

MICHIGAN MILITARY RETIREMENT PROVISIONS

**Annual Comprehensive Financial Report
for the Fiscal Year Ended September 30, 2022**

MMRP

A Fiduciary Component Unit of the State of Michigan

Prepared by:
Financial Services
For

Office of Retirement Services
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INTRODUCTORY SECTION

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

INTRODUCTORY SECTION

CERTIFICATE OF ACHIEVEMENT



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Michigan Military Retirement Provision

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

September 30, 2021

Christopher P. Morill

Executive Director/CEO

INTRODUCTORY SECTION

PUBLIC PENSION STANDARDS AWARD



Public Pension Coordinating Council

***Public Pension Standards Award
For Funding and Administration
2022***

Presented to

Michigan Office of Retirement Services

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

Presented by the Public Pension Coordinating Council, a confederation of

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

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

Alan H. Winkle
Program Administrator

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

Michigan Military
Retirement Provisions
P.O. Box 30171
Lansing, Michigan 48909-7671
Telephone 517- 284-4400
Outside Lansing 1-800-381-5111

STATE OF MICHIGAN

GRETCHEN WHITMER, Governor

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET

January 31, 2023

The Honorable Gretchen Whitmer
Governor, State of Michigan,

Members of the Legislature
State of Michigan,

Retirement Board Members
and
Members, Retirees and Beneficiaries

Ladies and Gentlemen:

We are pleased to present the annual comprehensive financial report of Michigan Military Retirement Provisions (Provisions) for fiscal year 2022.

INTRODUCTION TO REPORT

The Provisions were established by legislation under Public Act 150 of 1967 (the Michigan Military Act) and are administered by the Office of Retirement Services (ORS). The number of active and retired members and beneficiaries of the Provisions is presented in Note 1 of the financial statements in the Financial Section in this report. The purpose of the Provisions is to provide benefits for all Michigan National Guard members and their beneficiaries. The services performed by ORS staff provide benefits to members, retirees, and beneficiaries.

Responsibility

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the leadership team of the Provisions. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of operations of the Provisions.

Internal Control Structure

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

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management. This internal control structure includes maintaining written policies and procedures. Discussion and analysis of fiduciary

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

net position and related additions and deductions are presented in the Management Discussion and Analysis which can be found immediately following the Independent Auditor's Report.

Independent Auditors and Actuary

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

An actuarial valuation is conducted annually. The purpose of the valuation is to evaluate the mortality, service, compensation, and other financial experience of the Provisions and to recommend employer contributions. The annual actuarial valuation was completed by Gabriel Roeder Smith & Company for the fiscal year ended September 30, 2021 and recommends the employer contribution for the fiscal year ended September 30, 2024. Actuarial certification and supporting statistics are included in the Actuarial section in this report.

Management's Discussion and Analysis (MD&A)

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

PROFILE OF THE GOVERNMENT

The Provisions were established by Public Act 150 of 1967. A 9-member board and the director of the Department of Technology, Management, and Budget (DTMB) govern the Provisions. Executive order 2015-13 created a State of Michigan Retirement Board responsible for the functions, duties and responsibilities of the State Employees' Retirement System, the Judges' Retirement System and the Military Retirement Provisions. Executive Order 2015-13 further established the Provisions as a qualified pension plan under section 401 of the Internal Revenue Code. The Provisions are administered in accordance with the State Employees' Retirement Act and other applicable state and federal laws governing the investment and administration of such retirement trusts. The Provisions serves approximately 17,000 members. Financing comes from investment earnings and legislative appropriation. A detailed plan description is included in Note 1 of the Financial Section in this report.

ECONOMIC CONDITIONS AND OUTLOOK

Since oversight of the Provisions was transferred to ORS in 2015, best practices for contributions and investments have been applied. Despite a long-term mix of both challenging and robust economic times, the Provisions continues to show steady performance.

Investments

The State of Michigan Investment Board is the investment fiduciary and custodian of all investments of the Provisions pursuant to State law. The primary investment objective is to maximize the rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to eliminate inordinate risks and to meet the actuarial assumption for the investment rate of return. The investment activity for the year produced a total rate of return on the portfolio of (5.0) percent for the Provisions. A summary of asset allocation and rates of return is presented in the Investment Section in this report.

Accounting System

Transactions of the Provisions are reported on the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when incurred. Participants' benefits are recorded when payable by law. We believe that the accounting and administrative internal controls established by the Provisions provide reasonable assurance the Provisions are carrying out its responsibilities in safeguarding its assets, in maintaining the reliability of the financial records for preparing financial statements, and in maintaining accountability for its assets.

Funding

Funds are derived from the excess of additions to plan fiduciary net position over deductions from plan fiduciary net position. Funds are accumulated by the Provisions to meet future benefit obligations to retirees and beneficiaries. The percentage computed by dividing the actuarial value of assets by the actuarial accrued liability is referred to as

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

the “funded ratio.” This ratio provides an indication of the funding status of the Provisions and generally, the greater this percentage, the stronger the Provisions.

Pension – Prefunding for pension benefits began in fiscal year 2016. The actuarial value of the assets and actuarial accrued liability for pension benefits of the Provisions were \$63.2 million and \$63.9 million, respectively, resulting in a funded ratio of 98.8 percent on September 30, 2021. A historical perspective of funding levels for the Pension Plan is presented on the Schedule of Funding Progress in the Actuarial section in this report.

MAJOR GOALS ACCOMPLISHED

Project Agile - The Project Agile initiative targets information technology (IT) changes at the Michigan Office of Retirement Services (ORS) by utilizing agile methodology to get the most value into users’ hands more quickly through small and frequent releases. Working with Agency Services Supporting Retirement (ASSR) and the Enterprise Portfolio Management Office (EPMO), the initiative is using the Microsoft DevOps platform in conjunction with Git for changes on all related Clarity, miAccount, and Employer Self-Serve efforts. The project is replacing Solutions Business Manager, a process management platform for tracking IT work, and Perforce, a version control software for storing IT project coding. One example is the replacement of the Fast Response email system issue reporting with the DevOps Rapid Response method. DevOps Rapid Response, launched April 25, 2022, brings improved operational transparency and efficiencies like email reduction.

Website migrations - Changes were made for 10 websites managed by the Michigan Office of Retirement Services (ORS) as part of a web migration project enhancing and aligning all State of Michigan Michigan.gov websites to replace a 20-year-old platform. The changeover to the new Sitecore web platform from the Vignette content management system (CMS) started in January 2022 and was completed in late April 2022.

Women & Retirement - The Michigan Office of Retirement Services (ORS) and Voya Financial are partners on a yearlong focus on women and retirement. The multi-platform Women & Retirement campaign targets women who may enter the workforce later than men; are more likely to take time off to care for elderly parents or to raise children; tend to live longer; and, on average, spend more years in retirement. Launched in November 2021 and wrapping up in October 2022, the campaign highlights the importance of women actively engaging in planning their retirement, covers a range of topics, and provides resources, information, and advice for the small steps they can take now to achieve their retirement goals. The campaign landing page is the second longest-viewed and 13th most-viewed page on the ORS website.

Design Style Guide expansion - The Michigan Office of Retirement Services (ORS) Design Style Guide was revised in May 2022 after its initial release in September 2020. The 80-page guide expanded by 38 pages, adding detail and including sections on email; forms, letters, and barcodes; and instructional design. The updates help keep more deliverables on-brand with the appropriate and consistent look, feel, and tone that is recognizable to ORS customers.

HONORS

Public Pension Standards Award – ORS was awarded the 2022 Standards Award from the Public Pension Coordinating Councils Standards Program (PPCC) for both funding and administration. ORS has received these awards every year since 2004. The PPCC Standards reflect expectations for public retirement system management and administration and serve as a benchmark for all DB public plans to be measured.

Government Finance Officers Association Award – The Government Finance Officers Association (GFOA) of the United States and Canada awarded the retirement system with the Certificate of Achievement for Excellence in Financial Reporting for our fiscal year 2021 Annual Comprehensive Financial Report (ACFR). This marks the 4th consecutive year ORS has received this prestigious award.

ACKNOWLEDGEMENTS

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

INTRODUCTORY SECTION

LETTER OF TRANSMITTAL

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

Sincerely,



Michelle Lange, Director
Department of Technology, Management, & Budget



Anthony J. Estell, Director
Office of Retirement Services

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

RETIREMENT BOARD MEMBERS*

As of January 31, 2023

Phil Thompson
General Public
Term Expires Dec. 31, 2023

Ann Marie Storberg
Ex-officio Member Representing
State Treasurer

David A. Berridge, Chair
Active State Employee
Term Expires Dec. 31, 2024

Kurt Weiss
Ex-officio Member Representing
State Personnel Director

Lauri Schmidt, Vice Chair
Retired State Employee
Term Expires Dec. 31, 2023

Lisa Geminick
Ex-officio Member Representing
Attorney General

Craig Murray
Ex-officio Member Representing
Auditor General

Judge Leo Bowman
Active Judge
Term Expires Dec. 31, 2025

Capt. Felipe Torres
Michigan National Guard
Term Expires Dec. 31, 2022

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

ADVISORS AND CONSULTANTS

As of January 31, 2023

Actuaries

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

Independent Auditors

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

Investment Manager and Custodian

Rachael Eubanks
State Treasurer
State of Michigan

Legal Advisor

Dana Nessel
Attorney General
State of Michigan

Investment Performance Measurement

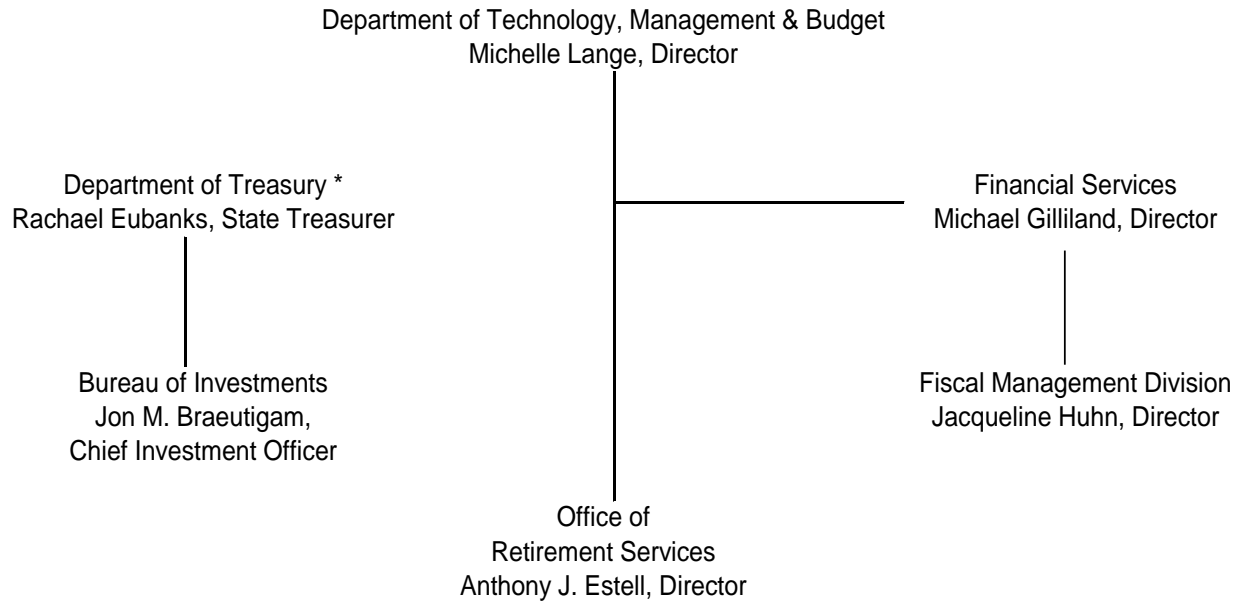
State Street Corporation
State Street Investment Analytics
Boston, MA

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

ORGANIZATION CHART

As of January 31, 2023



* The investments of MMRP are managed by the Michigan Department of Treasury. Information on the investments and the fiduciary, Michigan Department of Treasury, can be found in the Investment Section, Introduction. In addition, see the Investment Section, Schedule of Investment Fees (page 57) and Schedule of Investment Commissions (page 58) for information regarding the investment fees and commissions paid as well as investment professionals utilized by MMRP.

INTRODUCTORY SECTION

ADMINISTRATIVE ORGANIZATION

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FINANCIAL SECTION

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



OAG

Office of the Auditor General

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

Doug A. Ringler, CPA, CIA
Auditor General

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

Mr. David A. Berridge, Chair
State of Michigan Retirement Board
and
Ms. Michelle Lange, Director
Department of Technology, Management, and Budget
and
Mr. Anthony J. Estell, Director
Office of Retirement Services

Dear Mr. Berridge, Ms. Lange, and Mr. Estell:

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Michigan Military Retirement Provisions (MMRP), a fiduciary component unit of the State of Michigan, as of and for the fiscal year ended September 30, 2022 and the related notes to the financial statements, which collectively comprise MMRP's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Michigan Military Retirement Provisions as of September 30, 2022 and the changes in fiduciary net position for the fiscal year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis of Opinion

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

Responsibilities of Management for the Financial Statements

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

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

Auditor's Responsibility for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance



Mr. David A. Berridge, Chair
Ms. Michelle Lange, Director
Mr. Anthony J. Estell, Director
Page 2

and, therefore, is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

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

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

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in net pension liability, schedule of contributions, schedule of investment returns, and related note, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of 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.



OAG

Office of the Auditor General

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Doug A. Ringler, CPA, CIA
Auditor General

Mr. David A. Berridge, Chair
Ms. Michelle Lange, Director
Mr. Anthony J. Estell, Director
Page 3

Supplementary Information

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

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and statistical sections and acknowledgments, as listed in the table of contents, but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we will also issue a report dated January 31, 2023 on our consideration of MMRP's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of MMRP's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering MMRP's internal control over financial reporting and compliance.

Sincerely,

Doug Ringler
Auditor General
January 31, 2023

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

Effective January 1, 2016, in accordance with Executive Order 2015-13, the Michigan Military Retirement Provisions (MMRP) became a qualified pension plan created in trust under Section 401 of the Internal Revenue Code. MMRP is administered in accordance with the State Employees' Retirement Act and all plan documents relating the governance of the same. Our discussion and analysis of MMRP's financial performance provides an overview of MMRP's financial activities for the fiscal year ended September 30, 2022. Please read it in conjunction with the basic financial statements, which follow this discussion.

FINANCIAL HIGHLIGHTS

- MMRP assets exceeded liabilities at the close of fiscal year 2022 by \$61.3 million (reported as *net position restricted for Pension Benefits*). Fiduciary net position is restricted for pension benefits to meet future benefit payments.
- Additions for the year were \$(2.2) million, which are comprised primarily of net investment loss.
- Deductions totaled \$4.2 million, a slight decrease of 0.8% from the previous year.

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

This Annual Comprehensive Financial Report (ACFR) consists of two financial statements; *The Statement of Pension Plan Fiduciary Net Position* (page 19) and *The Statement of Changes in Pension Plan Fiduciary Net Position* (page 20). These financial statements report information about MMRP, as a whole, and about its financial condition that should help answer the question: Is MMRP, as a whole, better off or worse off as a result of this year's activities? These statements include all assets and liabilities using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis of accounting, all revenues and expenses are taken into account regardless of when cash is received or paid.

The Statement of Pension Plan Fiduciary Net Position presents all of MMRP's assets and liabilities, with the difference between the two reported as fiduciary net position. Over time, increases and decreases in fiduciary net position measure whether the MMRP's financial position is improving or deteriorating. *The Statement of Changes in Pension Plan Fiduciary Net Position* presents how MMRP's fiduciary net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Schedule of Changes in Net Pension Liability (page 38) and Schedule of Contributions (page 39) to determine whether MMRP is becoming financially stronger or weaker.

FINANCIAL ANALYSIS

MMRP total assets as of September 30, 2022, were \$63.5 million and were mostly comprised of investments. Total assets decreased \$6.4 million or 9.1% between fiscal years 2021 and 2022 primarily due to investment losses.

Total liabilities as of September 30, 2022, were \$2.2 million and were mostly comprised of obligations under securities lending. Total liabilities decreased \$8.9 thousand or 0.4% between fiscal years 2021 and 2022 due mostly decrease in obligations under securities lending.

MMRP assets exceeded its liabilities at the close of fiscal year 2022 by \$61.3 million. Total net position restricted for pension decreased \$6.4 million or 9.4% between fiscal years 2021 and 2022 due primarily to investment losses.

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

PLAN FIDUCIARY NET POSITION

(in thousands)

	<u>2022</u>	<u>2021</u>	<u>Increase (Decrease)</u>
Assets			
Equity in common cash	\$ 1,183	\$ 865	36.8 %
Receivables	1	3	(71.9)
Investments	60,102	66,774	(10.0)
Securities lending collateral	2,191	2,203	(0.5)
Total assets	<u>63,477</u>	<u>69,845</u>	<u>(9.1)</u>
Liabilities			
Accounts payable and other accrued liabilities	4	1	589.2
Obligations under securities lending	2,191	2,203	(0.5)
Total liabilities	<u>2,195</u>	<u>2,204</u>	<u>(0.4)</u>
Net Position Restricted for Pension Benefits	<u>\$ 61,282</u>	<u>\$ 67,641</u>	<u>(9.4) %</u>

ADDITIONS TO PLAN FIDUCIARY NET POSITION

The reserves needed to finance pension benefits are accumulated through the employer contributions from the State of Michigan General Fund. Contributions and net investment losses for fiscal year ending September 30, 2022 totaled \$2.2 million. Total additions for fiscal year 2022 decreased \$17.8 million or 113.8% from those of fiscal year 2021 due primarily from investments losses.

DEDUCTIONS FROM PLAN FIDUCIARY NET POSITION

The primary deductions of MMRP include the payment of pension benefits to members and beneficiaries and the cost of administering MMRP. Total deductions for fiscal year ending September 30, 2022 were \$4.2 million, a decrease of 0.8% from fiscal year 2021 deductions.

The payment of pension benefits decreased by \$75.1 thousand or 1.9% between fiscal years 2021 and 2022. Administrative and other expenses increased by \$42.2 thousand or 21.1% from \$200.4 thousand to \$242.6 thousand between fiscal years 2021 and 2022. Administrative expenses increased due to an increase of professional services.

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

CHANGES IN PLAN FIDUCIARY NET POSITION

(in thousands)

	<u>2022</u>	<u>2021</u>	<u>Increase (Decrease)</u>
Additions			
Employer contributions	\$ 875	\$ 657	33.2 %
Net investment income (loss)	<u>(3,036)</u>	<u>15,012</u>	<u>(120.2)</u>
Total additions	<u>(2,161)</u>	<u>15,670</u>	<u>(113.8)</u>
Deductions			
Pension benefits	3,954	4,029	(1.9)
Administrative and other expenses	<u>243</u>	<u>200</u>	<u>21.1</u>
Total deductions	<u>4,197</u>	<u>4,230</u>	<u>(0.8)</u>
Net Increase (Decrease) in Net Position	(6,358)	11,440	(155.6)
Net Position Restricted for Pension Benefits:			
Beginning of Year	<u>67,641</u>	<u>56,201</u>	<u>20.4</u>
End of Year	<u>\$ 61,282</u>	<u>\$ 67,641</u>	<u>(9.4) %</u>

MMRP AS A WHOLE

MMRP's overall Fiduciary Net Position experienced a decrease in fiscal year 2022. MMRP's rate of return for the Pension Plan's investments in fiscal year 2022 was (5.0)%. Management believes that MMRP is financially sound and positioned to meet its ongoing benefit obligations due, in part, to prudent cost controls, and strategic planning.

CONTACTING MMRP FINANCIAL MANAGEMENT

This financial report is designed to provide the Retirement Board, our membership, taxpayers, investors, and creditors with a general overview of MMRP's finances and to demonstrate MMRP's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Office of Retirement Services, P.O. Box 30171, Lansing, MI 48909-7671.

FINANCIAL SECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS

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FINANCIAL SECTION

BASIC FINANCIAL STATEMENTS

STATEMENT OF PENSION PLAN FIDUCIARY NET POSITION

As of September 30, 2022
(in thousands)

	<u>Pension Plan</u>
Assets:	
Equity in common cash	\$ 1,183
Receivables:	
Amounts due from members	-
Interest and dividends	1
Total receivables	<u>1</u>
Investments:	
Short term investment pools	615
Fixed income pools	5,585
Domestic equity pools	10,985
Real estate and infrastructure pools	6,577
Private equity pools	15,571
International equity pools	7,440
Absolute return pools	6,133
Real return and opportunistic pools	7,196
Total investments	<u>60,102</u>
Securities lending collateral	<u>2,191</u>
Total assets	<u>63,477</u>
Liabilities:	
Accounts payable and other accrued liabilities	4
Obligations under securities lending	<u>2,191</u>
Total liabilities	<u>2,195</u>
Net Position Restricted for Pension Benefits:	<u>\$ 61,282</u>

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

FINANCIAL SECTION

BASIC FINANCIAL STATEMENTS

STATEMENT OF CHANGES IN PENSION PLAN FIDUCIARY NET POSITION

For Fiscal Year Ended September 30, 2022
(in thousands)

	<u>Pension Plan</u>
Additions:	
Contributions:	
Employer contributions	<u>\$ 875</u>
Investment income (loss):	
Net increase (decrease) in fair value of investments	(4,080)
Interest, dividends, and other	1,302
Investment expenses:	
Other investment expenses	(268)
Securities lending activities:	
Securities lending income	27
Securities lending expenses	<u>(17)</u>
Net investment income (loss)	<u>(3,036)</u>
Total additions	<u>(2,161)</u>
Deductions:	
Benefits paid to plan members and beneficiaries:	
Retirement benefits	3,954
Administrative and other expenses	<u>243</u>
Total deductions	<u>4,197</u>
Net Increase (Decrease) in Net Position	(6,358)
Net Position Restricted for Pension Benefits:	
Beginning of Year	<u>67,641</u>
End of Year	<u><u>\$ 61,282</u></u>

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

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

NOTE 1 – PLAN DESCRIPTION

ORGANIZATION

The Michigan Military Retirement Provisions (MMRP) is a single employer, state-wide, defined benefit public employee retirement plan and a fiduciary component unit of the State of Michigan (State), under Public Act 150 of 1967, as amended. Effective January 1, 2016, Executive Order 2015-13 signed by the Governor on October 27, 2015 established the State of Michigan Retirement Board. The executive order establishes the board's authority to promulgate or amend the provision of MMRP. The board shall administer MMRP in accordance with the State Employees' Retirement Act and all plan documents relating to the governance of the same. The board consists of nine members:

- The Attorney General
- The State Treasurer
- The Legislative Auditor General
- The State Personnel Director
- One member or retirant of the State Employees' Retirement System appointed by the Governor
- One member or retirant of the Judges' Retirement System appointed by the Governor
- One current or former officer or enlisted person in the Michigan military establishment who is a member or retirant under the Military Retirement Provisions appointed by the Governor
- One retirant member of the State Employees' Retirement System appointed by the Governor
- One member of the general public appointed by the Governor

MMRP's pension plan was established by the State to provide retirement, and survivor benefits to the State's National Guard members. MMRP is contained in a qualified pension trust fund under section 401(a) of the Internal Revenue Code.

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

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

MEMBERSHIP

At September 30, 2022, MMRP's pension plan membership consisted of the following:

Inactive plan members or their beneficiaries currently receiving benefits:	<u>4,587</u>
Inactive plan members entitled to but not yet receiving benefits:	<u>928</u>
Active plan members:	<u>11,408</u>
Total plan members	<u><u>16,923</u></u>

BENEFIT PROVISIONS

Introduction

Benefit provisions of the defined benefit pension plan are established by State statute, which may be amended. The Michigan Military Act, Public Act 150 of 1967, establishes eligibility and benefit provisions for the defined benefit pension plan.

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Members are eligible to receive a monthly benefit when they meet certain age and service requirements. MMRP also provides survivor benefits.

There are two kinds of benefits paid to MMRP's membership depending on classification:

- 1) Special duty officers: This group includes the adjutant general, and two assistant adjutants general who are employees of the State of Michigan.
- 2) Former members of the Michigan National Guard (Army or Air Force) who have served in the State Defense Force and Michigan National Guard who are not special duty officers.

Pension Reform 2018

On December 18, 2018 the Governor signed Public Act 378 into law. The new law updated the pension benefit calculation for special duty officers which is described in the benefit calculations section of this note.

Eligibility

Special duty officers can retire at age 55 with at least 20 years of service. The adjutant general and the assistant adjutant(s) general must serve four consecutive years of service as an adjutant general or assistant adjutant general. This requirement is waived if the service member is relieved due to a new governor assuming office. State of Michigan Military Officers may qualify for health benefits that are paid out of the Michigan State Employees' Retirement System (MSERS). Only one adjutant general and two assistant adjutants general are eligible for retirement in any 4-year period. If an adjutant general or assistant adjutant general is mobilized pursuant to federal mobilization, and the governor appoints a replacement adjutant general or assistant adjutant general, the replacement general is eligible for retirement upon satisfying eligibility criteria.

Members of the Michigan National Guard who are not special duty officers can retire at age 60 with at least 20 years of service for members who began active service before June 30, 1967. Members who began active service after June 30, 1967, can retire at age 62 with at least 20 years of service.

Members who are age 55 and who have completed not less than 20 years of active service with the National Guard or State Defense Force, or both, may retire and receive retirement benefits under one or more of the following circumstances:

- Ineligibility, because of federal law or regulation, for further federal recognition in the person's current grade because of age or length of service, and termination of the person's commission or enlistment in the national guard of the United States
- Withdrawal of the person's federal recognition and termination of the person's commission or enlistment in the National Guard of the United States because of physical disqualification from further service
- Separation from the National Guard or State Defense Force under an honorable circumstance

Benefit Calculations

Special duty officers receive an annual benefit of 45% of final compensation. Final compensation is equal to the pay that an officer of like grade and total years of service would receive as indicated in appropriate federal regulations when they are retired or honorably relieved. Retirement benefits will start on the date of retirement or honorable relief from duty. The surviving spouse of a special duty officer who dies after retirement shall receive a lifetime survivor benefit equal to 50% of the retirement pay of the officer. The surviving spouse of a special duty officer who dies prior to retirement but after earning 15 years of special duty shall be paid a lifetime monthly benefit equal to 67% of the retired pay to which the member would have been authorized had the member retired on the day before death. Special duty officers who retired before December 18, 2018, and their survivors receive annual benefit adjustments equal to the percentage by which federal military service benefits are increased.

Members of the Michigan National Guard who are not special duty officers receive \$600 per year. The benefit is payable for life. The surviving spouse of a member who dies after retiring or before becoming age eligible for retirement shall receive a lifetime benefit of \$500 per year.

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BASIS OF ACCOUNTING AND PRESENTATION

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

Governmental Accounting Standards Board (GASB) Statement No. 67, which was adopted during the year ended September 30, 2014, addresses accounting and financial reporting requirements for pension plans. The requirements for GASB Statement No. 67 require changes in presentation of the financial statements, notes to the financial statements, and required supplementary information. Significant changes include an actuarial calculation of total and net pension liability. It also includes comprehensive footnote disclosure regarding the pension liability, the sensitivity of the net pension liability to the discount rate, and increased investment activity disclosures. The implementation of GASB Statement No. 67 did not significantly impact the accounting for accounts receivable and investment balances. The total pension liability, determined in accordance with GASB Statement No. 67, is presented in Note 4 on page 25 and in the Required Supplementary Information beginning on page 38.

As of September 30, 2017, MMRP applies GASB Statement No. 72, *Fair Value Measurement and Application*. GASB Statement No. 72 provides guidance for determining a fair value measurement for reporting purposes and applying fair value to certain investments and disclosures related to all fair value measurements.

RESERVES

Reserve for Employer Contributions

All employer contributions are credited to this reserve. At September 30, 2022, the balance in this reserve was \$17.8 million.

Reserve for Retired Benefit Payments

This represents the reserves for payment of future retirement benefits to current retirees. Monthly benefits, which are paid to the retiree, reduce the reserve. At the end of each fiscal year, an amount determined by an annual actuarial valuation is transferred from the Reserve for Employer Contributions to this reserve to bring the reserve into balance with the actuarial present value of retirement allowances. At September 30, 2022, the balance in this reserve was \$43.1 million.

Reserve for Undistributed Investment Income

The net investment earnings (losses) are recorded in this reserve. Interest as authorized by the board is transferred annually to the other reserves. Administrative expenses are paid from this reserve. At September 30, 2022, the balance in this reserve was \$457.1 thousand.

REPORTING ENTITY

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

BENEFIT PROTECTION

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

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

INVESTMENTS

Generally, investments are reported at fair value, consistent with the provisions of GASB Statement No. 72, *Fair Value Measurement and Application*. Short-term, highly liquid debt instruments including commercial paper are reported at amortized cost. Additional disclosures describing investments are provided in Note 5.

INVESTMENT INCOME

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

COSTS OF ADMINISTERING MMRP

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

PROPERTY AND EQUIPMENT

Office space is leased from the State on a year-to-year basis. Office equipment is capitalized if the value exceeds \$5,000. These assets are recorded at cost and are reported net of depreciation in the *Statement of Pension Plan Fiduciary Net Position*. Such assets are depreciated on a straight-line basis over 10 years. MMRP does not have equipment that falls within these parameters.

RELATED PARTY TRANSACTIONS

Leases and Services

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

	<u>2022</u>
Building Rentals	\$ 1,349
Technological Support	16,713
Attorney General	12,550
Investment Services	12,783
Personnel Services	110,510

Cash

At September 30, 2022, MMRP had \$1.2 million in a common cash investment pool maintained for various State operating funds. The participating funds in the common cash pool earn interest at various rates depending upon prevailing short-term interest rates. Earnings (Losses) from these activities amounted to \$1,518 for the year ended September 30, 2022.

NOTE 3 – CONTRIBUTIONS

The State contributes annually to MMRP, based on the actuarial required contributions to support retirement benefits, through appropriation from the State's general fund. Members do not pay contributions.

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

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

subsequent plan years. The remainder is called the actuarial accrued liability. Normal cost is funded on a current basis.

Pension contributions made in the fiscal year ending September 30, 2022, were determined as of the September 30, 2019 actuarial valuation. The pension unfunded (overfunded) actuarial accrued liability as of September 30, 2019, is amortized over a 17-year period beginning October 1, 2021 and ending September 30, 2038.

NOTE 4 – NET PENSION LIABILITY

MEASUREMENT OF THE NET PENSION LIABILITY

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

Net Pension Liability

Total Pension Liability	\$	64,530,911
Plan Fiduciary Net Position		61,282,384
Net Pension Liability	\$	<u>3,248,527</u>
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		94.97%
Net Pension Liability as a Percentage of Covered Payroll		598%
Total Covered Payroll*	\$	543,190

* Special duty officers only, as of 9/30/22

LONG-TERM EXPECTED RETURN ON PLAN ASSETS

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

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NOTES TO BASIC FINANCIAL STATEMENTS

Best estimates of arithmetic real rates of return were provided by the Bureau of Investments (BOI) for each major asset class included in the pension plan's portfolio as of September 30, 2022. These best estimates and the plan's target asset allocation are summarized in the following table:

Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Domestic Equity Pools	25.0%	5.1%
International Equity Pools	15.0	6.7
Private Equity Pools	16.0	8.7
Real Estate and Infrastructure Pools	10.0	5.3
Fixed Income Pools	13.0	(0.2)
Absolute Return Pools	9.0	2.7
Real Return and Opportunistic Pools	10.0	5.8
Short-Term Investment Pools	2.0	(0.5)
TOTAL	100.0 %	

* Long-term rates of return are net of administrative expenses and 2.2% inflation.

RATE OF RETURN

For the fiscal year ended September 30, 2022, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was (3.46)%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

DISCOUNT RATE

The State of Michigan Retirement Board adopted a Dedicated Gains Policy to lower the discount rate in years where investment returns exceed the current assumption. The DTMB Director and the Board modified the dedicated gains policy to limit the reduction in the discount rate to no lower than 6.00%. A single discount rate of 6.00% was used to measure the total pension liability for fiscal year 2022. In fiscal year 2021, the single discount rate used to measure the total pension liability was 6.75%. This single discount rate was based on the expected rate of return on pension plan investments of 6.00%. The projection of cash flows used to determine this single discount rate was based on the assumption that in the future, plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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

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

1% Decrease 5.00%	Current Discount Rate Assumption 6.00%	1% Increase 7.00%
\$11,276,792	\$3,248,527	(3,302,950)

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NOTES TO BASIC FINANCIAL STATEMENTS

TIMING OF THE VALUATION

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

The total pension liability as of September 30, 2022, is based on the results of an actuarial valuation date of September 30, 2021, and rolled-forward using generally accepted actuarial procedures.

ACTUARIAL VALUATIONS AND ASSUMPTIONS

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

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

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

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NOTES TO BASIC FINANCIAL STATEMENTS

The information presented in the net pension liability schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Summary of Actuarial Assumptions

Valuation Date	September 30, 2021
Actuarial Cost Method	Entry Age, Normal
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Wage Inflation Rate	2.75%
Investment Rate of Return	6.00%, net of investment expenses
Projected Salary Increases ¹	2.75%, including wage inflation at 2.75%
Cost-of-Living Pension Adjustments ¹	Assumed 2.75% compounded for those eligible
Mortality	
Retirees	RP-2014 Male and Female Healthy Annuitant Mortality Table scaled by 93% for males and 99% for females and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Active	RP-2014 Male and Female Employee Mortality Table scaled by 100% for both males and females and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Notes	Assumption changes as a result of an experience study for the periods 2015 through 2017 have been adopted by MMRP for use in the determination of the total pension liability beginning with the September 30, 2018 valuation.

¹ Post-retirement cost of living adjustments and pay increase assumptions apply to Special Duty Officers only.

NOTE 5 – INVESTMENTS

INVESTMENT AUTHORITY

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

DERIVATIVE INSTRUMENTS

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

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

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

cost are not subject to the derivative instrument exposure limitation. Less than 15% of the total trust funds' portfolio has been invested from time to time in future contracts, swap agreements, structured notes, option and forward contracts.

The derivative instrument fair values are reported on the *Statement of Pension Plan Fiduciary Net Position* as of September 30, 2022, in their respective investment pool's fair value. Derivative instrument net increase and decrease are reported on the *Statement of Changes in Pension Plan Fiduciary Net Position* for fiscal year ended September 30, 2022, under "Investment income (loss)", in "Net increase (decrease) in fair value of investments". Bond interest, swap payments, and dividends are reported under "Investment income (loss)", in "Interest, dividends, and other".

Derivative Instrument Investment Table as of September 30, 2022 (in thousands):

Investment and Investment Type	Percentage of Fair Value	Notional Value	Investments at Fair Value	Net Increase (Decrease) in Fair Value	Investment Income	Fair Value Subject to Credit Risk
Future Contracts	- %	\$ 47.8	\$ -	\$ (135.8)	\$ -	-
Fixed Income and International Equity Investments						
Option Contracts	0.3	51,504.8	167.1	(282.8)	-	-
Equity, Fixed Income, and International Equity Investments						
Swap Agreements	1.3	1,832.9	800.7	(766.9)	(23.0)	16.3
Fixed Income and International Equity Investments						
Total		\$ 53,385.4	\$ 967.8	\$ (1,185.5)	\$ (23.0)	\$ 16.3

To diversify the trust funds' portfolio, the Board has entered into international swap agreements with investment grade counterparties, which are tied to foreign stock market indices in approximately forty-six foreign countries. Generally, the notional amount of equity swap tied to foreign stock market indices is executed via a net total return USD index. The swap agreements provide that MMRP will pay quarterly or at maturity over the term of the swap agreements, interest indexed to the three-month London Inter-Bank Offer Rate (LIBOR) or U.S. Federal Funds Rate, adjusted for an interest rate spread, on the notional amount stated in the agreements. International equity swap agreement maturity dates range from October 2022 to June 2023. U.S. Treasury Bonds, U.S. Corporate Bonds and other public market fixed income securities, as well as, other investments are held to correspond with the notional amount of the international swap agreements.

The value of the international synthetic equity structures is a combination of the value of the swap agreements and the value of the notes and other investments in the collateral portfolio. The book value represents the cost of the bonds, notes and other investments. The current value represents the current value of the bonds, notes and other investments and the change in the value of the underlying indices from the inception of the swap agreements. The current value is used as a representation of the fair value based on the intention to hold all swap agreements until maturity. At the maturity of the swap agreements, the trust funds will either receive the increase in the value of the equity indices from the level at the inception of the agreements or pay the decrease in the value of the indices. U.S. Treasuries, cash, publicly traded fixed income investments and private market investments are held in the collateral portfolio to correspond with the notional amount of the swap agreements. The combined swap structure generally realizes gains and losses on a rolling basis.

To reduce the risk in the Fixed Income and International Equity portfolios, the Board has entered into FX swap agreements, interest rate swap agreements and credit default swap agreements with investment grade counterparties. The FX swap agreements are tied to foreign currency forward exchange rates and are used to reduce the currency risk within the Fixed Income portfolio. The swap agreements are entered into on an as-needed basis and are generally tied to the maturity of a foreign government bond indenture denominated in a foreign currency. The purpose of the FX swap agreement that has a final maturity date of less than three months, is to reduce or eliminate the currency risk on foreign bond transactions. U.S. Domestic LIBOR-based floating rate notes, U.S. Treasury securities, and portfolio cash are held to correspond with the notional amount of FX swap agreements

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

within the Fixed Income and International Equity portfolios. Interest rate swaps are used to adjust interest rate and yield curve exposures and substitute for physical securities. Long swap positions that receive fixed rate, increase exposure to long-term interest rates; short swap positions that pay fixed rate, decrease exposure. Credit default swaps (CDS) are used to manage credit exposure without buying or selling securities outright. Written CDS increase credit exposure, selling protection, obligating the portfolio to buy bonds from counterparties in the event of a default. Purchased CDS decrease exposure, buying protection, providing the right to "Put" bonds to the counterparty in the event of a default.

Counterparty credit risk is the maximum loss amount that would be incurred if the counterparties to the derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security, or netting arrangement. For the Over-The-Counter (OTC) derivative instrument investments, the system held collateral of \$0 in cash deposits and \$0 in securities on behalf of counterparties. Collateral securities in the amount of \$528.9 thousand were held on our behalf by counterparties.

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

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

SECURITIES LENDING

MMRP, pursuant to a Securities Lending Authorization Agreement, has authorized State Street Bank and Trust Company ("State Street") to act as MMRP's agent in lending MMRP's securities to approved borrowers. State Street, as agent, enters into Securities Loan Agreements with borrowers.

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

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

During the fiscal year, MMRP and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of September 30, 2022, such investment pool had an average duration of 3 days and an average weighted final maturity of 91 days for USD. Because the loans were terminable at will their duration did not generally match the duration of the investments made with cash collateral. On September 30, 2022, MMRP had no credit risk exposure to borrowers. The fair value of collateral held and the fair value (USD) of securities on loan for the client as of September 30, 2022, was \$2,191 thousand and \$2,121 thousand respectively.

RISK

In accordance with GASB Statement No. 40, investments require certain disclosures regarding policies and practices and the risks associated with them. The credit risk, including custodial credit risk and concentration of credit risk, the interest rate risk, and the foreign currency risk are discussed in the following paragraphs. Amounts

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

represent the pro rata share of the underlying investments as required by GASB Statement No. 40. These investments are held in internal investment pools and reported as such in the financial statements.

Credit Risk

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

- Short-Term Fixed Income Investments – Eligible commercial paper investments must be rated within one of the two highest ratings classifications (“1” or “2”) at the time of purchase from one of the nationally recognized ratings organizations (NRSROs) specified in Public Act 314 of 1965, as amended. Borrowers must have at least \$400.0 million in commercial paper outstanding, and the Board may not invest in more than 10% of the borrower’s outstanding debt.
- Long-Term Fixed Income Investments – Investment grade and noninvestment grade securities may be acquired in compliance with the parameters set forth in Public Act 314 of 1965, as amended, and the Board’s Investment Policy Statement for System. Public Act 314 defines investment grade as investments in the top four major grades, rated by two national rating services. At September 30, 2022, MMRP was in compliance with Public Act 314 and the Investment Policy Statement in all material aspects.

Rated Debt Investments

(in thousands)
As of September 30, 2022

Investment Type	Fair Value	S&P	Fair Value	Moody's
Short Term	\$ 905	A-1	\$ 895	P-1
	81	A-2	81	P-2
	-	NR	10	NR
Money Market	185	AAA	185	Aaa
Government Securities				
U.S. Agencies - Sponsored	1	AAA	439	Aaa
	438	AA	-	Aa
Fixed Income				
	103	AAA	226	Aaa
	148	AA	134	Aa
	264	A	311	A
	730	BBB	621	Baa
	208	BB	192	Ba
	88	B	129	B
	41	CCC	57	Caa
	38	CC	49	Ca
	-	C	8	C
	10	D	-	D
	1,303	NR	1,207	NR
Securities Lending Collateral				
Short Term	201	A-1	249	P-1
	-	NR	-	NR
Fixed Income	-	AAA	-	Aaa
	71	AA	491	Aa
	1,861	A	770	A
	61	NR	684	NR
Mutual Funds				
	56	BBB	56	Baa
	70	BB	70	Ba
	9	B	9	B
Total	<u>\$ 6,874</u>		<u>\$ 6,874</u>	

NR – Not Rated

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the State will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the government and are held by either the counterparty or the counterparty's trust department or agent, but not in the government name.

The Board does not have a policy for custodial credit risk. However, the State's custodial bank had a credit rating of A at September 30, 2022. As of September 30, 2022, no securities were exposed to custodial credit risk.

Concentration of Credit Risk

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

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

At September 30, 2022, there were no investments in any single issuer that accounted for more than 5% of MMRP's assets. MMRP held one investment that exceeded 5% cap in obligations of any one issuer. MMRP is aware of the breach and in accordance with MCL 38.1133(3)(g), is developing a prudent plan for reallocating assets to comply with the prescribed limitations.

Interest Rate Risk – Fixed Income Investments

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

The Board's policy states that cash equivalents are invested in short-term fixed income securities with an average weighted maturity of less than one year to provide liquidity and safety of principal from capital market and default risk. At September 30, 2022, the fair value of MMRP's short-term investments was \$1.2 million with the weighted average maturity of 25 days.

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

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Debt Securities

(in thousands)
As of September 30, 2022

	<u>Fair Value</u>	<u>Effective Duration in Years</u>
Government		
U. S. Treasury	\$ 1,528	10.7
U. S. Agencies - Backed	160	4.8
U. S. Agencies - Sponsored	439	5.2
Corporate	3,069	3.0
International*		
U. S. Treasury	1,012	1.4
Total	<u>\$ 6,209</u>	

Debt securities are exclusive of securities lending collateral.

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

Foreign Currency Risk

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

MMRP invests in various securities denominated in foreign currencies. Authorized global securities include equities, fixed income, mutual funds, real estate, and limited partnerships. These investments are limited to 30% of the total assets of MMRP with additional limits of not more than 5% of the outstanding global securities of any one issuer and no more than 5% of MMRP's assets in the global securities of any one issuer. In addition to these limits, the Board cannot acquire securities with companies that have active business operations in the state sponsors of terror as identified by the United States Secretary of State. At September 30, 2022, the total amount of foreign investment subject to foreign currency risk was \$5.5 million, which amounted to 9.0% of total investments (exclusive of securities lending collateral) of MMRP.

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

Foreign Currency Risk (in Dollars)

As of September 30, 2022

Region	Country	Currency	in U.S. \$	in U.S. \$	in U.S. \$	in U.S. \$
AMERICA						
	Brazil	Real	\$ -	\$ 925	\$ 11,310	\$ -
	Canada	Dollar	7,293	30,157	78,941	240
	Mexico	Peso	567	3,424	17,960	535
	Peru	Sol	-	531	-	-
	Columbia	Peso	-	-	-	-
	Chile	Peso	-	1,155	-	-
	Argentina	Peso	-	-	-	-
PACIFIC						
	Australia	Dollar	1,634	5,977	63,380	-
	Hong Kong	Dollar	6,250	-	73,610	-
	India	Rupee	-	78	-	-
	Indonesia	Rupiah	1,721	-	-	-
	Japan	Yen	1,454	8,812	66,435	-
	Malaysia	Ringgit	-	3,215	-	-
	Taiwan	New Dollar	-	-	20,425	-
	China	Renminbi	3,209	-	10,163	-
	Singapore	Dollar	1,218	6,819	-	-
	South Korea	Won	-	17,092	11,881	-
	Thailand	Baht	-	3,042	-	-
	New Zealand	Dollar	-	-	7,215	-
	China	Yuan	6	(4,120)	848	-
	China	Yuan Offshore	-	4,192	-	-
EUROPE						
	Denmark	Krone	-	-	34,331	-
	European Union	Euro	105,208	34,700	245,999	341,217
	Hungary	Forint	-	1,627	-	-
	Norway	Krone	-	-	-	-
	Poland	Zloty	-	2,630	-	-
	U.K.	Sterling	28,461	7,302	85,588	35,692
	Romania	Leu	-	-	-	-
	Sweden	Krona	7,488	2,386	72,419	-
	Switzerland	Franc	12,571	-	22,397	-
	Turkey	Lira	-	-	-	-
	Czech Republic	Koruna	-	1,291	-	-
AFRICA						
	South Africa	Rand	1,124	940	(1)	-
	Liberia	Dollar	1,862	-	-	-
	Zambia	Kwacha	-	274	-	-
MIDDLE EAST						
	Israel	New Shekel	3,806	2,115	-	-
World-Wide						
	Various		-	-	3,979,871	-
	Total		<u>\$ 183,872</u>	<u>\$ 134,563</u>	<u>\$ 4,802,770</u>	<u>\$ 377,684</u>

FAIR VALUE MEASUREMENTS

MMRP categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Not all investments held by MMRP are recorded at fair value. GASB 72 allows for certain investments to be recorded at cost (or amortized cost or any other valuation method), and therefore, they are not presented in the fair value hierarchy table. Equity and Fixed Income Securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Equity Swaps and Fixed Income Securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique and other significant observable inputs. Equity and Fixed Income Securities classified as Level 3 of the fair value hierarchy are valued using third-party data and reports that are unobservable. Securities reported at Net Asset Value (NAV) are valued using the most recent third-party statement adjusted for cash flows as of September 30, 2022. Investments that are measured

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

at fair value using the Net Asset Value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

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

	Balance at September 30, 2022	Fair Value Measurement		
		Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level:				
Total cash and cash equivalents	\$ 5,510	\$ 5,510	\$ -	\$ -
Equity				
Depository Receipts	74,062	74,062	-	-
Warrants	22	22	-	-
Common Stocks	9,953,183	9,953,032	-	151
Real Estate Investment Trusts	448,328	448,328	-	-
Swaps	(498,899)	513,150	(1,012,049)	-
Commingled Funds, ETF's, and PTP's	4,630,850	4,630,602	248	-
Options	166,658	166,658	-	-
Total Equity	14,774,205	15,785,855	(1,011,801)	151
Fixed Income				
Asset Backed	896,478	-	890,503	5,976
Corporate Bonds	1,080,235	-	1,066,563	13,672
Commercial Mortgage-backed	998,430	-	998,214	217
Government Issues	2,654,496	880,574	1,773,922	-
Swap	6,676	-	6,676	-
US Agency Issues	443,612	-	443,612	-
Commingled Funds, ETF's, and PTP's	388,902	388,902	-	-
Options	22	-	22	-
Total Fixed Income	6,468,851	1,269,476	5,179,511	19,864
Total investments by fair value level	\$ 21,248,567	\$ 17,060,842	\$ 4,167,710	\$ 20,015
Investments measured at the net asset value (NAV)				
Private Equity	\$ 15,469,804			
Real Estate & Infrastructure	6,214,592			
Absolute Return	6,066,205			
Real Return & Opportunistic	7,164,764			
Other Limited Partnerships	2,643,976			
Total investments measured at the NAV	\$ 37,559,340			
Total investments measured at fair value	\$ 58,807,907			

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

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

Private Equity Funds (in thousands)

Total investments measured at the NAV	\$ 15,470
Unfunded commitments	5,355

This type of investment includes investments in approximately 276 partnerships that invest in leveraged buyouts, venture capital, mezzanine debt, distressed debt, secondary funds and other investments. This type of investments can never be redeemed with the funds, but distributions are received through the liquidation of the underlying assets of the fund. It's expected that the underlying assets of the fund are liquidated over a period of five to eight years. However, as of September 30, 2022, it is probable that all of the investments in this group will be sold at an amount different from the NAV per share (or its equivalent). Therefore, the fair values of the investments in this type have been determined using recent observable transaction information for similar investments and nonbinding bids received from potential buyers of the investments. As of September 30, 2022, a buyer for these investments has not been identified.

Real Estate and Infrastructure (in thousands)

Total investments measured at the NAV	\$ 6,215
Unfunded commitments	2,257

Real Estate and Infrastructure funds include approximately 115 accounts (limited partnerships, limited liability companies, etc.) that invest in real estate or infrastructure related assets. The fair value of the Real Estate and Infrastructure funds have been determined in accordance with generally accepted accounting principles using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These types of investments cannot be redeemed with the funds. Distributions from these funds will be received as the underlying investments are sold and liquidated over time. It is expected that the underlying assets will be sold over the next 5 – 15 years. However, buyers have not been determined so the fair value has been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital.

Absolute Return Portfolio (in thousands)

Total investments measured at the NAV	\$ 6,066
Unfunded commitments	2,291

This type includes approximately 5 investments in hedge funds and hedge fund and approximately 73 investments in private credit strategies. These investments seek to diversify risk and reduce volatility. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. Most of the investments are redeemable or have a final fund term that is 10 years or less.

Real Return and Opportunistic Portfolio (in thousands)

Total investments measured at the NAV	\$ 7,165
Unfunded commitments	1,565

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

All Other Investments (in thousands)

Total investments measured at the NAV	\$2,644
Unfunded commitments	245

FINANCIAL SECTION

NOTES TO BASIC FINANCIAL STATEMENTS

The balance of plan assets reported at fair value include 16 investments:

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

NOTE 6 – COMMITMENTS AND CONTINGENCIES

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

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN NET PENSION LIABILITY

(in thousands)

	Fiscal Year ²							
	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability								
Service Cost	\$ 746	\$ 718	\$ 229	\$ 206	\$ 140	\$ 110	\$ 403	\$ 357
Interest	3,928	3,896	3,710	3,417	3,555	3,609	2,829	3,564
Changes of benefit terms	-	-	-	5,252	-	-	-	-
Differences between expected and actual experience	(1,015)	(156)	2,573	(610)	700	58	-	(17,548)
Changes of assumptions	5,031	-	-	-	2,719	2,505	(30,216)	7,086
Benefit payments, including refunds of member contributions	3,954	(4,029)	(3,989)	(3,895)	(3,939)	(4,090)	(3,950)	(3,923)
Net Change in Total Pension Liability	4,735	429	2,523	4,370	3,175	2,192	(30,933)	(10,463)
Total Pension Liability - Beginning	59,796	59,367	56,844	52,474	49,299	47,107	78,040	88,503
Total Pension Liability - Ending (a)	<u>\$ 64,531</u>	<u>\$ 59,796</u>	<u>\$ 59,367</u>	<u>\$ 56,844</u>	<u>\$ 52,474</u>	<u>\$ 49,299</u>	<u>\$ 47,107</u>	<u>\$ 78,040</u>
Plan Fiduciary Net Position								
Contributions - Employer	\$ 875	\$ 657	\$ 1,000	\$ 41,045	\$ 16,245	\$ 5,245	\$ 7,780	\$ 4,267
Contributions - Member	-	-	-	-	-	-	-	-
Net Investment Income	(3,036)	15,012	2,805	2,711	569	78	12	-
Benefit payments, including refunds of member contributions	(3,954)	(4,029)	(3,989)	(3,895)	(3,939)	(4,090)	(3,950)	(3,923)
Administrative and Other Expenses	(243)	(201)	(202)	(223)	(273)	(475)	(251)	(344)
Net Change in Plan Fiduciary Net Position	(6,358)	11,440	(387)	39,638	12,601	758	3,591	-
Plan Fiduciary Net Position - Beginning	67,641	56,201	56,588	16,950	4,349	3,591	-	-
Plan Fiduciary Net Position - Ending (b)	<u>\$ 61,282</u>	<u>\$ 67,641</u>	<u>\$ 56,201</u>	<u>\$ 56,588</u>	<u>\$ 16,950</u>	<u>\$ 4,349</u>	<u>\$ 3,591</u>	<u>\$ -</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 3,249</u>	<u>\$ (7,845)</u>	<u>\$ 3,166</u>	<u>\$ 256</u>	<u>\$ 35,524</u>	<u>\$ 44,950</u>	<u>\$ 43,515</u>	<u>\$ 78,040</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	94.97 %	113.12 %	94.67 %	99.55 %	32.3 %	8.82 %	7.62 %	- %
Covered Payroll¹	\$ 543	\$ 525	\$ 510	\$ 493	\$ 527	\$ 466	\$ 469	\$ 484
Net Pension Liability as a Percentage of Covered Payroll	598 %	(1,494) %	621 %	52 %	6,740 %	9,653 %	9,269 %	16,110 %

¹ The payroll shown applies only to special duty officers and is the payroll used in the corresponding actuarial valuation.

² This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

FINANCIAL SECTION

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CONTRIBUTIONS

PENSION BENEFITS

(in thousands)

Fiscal Year Ended Sept. 30²	Actuarially Determined Contribution (ADC)	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered¹ Payroll	Actual Contribution as a % of Covered Payroll
2015	\$ 6,293	\$ 4,267	\$ 2,026	\$ 484	881 %
2016	5,200	7,780	(2,580)	469	1,657
2017	5,200	5,245	(45)	466	1,126
2018	6,849	16,245	(9,396)	527	3,082
2019	4,422	41,045	(36,623)	493	8,325
2020	3,542	1,000	2,542	510	196
2021	657	657	-	525	125
2022	874	875	(1)	543	161

¹ The payroll shown applies only to special duty officers and is the payroll used in the corresponding actuarial valuation.

² This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

SCHEDULE OF INVESTMENT RETURNS

Fiscal Year²	Annual Return¹
2017	1.36 %
2018	9.52
2019	6.64
2020	5.48
2021	23.63
2022	(3.46)

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

² This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

FINANCIAL SECTION

NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

NOTE A – DESCRIPTION

Historical trend information designed to provide information about MMRP's progress made in accumulating sufficient assets to pay benefits when due is presented in the preceding schedules. This information is presented to enable the reader to assess the progress made by MMRP in accumulating sufficient assets to pay pension benefits as they become due.

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

The Schedule of Contributions is reported as historical trend information. The Schedule of Contributions is presented to show the responsibility of the Employer in meeting the actuarial requirements to maintain MMRP on a sound financial basis.

The Schedule of Changes in the Net Pension Liability, Schedule of Contributions, and Schedule of Investment Returns are schedules that are required in implementing GASB Statement No. 67. These schedules are required to show information for ten years; additional years will be displayed as they become available. The Schedule of Changes in Net Pension Liability represents in actuarial terms, the accrued liability less the fair value of assets. The Schedule of Contributions is a comparison of the employer's contributions to the actuarially determined contributions. The Schedule of Investment Returns represents the annual money-weighted rate of return, net of investment expenses.

The actuarially determined contributions presented in the Schedule of Contributions for pension are calculated as of September 30, three years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine the fiscal year 2022 contributions reported in that schedule.

Methods and Assumptions Used to Determine Contributions for Fiscal Year 2022:

Valuation Date	September 30, 2019
Actuarial Cost Method	Entry Age, Normal
Amortization Method	Level Dollar, Closed Period
Remaining Amortization Period	17 Years as of October 1, 2021, closed, ending September 30, 2038
Asset Valuation Method	5 year smoothed fair value
Price Inflation	2.25%
Salary Increases	2.75%, for Special duty officers
Investment Rate of Return	6.75%, net of investment expenses
Retirement Age	Experience-based table of rates that are specific to the type of eligibility conditions.
Mortality	
Retiree	RP-2014 Male Healthy Annuitant Mortality Table scaled by 93% for males and 99% for females and adjusted for mortality improvements using projection scale MP-2017 from 2006. RP-2014 Female Healthy Annuitant Mortality Table scaled by 99% and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Active	RP-2014 Male Employee Mortality Table scaled by 100% for both males and females and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Notes	Some of the assumptions used to develop the 2022 Total Pension Liability (TPL) are different than the assumptions shown above. The assumptions used to develop the TPL are described in Note 4 (page 25) of this report.

FINANCIAL SECTION

SUPPORTING SCHEDULES

SUMMARY SCHEDULE OF PENSION PLAN ADMINISTRATIVE AND OTHER EXPENSES

For Fiscal Year Ended September 30, 2022

Personnel Services:

Staff Salaries	\$ 66,109
Staff Retirement and Social Security	32,473
Staff Other Fringe Benefits	11,927
Total	<u>110,510</u>

Professional Services:

Accounting	3,101
Actuarial	44,361
Attorney General	12,550
Audit	46,200
Total	<u>106,212</u>

Building and Equipment:

Building Rentals	1,349
Equipment Purchase, Maintenance, and Rentals	28
Total	<u>1,377</u>

Miscellaneous:

Office Supplies	5
Postage, Telephone, and Other	7,128
Printing	674
Technological Support	16,713
Total	<u>24,521</u>

Total Administrative and Other Expenses	<u><u>\$ 242,620</u></u>
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FINANCIAL SECTION

SUPPORTING SCHEDULES

SCHEDULE OF INVESTMENT EXPENSES

For Fiscal Year Ended September 30, 2022

Securities Lending Expenses	\$	17,341
Other Investment Expenses ¹		
ORS-Investment Expenses ²		12,783
Custody Fees		1,325
Management Fees		246,662
Research Fees		<u>6,964</u>
Total Investment Expenses	\$	<u>285,076</u>

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

² Does not exclude Treasury Civil Service fees recorded as a pass through in the Schedule of Investment Fee - State Treasurer. As of September 30, 2022, fees totaled \$198.

SCHEDULE OF PAYMENTS FOR PROFESSIONAL SERVICES

For Fiscal Year Ended September 30, 2022

Accounting	\$	3,101
Actuary		44,361
Attorney General		12,550
Independent Auditors		<u>46,200</u>
Total Payments	\$	<u>106,212</u>

FINANCIAL SECTION

SUPPORTING SCHEDULES

DETAIL OF CHANGES IN PLAN FIDUCIARY NET POSITION

For Fiscal Year Ended September 30, 2022
(in thousands)

	Employer Contributions	Retired Benefit Payments	Undistributed Investment Income	Total
Additions:				
Contributions:				
Employer contributions:	\$ 875	\$ -	\$ -	\$ 875
Investment income (loss):				
Net increase (decrease) in fair value of investments	-	-	(4,080)	(4,080)
Interest, dividends, and other	-	-	1,302	1,302
Investment expenses:				
Other investment expenses	-	-	(268)	(268)
Securities lending activities:				
Securities lending income	-	-	27	27
Securities lending expenses	-	-	(17)	(17)
Net investment income (loss)	-	-	(3,036)	(3,036)
Total additions	875	-	(3,036)	(2,161)
Deductions:				
Benefits paid to plan members and beneficiaries:				
Retirement benefits	-	3,954	-	3,954
Administrative and other expenses	-	-	243	243
Total deductions	-	3,954	243	4,197
Net Increase (Decrease) before other changes	875	(3,954)	(3,279)	(6,358)
Other Changes in Net Position:				
Interest Allocation	1,293	2,748	(4,041)	-
Transfers of employer shares	(3,549)	3,549	-	-
Total other changes in net position	(2,256)	6,296	(4,041)	-
Net Increase (Decrease) in Net Position	(1,381)	2,342	(7,320)	(6,358)
Net Position Restricted for Pension Benefits:				
Beginning of Year	19,154	40,710	7,777	67,641
End of Year	\$ 17,773	\$ 43,052	\$ 457	\$ 61,283

FINANCIAL SECTION

SUPPORTING SCHEDULES

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INVESTMENT SECTION

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

Report on Investment Activity
Asset Allocation
Investment Results
Largest Assets Held
Schedule of Investment Fees
Schedule of Investment Commissions
Investment Summary

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

INTRODUCTION

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

The Board is comprised of five members: three (3) public members appointed by the Governor and two (2) ex-officio members. The public members serve four (4) year terms and are limited to two (2) such terms. The State Treasurer, as the chair of the Board, and the State Budget Director are the ex-officio members. As of September 30, 2022, members of the Board were as follows: Rachael Eubanks (chair, ex-officio member), Chris Harkins (ex-officio member), Reginald G. Sanders, CFA, CAIA (public member), and Dina L. Richard, CPA (public member). One of the public member seats is currently vacant. The public members serve without pay but may receive reasonable reimbursement for actual and necessary travel and other expenses to attend official Board meetings.

INVESTMENT POLICY & GOALS

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

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

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

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

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

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

ASSET ALLOCATION

(Excludes Collateral on Loaned Securities)

<u>Investment Category</u>	<u>As of 9/30/22 Actual %</u>	<u>Five-Year Target %</u>
Domestic Equity Pools	17.9%	25.0%
International Equity Pools	12.2	15.0
Private Equity Pools	25.4	16.0
Real Estate and Infrastructure Pools	10.7	10.0
Fixed Income Pools	9.1	13.0
Absolute Return Pools	10.0	9.0
Real Return and Opportunistic Pools	11.8	10.0
Short-Term Investment Pools	2.9	2.0
TOTAL	100.0%	100.0%

INVESTMENT AUTHORITY

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

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

The administrative statutory powers, duties, functions, and responsibilities concerning retirement allowances, pensions, and other retirement benefits under the Military Retirement act, were transferred to the State of Michigan Retirement Board by Executive order 2015-13. This included conferring the investment duties over the Military Retirement Provisions to the State Treasurer; the investment duties were subsequently transferred to the Board pursuant to the Order. The Military Pension Fund is pooled and invested alongside the Michigan State Employees' pension fund.

INVESTMENT RESULTS

TOTAL PORTFOLIO RESULTS

For the fiscal year ended September 30, 2022, Michigan Military Retirement Provisions' (MMRP) total rate of return was (5.0)% as compiled by State Street Investment Analytics.

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

DOMESTIC EQUITY POOLS

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

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

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

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

The pools invest in equities and equity related securities that are listed on U.S. national securities exchanges, including American Depository Receipts (ADRs). They may also invest in stocks that are traded over-the-counter. The pools diversify their investments by allocating their equity strategies with consideration of the capitalization weightings of the S&P Composite 1500 Index.

The following summarizes the weightings of the pools as of September 30, 2022:

Active	43.0 %
Passive	57.0
Total	<u>100.0 %</u>

Large-Cap	68.2 %
Multi-Cap	25.8
Mid-Cap	3.4
Small-Cap	2.6
Total	<u>100.0 %</u>

MMRP's Domestic Equity pools total rate of return was (21.4)% for fiscal year 2022. This compared with (15.6)% for the S&P Composite 1500 index.

At the close of fiscal year 2022, the Domestic Equity pools represented 17.9% of total investments. The following summarizes MMRP's 0.1% ownership share of the Domestic Equity pools at September 30, 2022:

Domestic Equity Pools

(in thousands)

Short-Term Pooled Investments	\$	203
Equities		10,769
Settlement Principal Payable		(19)
Settlement Proceeds Receivable		22
Accrued Dividends		10
Total	\$	<u>10,985</u>

INTERNATIONAL EQUITY POOLS

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

For active management strategies, the objective is to earn returns that exceed the most relevant MSCI Index, adjusting for market capitalization, style and geography for one, three, and five-year periods and a market cycle.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

Another objective is to rank above median in a universe of managers possessing a similar market capitalization, style and geography characteristics.

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

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

The following summarizes the weightings of the pool as of September 30, 2022:

Active	52.1 %
Passive	47.9
Total	<u>100.0 %</u>
Developed	96.4 %
Emerging	3.6
Total	<u>100.0 %</u>

MMRP's International Equity pools total rate of return was (27.8)% for fiscal year 2022. This compared with (25.2)% for the MSCI ACWI ex-USA Index.

At the close of fiscal year 2022, the International Equity pools represented 12.2% of total investments. The following summarizes MMRP's 0.1% ownership share of the International Equity Pools at September 30, 2022:

International Equity Pools

(in thousands)

Short-Term Pooled Investments	\$ 309
Equities	6,541
Fixed Income Securities	1,099
Market Value of Equity Contracts	(511)
Accrued Dividends and Interest	2
Total	<u>\$ 7,440</u>

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

PRIVATE EQUITY POOLS

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

Private Equity Investments are investments in the private equity market, primarily through limited partnerships. The following summarizes the weightings of the pools as of September 30, 2022:

Buyout Funds	42.0 %
Fund of Funds	29.8
Venture Capital Funds	12.7
Special Situation Funds	6.2
Liquidation Portfolio	9.3
Mezzanine Funds	0.0
Total	<u>100.0 %</u>

The Private Equity pools had a return of 8.8% for the fiscal year ended September 30, 2022, versus the benchmark of (7.9)%.

At the close of fiscal year 2022, the Private Equity pools represented 25.4% of total investments. The following summarizes MMRP's 0.1% ownership share of the Private Equity pools at September 30, 2022:

Private Equity Pools

(in thousands)

Short-Term Pooled Investments	\$ 99
Equities	15,471
Total	<u>\$ 15,570</u>

REAL ESTATE AND INFRASTRUCTURE POOLS

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

The Real Estate and Infrastructure pools diversify its holdings by:

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

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

- **Investment Type** – The pools are diversified by investment type as summarized below.

Multi-family apartments	37.7 %
Commercial office buildings	9.4
Hotel	7.2
Infrastructure	7.8
Industrial warehouse buildings	26.8
Single Family	2.8
Retail shopping centers	2.6
Land	0.6
REITs	2.9
Short Term Investments	<u>2.2</u>
Total	<u><u>100.0 %</u></u>

The Real Estate and Infrastructure pools generated a return of 25.1% for fiscal year 2022. The Real Estate and Infrastructure pools compare performance with two benchmark returns from the National Council of Real Estate Investment Fiduciaries (NCREIF): the NCREIF Property Index (less 130 basis points) was 14.6% and the NCREIF Fund Index - Open-End Diversified Core Equity (NFI-OCDE) was 21%.

At the close of fiscal year 2022, the Real Estate and Infrastructure pools represented 10.7% of total investments. The following summarizes the MMRP's 0.1% ownership share of the Real Estate and Infrastructure pools at September 30, 2022:

Real Estate and Infrastructure Pools

(in thousands)

Short-Term Pooled Investments	\$	145
Real Estate Equities		5,916
Infrastructure Equities		<u>516</u>
Total	\$	<u><u>6,577</u></u>

FIXED INCOME POOLS

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

The pools invest in fixed income and related securities in a diversified portfolio of investment grade corporate issues, mortgage-backed and asset-backed securities, U.S. Treasuries, Agencies, government sponsored enterprises and government guaranteed mortgages.

The pools diversify its investments by allocating its strategies with consideration of credit risk. The goal is to build a portfolio of strategies that will provide excess returns relative to the blended benchmark while providing minimal tracking error to the index. At times a portion of the pools may be invested in exchange traded funds (ETFs) and fixed-income short-term securities with maturities of less than one year.

MMRP's Fixed Income pools total rate of return was (12.0)% for fiscal year 2022. This compares to (14.6)% for the Bloomberg US Aggregate Bond Index.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

At the close of fiscal year 2022, the Fixed Income pools represented 9.1% of total investments. The following summarizes MMRP's 0.1% ownership share of the Fixed Income pools at September 30, 2022:

Fixed Income Pools

(in thousands)

Short-Term Pooled Investments	\$	28
Fixed Income Securities		5,555
Settlement Principal Payable		(16)
Accrued interest		18
Total	\$	<u>5,585</u>

ABSOLUTE RETURN POOLS

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

The Absolute Return Strategies pool rate for the fiscal year was 3.2% versus the benchmark's 0.5%.

At the close of fiscal year 2022, the Absolute Return Pools represented 10.0% of total investments. The following summarizes MMRP's 0.1% ownership share of the Absolute Return Pools at September 30, 2022:

Absolute Return Pools

(in thousands)

Short-Term Pooled Investments	\$	67
Equities		6,066
Total	\$	<u>6,133</u>

REAL RETURN AND OPPORTUNISTIC POOLS

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

The Real Return and Opportunistic pool rate of return for the fiscal year was 11.2% versus the benchmark's 9.8%.

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

At the close of fiscal year 2022, the Real Return and Opportunistic Pools represented 11.8% of total investments. The following summarizes MMRP's ownership share of the Short-Term Investment pools at September 30, 2022:

Real Return and Opportunistic Pools

(in thousands)

Short-Term Pooled Investments	\$	31
Equities		7,165
Total	\$	7,196

SHORT-TERM INVESTMENT POOLS

The objective of the Short-Term Investment pools is to closely match the return performance of its benchmark, the 30-day Treasury bill. The Short-Term Investment pools return for the fiscal year was 0.8% versus the benchmark's 0.6%.

Potential areas of investment are:

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

At the close of fiscal year 2022, the Short-Term Investment pools represented 2.9% of total investments. The following summarizes MMRP's ownership share of the Short-Term Investment pools at September 30, 2022:

Short-Term Investment Pools

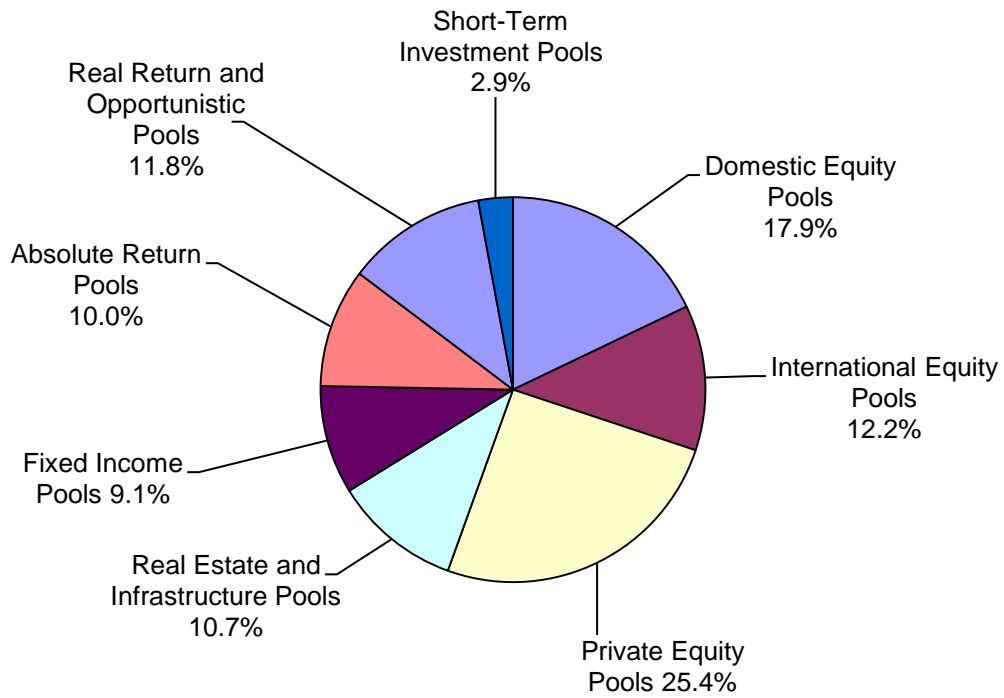
(in thousands)

Short-Term Pooled Investments	\$	104
Fixed Income Securities		1,694
Total	\$	1,798

INVESTMENT SECTION

REPORT ON INVESTMENT ACTIVITY

ASSET ALLOCATION – SECURITY TYPE ONLY



INVESTMENT SECTION

INVESTMENT RESULTS

PENSION PLAN INVESTMENT RESULTS

For the Period Ending September 30, 2022

Investment Category	Annualized Rate of Return ¹		
	Current Year	3 Years	5 Years
Total Portfolio	(5.0) %	8.2 %	8.0 %
Domestic Equity Pools	(21.4)	4.9	7.4
S&P Composite 1500 Index	(15.6)	8.0	8.9
International Equity Pools	(27.8)	(1.3)	(0.7)
International Blended Benchmark ²	(25.2)	(1.5)	(0.8)
Private Equity Pools	8.8	21.1	18.3
Private Equity Benchmark ³	(7.9)	13.9	14.6
Real Estate and Infrastructure Pools	25.1	9.5	9.3
NCREIF Property Blended Index ⁴	14.6	8.5	7.2
Fixed Income Pools	(12.0)	(1.9)	0.9
Bloomberg US Aggregate Bond Index	(14.6)	(3.3)	(0.3)
Absolute Return Pools	3.2	7.0	6.1
HFRI Fund of Funds Conservative Aggregate Index	0.5	4.9	4.0
Real Return and Opportunistic Pools	11.2	13.7	12.8
Real Return and Opportunistic Benchmark ⁵	9.8	8.1	0.7
Short-Term Investment Pools	0.8	0.9	1.4
30-Day Treasury Bill	0.6	0.5	1.1

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

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

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

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

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

INVESTMENT SECTION

LARGEST ASSETS HELD

LARGEST STOCK HOLDINGS

(By Market Value)
September 30, 2022

Rank	Shares	Stocks	Market Value
1	3,762	Apple Inc.	\$ 519,926
2	2,015	Microsoft Corp.	469,311
3	2,293	Amazon.com Inc.	259,096
4	12,313	AT&T Inc.	188,874
5	4,797	Verizon Communications Inc	182,140
6	1,889	Alphabet Inc. CL A.	180,709
7	261	UnitedHealth Group Inc.	131,867
8	496	Tesla Inc.	131,532
9	2,396	Apollo Global Management Inc.	111,403
10	1,133	Alphabet Inc. CL C	108,956

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

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

LARGEST BOND HOLDINGS

(By Fair Value)
September 30, 2022

Rank	Par Amount	Bonds & Notes	Fair Value
1	448,270	US Treasury N/B 2.875% Due 05/15/2052	\$ 375,987
2	199,655	US Treasury N/B .25% Due 5/31/2025	179,627
3	192,108	US Treasury N/B 3.25% Due 05/15/2042	170,525
4	184,240	US Treasury N/B 2.875% Due 05/15/2032	170,278
5	99,828	US Treasury N/B .25% Due 11/15/2023	95,421
6	99,828	US Treasury N/B .25% Due 03/15/2024	94,158
7	93,177	US Treasury N/B 3.25% Due 06/30/2027	89,854
8	89,845	US Treasury N/B 1.5% Due 01/15/2023	89,345
9	86,517	US Treasury N/B .125% Due 09/15/2023	83,222
10	83,190	US Treasury N/B 2.5% Due 05/15/2024	80,824

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

Largest Bond Holdings are exclusive of securities lending collateral.

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

INVESTMENT SECTION

SCHEDULE OF INVESTMENT FEES

The State of Michigan Investment Board (Board) is the investment fiduciary and custodian of MMRP's funds pursuant to State law. Outside advisors are utilized to augment the State of Michigan's internal staff. 76.5% of the total investment portfolio is managed by fully discretionary outside advisors. The Michigan Department of Treasury's cost of operations applicable to MMRP for the fiscal year end amounted to \$13 thousand or nine basis points (0.09%) of the fair value of the Assets under Management of the Board.

SCHEDULE OF INVESTMENT FEES

Investment Managers' Fees:

	<u>Assets under Management (in thousands)</u>	<u>Fees (in thousands)</u>	<u>Basis Points*</u>
State Treasurer	\$ 14,387	\$ 13	9.0
Outside Advisors for			
Short Term	185	-	-
Fixed Income	3,317	10	30.1
Absolute Return	6,133	16	26.1
Real Return and Opportunistic	7,196	37	51.4
International Equity	6,122	36	58.8
Domestic Equity	1,822	8	43.9
Private Equity	15,571	107	68.7
Real Estate and Infrastructure	6,552	33	50.4
Total	\$ 61,285	\$ 260	

Other Investment Services Fees:

Assets in Custody	\$ 60,102	\$ 8
Securities Lending Collateral	2,191	2

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

INVESTMENT SECTION

SCHEDULE OF INVESTMENT COMMISSIONS

Fiscal Year Ended September 30, 2022

	Actual Commissions Paid ¹	Actual Number of Shares Traded ¹	Average Commission Per Share	Estimated Trade Costs Per Share	Estimated Research Costs Per Share	Estimated Trade Costs	Estimated Research Costs
Investment Brokerage Firms:							
BTIG LLC	\$ 455	44,166	\$ 0.01	\$ 0.01	\$ -	\$ 221	\$ -
Capital Institutional Services Inc.	117	23,555	-	0.01	-	236	-
Cowen & Company LLC	50	2,490	0.02	0.01	0.01	25	25
Drexel Hamilton LLC	18	3,634	-	0.01	-	36	-
Goldman, Sachs & Co.	11	554	0.02	0.01	0.01	6	6
J. P. Morgan Securities Inc.	140	8,287	0.02	0.01	0.01	83	83
Jefferies & Company	-	34	-	0.01	-	-	-
Merrill Lynch, Pierce, Fenner & Smith Inc.	28	1,425	0.02	0.01	0.01	14	14
MKM Partners LLC	232	13,824	0.02	0.01	0.01	138	138
Morgan Stanley & Co. Inc.	2	61	0.03	0.01	0.02	1	1
Raymond James and Associates Inc.	30	1,415	0.02	0.01	0.01	14	14
Roberts & Ryan Inv.	94	4,684	0.02	0.01	0.01	47	47
Wayne & Company	315	93,341	-	0.01	-	467	-
Glen Eagle Wealth	21	2,080	0.01	0.01	-	21	-
Total	\$ 1,513	199,550	\$ 0.01 ²	\$ 0.01	\$ 0.01	\$ 1,309	\$ 328

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

² The average commission per share for all brokerage firms.

INVESTMENT SECTION

INVESTMENT SUMMARY

Fiscal Year Ended September 30, 2022

	<u>Market Value</u> ¹	<u>Percent of Market Value</u>	<u>Investment & Interest Income</u> ²	<u>Percent of Total Investment & Interest Income</u>
Fixed Income Pools	\$ 5,584,527	9.1 %	\$ (798,819)	28.7 %
Domestic Equity Pools	10,985,096	17.9	(3,019,625)	108.7
Real Estate and Infrastructure Pools	6,577,280	10.7	1,326,738	(47.7)
Private Equity Pools	15,570,578	25.4	1,509,330	(54.3)
International Equity Pools	7,440,437	12.2	(2,910,392)	104.7
Absolute Return Pools	6,132,882	10.0	156,031	(5.6)
Real Return and Opportunistic Pools	7,196,351	11.8	952,087	(34.3)
Short Term Investment Pools ³	<u>1,797,805</u>	<u>2.9</u>	<u>5,784</u>	<u>(0.2)</u>
Total	<u>\$ 61,284,956</u>	<u>100.0 %</u>	<u>\$ (2,778,866)</u>	<u>100.0 %</u>

¹ Fair value excludes \$2,191,088 in securities lending collateral for fiscal year 2022.

² Total Investment & Interest Income excludes net security lending income of \$9,255 for securities lending collateral.

³ Short term investment pools fair value includes \$1,182,658 of equity in common cash.

INVESTMENT SECTION

INVESTMENT SUMMARY

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ACTUARIAL SECTION

Actuary's Certification
Summary of Actuarial Assumptions and Methods
Actuarial Valuation Data
Prioritized Solvency Test
Analysis of System Experience
Summary of Plan Provisions
Schedule of Funding Progress

ACTUARIAL SECTION

ACTUARY'S CERTIFICATION



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October 21, 2022

Ms. Michelle Lange, Acting Director
Department of Technology, Management and Budget
and
The State of Michigan Retirement Board
P.O. Box 30171
Lansing, Michigan 48909

Ladies and Gentlemen:

The basic financial objective of the Military Retirement Provisions (MRP) is to establish and receive contributions which when combined with present assets and future investment return will be sufficient to meet the financial obligations of the plan to present and future benefit recipients. The progress towards meeting these financial objectives is illustrated in the Schedule of Funding Progress and the Schedule of Employer Contributions.

We performed an actuarial funding valuation and issued an actuarial funding report for the MRP as of September 30, 2021. The purpose of the September 30, 2021 annual actuarial valuation was to determine the contribution requirements for the fiscal year ending September 30, 2024, to measure the plan's funding progress, and to provide actuarial information in connection with applicable Governmental Accounting Standards Board statements. The valuation should not be relied upon for any other purpose. The valuation process develops employer contributions that are sufficient to fund the plan's normal cost (i.e., the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund any unfunded accrued liabilities over a reasonable period. The valuation was completed based upon population data, asset data and plan provisions in effect on September 30, 2021.

In addition to the funding valuation report, separate reports are issued to provide financial reporting information for the MRP in accordance with Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. Reports containing the actuarial results of the financial reporting valuation are produced annually after the publication of this letter. The GASB Statement Nos. 67 and 68 financial reporting valuations are based upon a measurement date of September 30, 2022.

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

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ACTUARIAL SECTION

ACTUARY'S CERTIFICATION

Ms. Michelle Lange
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Page 2

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

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

Financial Section

- Note 1 - Table of Plan's Membership
- Note 4 – Net Pension Liability; Summary of Actuarial Assumptions and Methods
- Note A – Methods and Assumptions Used to Determine Contributions for FY 2022
- Schedules of Changes in the Net Pension Liability (NPL) and Related Ratios
- Schedules of Contributions Multiyear
- Sensitivity of the NPL to Changes in the Discount Rate

Actuarial Section

- Summary of Actuarial Assumptions and Methods used in the September 30, 2021 Pension Funding Valuation
- Percent of Eligible Active Members Retiring Within Next Year
- Separation from Active Employment Before Age and Service Retirement and Individual Pay Increase Assumptions
- Schedule of Active Member Pension Valuation Data
- Schedule of Changes in the Retirement Rolls
- Prioritized Solvency Test
- Analyses of Plan Experience
- Schedule of Funding Progress

Statistical Section

- Schedules of Average Benefit Payments – Pension



ACTUARIAL SECTION

ACTUARY'S CERTIFICATION

Ms. Michelle Lange
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Page 3

The September 30, 2021 funding valuation and the September 30, 2022 financial reporting valuations were based upon assumptions that were recommended in connection with a study of plan's experience covering the period from October 1, 2015 through September 30, 2017. The investment return assumption was updated beginning with the September 30, 2011 funding valuation in accordance with the Dedicated Gains Policy. Future actuarial measurements may differ significantly from those presented in the annual valuations due to such factors as experience differing from that anticipated by actuarial assumptions, or changes in plan provisions, actuarial assumption/methods or applicable law. Due to the limited scope of the assignment, we did not perform an analysis of the potential range of future measurements.

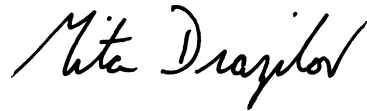
The signing actuaries are independent of the plan sponsor.

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

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Louise M. Gates, ASA, FCA, MAAA



Mita D. Drazilov, ASA, FCA, MAAA



ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

1. The investment return rate used in the valuations was 6.00% per year net of investment expenses, compounded annually. This rate of return is not the assumed real rate of return. Considering a wage inflation assumption of 2.75%, this 6.00% investment return rate translates to an assumed long-term real rate of return 3.25%. Adopted 2021.
2. The healthy life mortality table used in evaluating allowances to be paid was the RP-2014 Male and Female Healthy Mortality Tables scaled by 93% for males and 99% for females and adjusted for mortality improvements using projection scale MP-2017 from 2006. Adopted 2018.
3. Sample probabilities of retirement with an age and service allowance are shown in Schedule 1 on the next page.
4. Sample probabilities of withdrawal from service assumptions, are shown in Schedule 2 on the next page.
5. Total active (Special Duty Officer) member payroll is assumed to increase 2.75% per year. This represents the portion of the individual pay increase assumptions. In effect, this assumes no change in the number of active Special Duty Officer members.
6. An individual entry age actuarial cost method of valuation was used in determining actuarial liabilities and normal cost. Unfunded actuarial accrued liabilities, including actuarial gains and losses, were financed over a declining 15-year period ending September 30, 2038.
7. For investment gains and losses that occur, a 5-year smoothing technique was used. Specifically, the excess (shortfall) of actual investment income (including interest, dividends, realized and unrealized gains or losses) over the imputed income at the valuation interest rate is considered the gain (loss), which is spread over five years. Adopted beginning with the 2016 valuation.
8. The data about persons now covered and about present assets was furnished by the plan's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.
9. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). The assumptions used in the actuarial valuations were adopted by the plan's Board and the Department of Technology, Management & Budget after consulting with the actuary.
10. An experience investigation covering the period from October 1, 2015 through September 30, 2017 was completed in 2018. The purpose of the study was to analyze the actual experience of the Provisions versus that anticipated by actuarial assumptions then in use.
11. Gabriel Roeder Smith and Co. was awarded the actuarial and consulting services contract beginning October 4, 2006.

ACTUARIAL SECTION

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

SCHEDULE 1

PERCENT OF ELIGIBLE ACTIVE MEMBERS RETIRING WITHIN NEXT YEAR

Age	% Retiring Non-Special Duty	% Retiring Special Duty
55	33%	10%
56	33	10
57	33	10
58	33	10
59	33	10
60 and over	100	100

SCHEDULE 2

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

Sample Ages	Completed Years of Service	Percent Separating within Next Year	
		Non- Special Duty	Special Duty*
All	0	25.0%	N/A
	1	20.0	N/A
	2	18.0	N/A
	3	16.0	N/A
	4	15.5	N/A
25	5 & Over	15.4	7.0%
30		14.4	7.0
35		13.4	7.0
40		10.6	7.0
45		8.4	4.5
50		7.4	2.0
55		6.4	2.0

* The rate of pay increase is assumed to be 2.75% per year for Special Duty Officers.

ACTUARIAL SECTION

ACTUARIAL VALUATION DATA

SCHEDULE OF ACTIVE MEMBER PENSION VALUATION DATA

Valuation Date Sept. 30 ²	Number	Reported Annual Payroll ¹	Average Annual Pay ¹	Increase (Decrease)	Average Age	Average Service
2016	10,144	\$ 465,680	\$ 155,227	3.9%	31.5	7.1
2017	10,394	493,395	164,465	6.0	31.4	7.1
2018	10,554	348,259	174,130	5.9	31.4	7.3
2019	10,682	493,005	164,335	(5.6)	31.2	7.4
2020	10,919	509,540	169,847	3.4	31.1	7.4
2021	11,809	524,953	174,984	3.0	31.1	7.5

¹ Includes only special duty officers' payroll.

² This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

SCHEDULE OF CHANGES IN RETIREMENT ROLLS

Year Ended Sept. 30 ¹	Added to Rolls		Removed from Rolls		Rolls - End of Year		Increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances		
2016	177	\$ 118,680	100	\$ 93,168	4,325	\$ 3,912,600	0.7%	\$ 905
2017	183	161,481	146	141,031	4,362	3,933,051	0.5	902
2018	187	126,130	94	273,043	4,455	3,786,139	(3.7)	850
2019	188	295,682	114	125,560	4,529	3,956,261	4.5	874
2020	168	190,272	150	134,232	4,547	4,012,300	1.4	882
2021	163	106,643	143	174,733	4,567	3,944,210	(1.7)	864

¹ This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

ACTUARIAL SECTION

PRIORITIZED SOLVENCY TEST

MMRP funding objective is to meet long-term benefit promises through contributions that remain approximately level from year to year. The contributions are level in dollar amounts for Non-Special Duty participants and as a percent of payroll for Special Duty Officers. If the contributions to MMRP are level in concept and soundly executed, MMRP will pay all promised benefits when due, the ultimate test of financial soundness. Testing for level contributions is the long-term solvency test.

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

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

PENSION BENEFITS

(in thousands)

Valuation Date	Actuarial Accrued Liability (AAL)			Valuation Assets	Portion of AAL Covered by Assets				
	(1)	(2)	(3)		Valuation Assets	(1)	(2)	(3)	(4) ²
	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)						
Sept. 30 ³									
2016	\$ -	\$ 38,889,306	\$ 8,270,646	\$ 3,696,232	- %	9.5	- %	7.8%	
2016 ¹	-	40,483,759	9,191,169	3,696,232	-	9.0	-	7.4	
2017	-	40,022,670	9,927,450	4,602,232	-	11.5	-	9.2	
2018	-	37,585,252	11,294,179	17,213,520	-	45.8	-	35.2	
2018 ¹	-	39,697,297	17,104,389	17,213,520	-	43.4	-	30.3	
2019	-	41,512,403	18,873,803	56,518,623	-	100.0	80.0	93.6	
2020	-	42,349,013	18,181,447	56,824,590	-	100.0	80.0	93.9	
2020 ¹	-	42,349,013	16,871,386	56,824,590	-	100.0	86.0	96.0	
2021	-	41,555,574	17,288,981	59,043,302	-	100.0	101.1	100.3	
2021 ¹	-	44,258,347	19,636,922	63,156,676	-	100.0	96.2	98.8	

¹ Revised actuarial assumption and/or methods.

² Percent funded on a total valuation asset and total actuarial accrued liability basis.

³ This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

ACTUARIAL SECTION

PRIORITIZED SOLVENCY TEST

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ACTUARIAL SECTION

ANALYSIS OF SYSTEM EXPERIENCE

GAINS/(LOSSES) IN ACCRUED LIABILITIES

During Year Ended September 30, 2021
Resulting from Differences Between Assumed Experience & Actual Experience

<u>Type of Activity</u>	<u>Gain/(Loss)</u>
1. Demographic. Includes retirement, withdrawal and death.	\$ 951,691
2. Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	6,189,345
3. Composite Gain (or Loss) During Year.	<u>\$ 7,141,036</u>

ACTUARIAL SECTION

SUMMARY OF PLAN PROVISIONS

Our actuarial valuation of the Military Retirement Provisions is based on our understanding of the present provisions of Public Act 150 of 1967.

RETIREMENT BENEFITS

Eligibility

- Age 60 with at least 20 years of service for members who began active service before June 30, 1967.
- Age 62 with at least 20 years of active service.
- Age 55 with at least 20 years of service and one or more of the following:
 - a. Ineligibility and termination of the person's commission or enlistment.
 - b. Physical disqualification from service.
 - c. Separation from the National Guard under an honorable circumstance.
- Age 55 with at least 20 years of service for Special Duty officers (the Adjutant General and any assistant Adjutant General). To be eligible, the Adjutant General or Assistant Adjutant General must serve at least four consecutive years of special duty as the Adjutant General or Assistant Adjutant General. This requirement is waived if the service member is relieved due to a new governor assuming office.
- Officers, Warrant Officers, and Enlisted personnel **must** retire upon reaching the age of 62 (assuming they have at least 20 years of service).

Annual Amount

Members on special duty receive an annual benefit of 45% of final compensation. Non-special duty members received \$600 per annum. The benefit is payable for life.

VESTING

Inactive members with 20 or more years of service are entitled to a benefit upon reaching age 55.

SURVIVOR BENEFITS

The surviving spouse of a deceased National Guard member receives \$500 per annum if the former member died while in active service, or had at least 20 years of active service and who, at the time of death, met one of the three additional requirements:

- (1) Honorable discharge,
- (2) Termination due to disability, or
- (3) Reaching the Federal limit for age or length of service

The spouse of the Adjutant General or Assistant Adjutant General who dies prior to retirement but after earning 15 years of active service shall be paid a lifetime monthly benefit equal to 67% of the retired pay to which the member would have been authorized had the member retired on the day before death. The spouse of the Adjutant General or Assistant Adjutant General who dies after retirement shall be paid a lifetime monthly benefit equal to 50% of the retired pay.

POST-RETIREMENT COST-OF-LIVING ADJUSTMENTS

Retired special duty members who retired before December 18, 2018, and their survivors, receive annual benefit adjustments equal to the percentage by which federal military service benefits are increased.

ACTUARIAL SECTION

SCHEDULE OF FUNDING PROGRESS

PENSION BENEFITS

(in thousands)

Valuation Date Sept 30 ²	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio (a/b)
2016	\$ 3,696	\$ 47,160	\$ 43,464	7.8%
2016 ¹	3,696	49,675	45,979	7.4
2017	4,602	49,950	45,348	9.2
2018	17,214	48,879	31,665	35.2
2018 ¹	17,214	56,802	39,588	30.3
2019	56,519	60,386	3,867	93.6
2020	56,825	60,530	3,705	93.9
2020 ¹	56,825	59,220	2,395	96.0
2021	59,043	58,845	(198)	100.3
2021 ¹	63,157	63,895	738	98.8

¹ Revised actuarial assumption.

² This schedule is presented to illustrate each of the ten most recent years. The ten-year data will be provided when information becomes available.

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

Contents
Schedule of Additions by Source
Schedule of Deductions by Type
Schedule of Changes in Fiduciary Net Position
Schedule of Benefits and Refunds by Type
Schedule of Average Benefit Payments
History of Membership

STATISTICAL SECTION

CONTENTS

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

FINANCIAL TRENDS

These schedules contain trend information to help the reader understand how MMRP's financial performance and fiscal health has changed over time. Schedules included are:

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

OPERATING INFORMATION

These schedules contain contextual information to assist the reader's understanding of how MMRP's financial information relates to the combination of participating members and the benefits it provides. Schedules included are:

- Schedule of Average Benefit Payments
- History of Membership

STATISTICAL SECTION

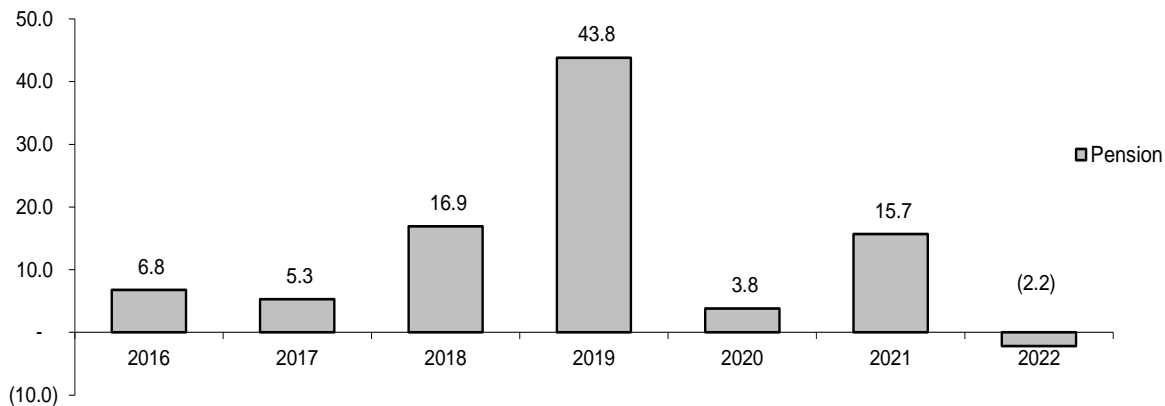
SCHEDULE OF ADDITIONS BY SOURCE

Fiscal Year Ended Sept. 30 ¹	Employer Contributions	Net Investment & Other Income (Loss)	Total
2016	\$ 6,790,331	\$ 11,770	\$ 6,802,100
2017	5,244,800	84,556	5,329,356
2018	16,244,800	691,640	16,936,440
2019	41,044,800	2,711,414	43,756,214
2020	1,000,000	2,805,718	3,805,718
2021	657,103	15,012,439	15,669,542
2022	875,000	(3,036,377)	(2,161,377)

TOTAL ADDITIONS

Year Ended September 30

(in millions)



¹ This schedule is required to show information for ten years; additional years will be displayed as they become available.

STATISTICAL SECTION

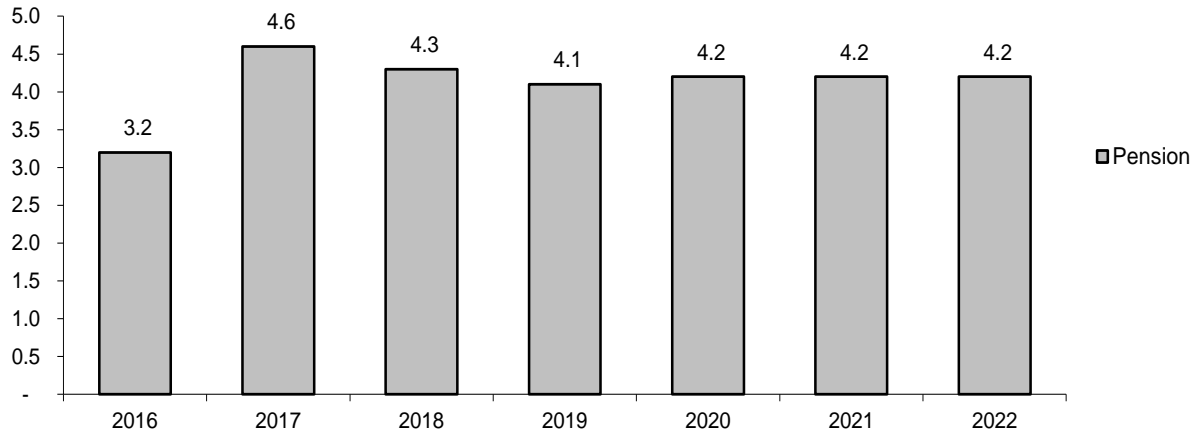
SCHEDULE OF DEDUCTIONS BY TYPE

Fiscal Year Ended Sept. 30 ¹	Benefit Payments	Administrative and Other Expenses	Total
2016	\$ 2,960,944	\$ 250,047	\$ 3,210,991
2017	4,089,801	481,605	4,571,406
2018	3,939,098	396,294	4,335,392
2019	3,895,264	223,363	4,118,627
2020	3,989,252	203,045	4,192,297
2021	4,029,430	200,485	4,229,914
2022	3,954,323	242,619	4,196,942

TOTAL DEDUCTIONS

Year Ended September 30

(in millions)



¹ This schedule is required to show information for ten years; additional years will be displayed as they become available.

STATISTICAL SECTION

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION – PENSION PLAN ¹

(in thousands)

	Fiscal Year						
	2022	2021	2020	2019	2018	2017	2016
Employer contributions	\$ 875	\$ 657	\$ 1,000	\$ 41,045	\$ 16,245	\$ 5,245	\$ 6,790
Net investment income	(3,036)	15,012	2,805	2,711	569	77,798	11
Miscellaneous income	-	-	1	1	123	7	1
Total Additions	<u>(2,161)</u>	<u>15,670</u>	<u>3,806</u>	<u>43,756</u>	<u>16,936</u>	<u>5,329</u>	<u>6,802</u>
Pension benefits	3,954	4,029	3,989	3,895	3,939	4,090	2,961
Administrative and Other Expenses	243	200	203	223	396	482	250
Total Deductions	<u>4,197</u>	<u>4,230</u>	<u>4,192</u>	<u>4,119</u>	<u>4,335</u>	<u>4,571</u>	<u>3,211</u>
Changes in net position	<u>\$ (6,358)</u>	<u>\$ 11,440</u>	<u>\$ (387)</u>	<u>\$ 39,638</u>	<u>\$ 12,601</u>	<u>\$ 758</u>	<u>\$ 3,591</u>

¹ Additional years will be displayed as soon as they become available.

STATISTICAL SECTION

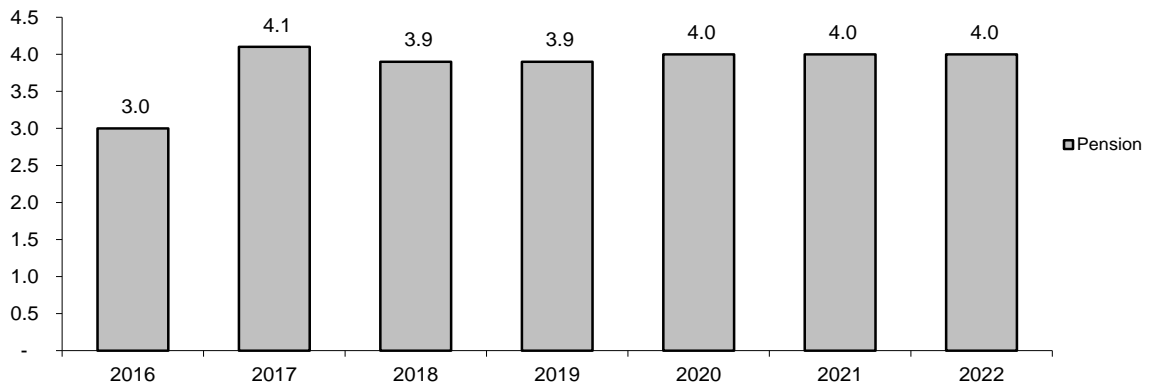
SCHEDULE OF BENEFITS AND REFUNDS BY TYPE

SCHEDULE OF PENSION BENEFITS AND REFUNDS BY TYPE

Fiscal Year Ended Sept. 30 ¹	Regular Benefits	Survivor Benefits	Refunds		Total
			Employee Contribution	Retired Benefits	
2016	\$ 2,613,078	\$ 347,866	\$ -	\$ -	\$ 2,960,944
2017	3,475,981	613,821	-	-	4,091,819
2018	3,413,136	523,417	-	2,545	3,939,098
2019	3,409,812	485,452	-	-	3,895,264
2020	3,523,557	465,695	-	-	3,989,252
2021	3,557,944	471,485	-	-	4,029,430
2022	3,521,183	433,140	-	-	3,954,324

TOTAL BENEFIT DEDUCTIONS

Year Ended September 30
(in millions)



¹ This schedule is required to show information for ten years; additional years will be displayed as they become available.

STATISTICAL SECTION

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

SCHEDULE OF AVERAGE BENEFIT PAYMENTS - PENSION

Payment Periods ¹	Credited Service (Years) as of September 30					Total
	less than 15	15-20	20-25	25-30	30+	
Period 10/1/16 to 9/30/17:						
Average Monthly Benefit	\$ 49	\$ 49	\$ 52	\$ 71	\$ 146	\$ 75
Number of Retirants	18	36	2,529	887	892	4,362
Period 10/1/17 to 9/30/18:						
Average Monthly Benefit	\$ -	\$ 49	\$ 52	\$ 69	\$ 127	\$ 71
Number of Retirants	-	38	2,595	914	908	4,455
Period 10/1/18 to 9/30/19:						
Average Monthly Benefit	\$ -	\$ 49	\$ 52	\$ 69	\$ 136	\$ 73
Number of Retirants	-	41	2,628	932	928	4,529
Period 10/1/19 to 9/30/20:						
Average Monthly Benefit	\$ 50	\$ 49	\$ 52	\$ 69	\$ 140	\$ 73
Number of Retirants	18	45	2,617	943	924	4,547
Period 10/1/20 to 9/30/21:						
Average Monthly Benefit	\$ -	\$ 49	\$ 52	\$ 69	\$ 132	\$ 72
Number of Retirants	-	46	2,640	954	927	4,567

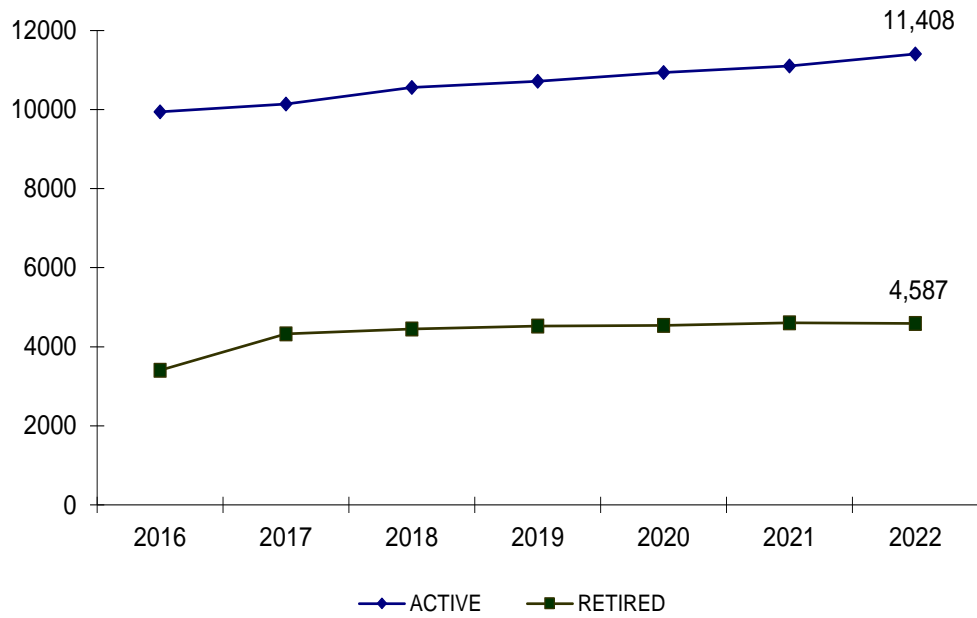
¹ This schedule is required to show information for ten years; additional years will be displayed as they become available.

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

HISTORY OF MEMBERSHIP

Fiscal Year Ended September 30 ¹



¹ This schedule is required to show information for ten years; additional years will be displayed as they become available.

Source: Gabriel Roeder Smith & Co.

ACKNOWLEDGMENTS

ACKNOWLEDGMENTS

The *Michigan Military Retirement Provisions Annual Comprehensive Financial Report* is prepared by Financial Services, Fiscal Management Division. Staff of the division for the fiscal year 2022 report included:

Management:

Jacqueline Huhn, Director
Aver Hamilton, Accounting Manager
Paula Webb, Accounting Manager

Accountants:

Dan Harry
Rick Legal
Hope Richardson
Carol Wheaton
Mariana Youssef

Technical and Support Staff:

Jamin Schroeder
Cari Beach

Special thanks are also extended to the Office of Retirement Services personnel, accounting and support personnel throughout Financial Services, Treasury's Bureau of Investments, Department of Health and Human Services cashiering personnel, Office of the Auditor General, Gabriel Roeder Smith & Co., and the staff at the Office of Financial Management. Preparation of this report would not have been possible without the efforts of these individuals.

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