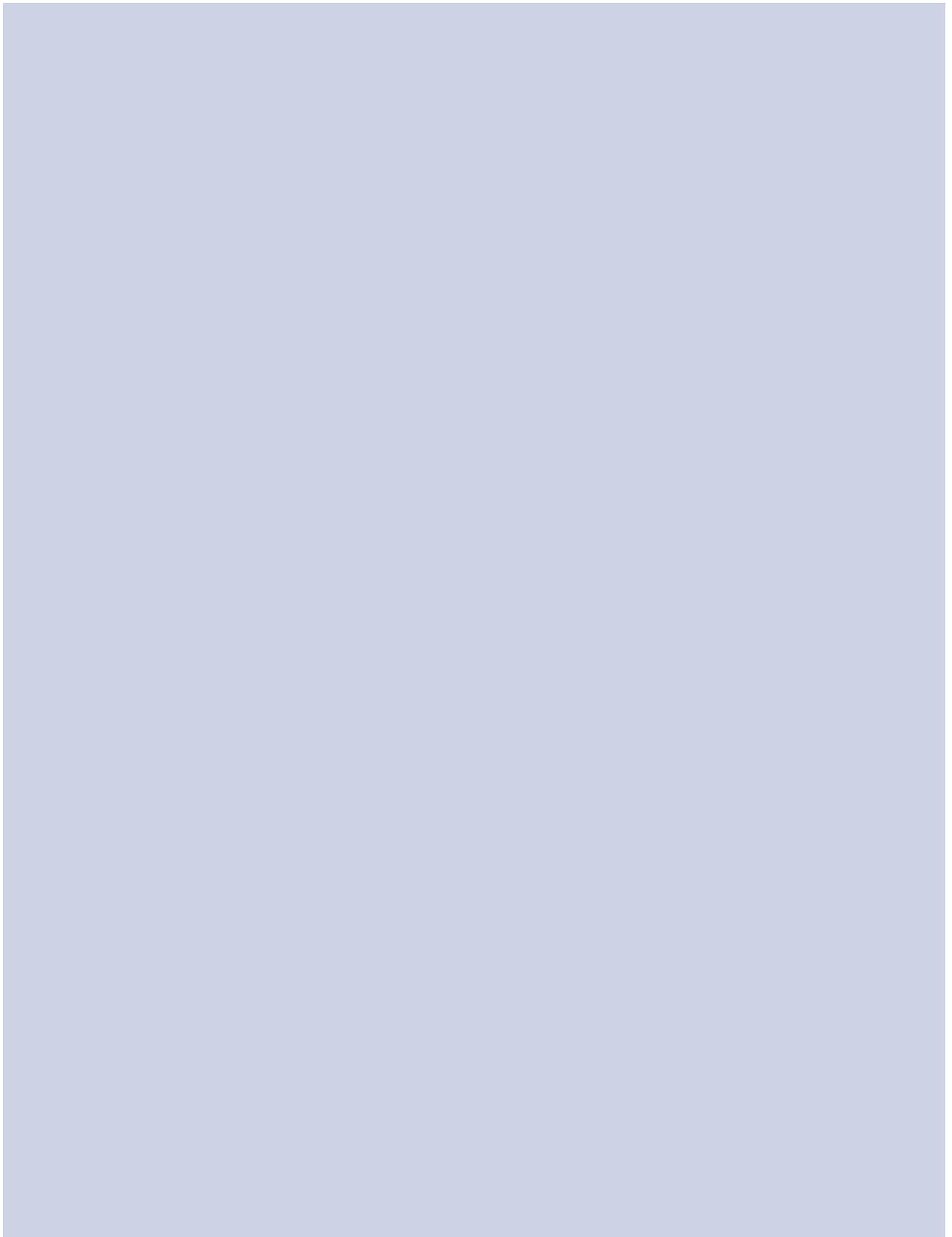
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Defined Contribution Plan Participants and Total MERS Participants

	Number of Participants Total	Defined Benefit	% of Total	Defined Contribution	% of Total	Hybrid	% of Total
December 31, 2007	72,932	65,556	90%	7,376	10%	N/A	0%
December 31, 2008	74,400	66,586	89	7,814	11	N/A	0
December 31, 2009	75,605	67,254	89	8,351	11	N/A	0
December 31, 2010	78,343	69,707	89	8,636	11	N/A	0
December 31, 2011	91,666	81,926	89	9,193	10	547	1
December 31, 2012	93,462	82,331	88	10,210	11	921	1
December 31, 2013	98,072	85,530	87	11,340	12	1,202	1
December 31, 2014	101,589	87,661	86	12,239	12	1,689	2
December 31, 2015	106,735	90,437	85	13,912	13	2,386	2
December 31, 2016	108,412	91,125	84	14,803	14	2,484	2

Although MERS Defined Contribution Plan participants are not included in the annual actuarial valuation of the MERS Defined Benefit Plan, the trend in Defined Contribution participation is of interest. Numerous municipal divisions have established Defined Contribution Plan benefits for future new employees. Existing Defined Benefit Plan active members in those divisions were offered a choice of plans. The table above shows recent participation trends in Defined Contribution and Hybrid Plans, and overall MERS participants.



PLANNING RETIREMENT TOGETHER FOR

70 YEARS

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 (as of the date of publication 05/11/17). 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.



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