Michigan Legislative Retirement System

Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2019

M L R S

A Pension and Other Postemployment Trust Fund of the State of Michigan

Prepared by:
Michigan Legislative Retirement System
Anderson House Office Building, Suite S0927
P.O. Box 30014
Lansing, Michigan 48909
(517) 373-0575

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Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Michigan Legislative Retirement System

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

September 30, 2018

Christopher P. Morrill

Executive Director/CEO

Letter of Transmittal

CHRISTINE HAMMOND
DIRECTOR

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STATE OF MICHIGAN
LEGISLATIVE RETIREMENT SYSTEM
P.O. BOX 30014
LANSING, MICHIGAN
48909-7514

December 27, 2019

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 comprehensive annual report of the Michigan Legislative Retirement System (MLRS or System) for fiscal year 2019.

INTRODUCTION TO REPORT

The System was established by legislation under Public Act 261 of 1957. Information regarding the background and description of the System is presented in Note 1 in the financial section of this report. The purpose of the System is to provide benefits for eligible current and former state legislators. The services provided by the staff are performed to facilitate the payment of benefits to members.

Responsibility

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

Management's Discussion and Analysis (MD&A)

Generally Accepted Accounting Principles (GAAP) requires that management provide an overview and analysis of the System's financial statements, which is called the MD&A. This letter of transmittal should be read in conjunction with the MD&A. The MD&A is found in the beginning of the financial section of this report.

Letter of Transmittal (Continued)

FINANCIAL INFORMATION

Internal Control

The management of the System is responsible for maintaining a system of adequate internal accounting control designed to: (1) provide reasonable assurance that transactions are executed in accordance with management's general or specific authorization; (2) record transactions necessary to maintain accountability for assets; and (3) permit preparation of financial statements in accordance with generally accepted accounting principles in the United States of America. The internal control process 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.

INVESTMENT

The System Board of Trustees is the investment fiduciary for the System, and pursuant to state law, the state treasurer is the custodian of all investments of the System. The System's overall investment objective is to obtain a competitive total rate of return on investments commensurate with Act No. 314 of the Michigan Public Acts of 1965, as amended (MCL §38.1132 et seq., which is the Michigan statute governing the investments of public pension funds), the System's risk-taking ability, and the responsibilities of the System to provide retirement benefits for its members, retirees, and their beneficiaries. In absolute terms, this return objective should approximate the System's actuarial assumed rate of return, which is currently 7%. The investment activity for the year produced a total rate of return on the portfolio of 2.8%. A summary of asset allocation and investment portfolio information can be found in the investment section of this report.

FUNDING

Funds are derived from the excess of additions, which include contributions and investment earnings, over deductions that are comprised of benefits and administrative expenses. Funds are accumulated to meet future benefit obligations to retirees and beneficiaries. This accumulated balance is referred to as the "net position restricted for pension benefits and OPEB" in the Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position in the Financial Section of the report.

Pension Plan

The total pension liability is not reported in the basic financial statements, but is disclosed in Note 4 to the basic financial statements and in the required supplementary information. The total pension liability is determined by the actuary and is a measure of the present value of actuarial accrued liabilities estimated to be payable in the future to current retirees, beneficiaries, and employees for service earned to date. The net pension liability is measured as the total pension liability less the amount of the pension plan's fiduciary net position. As of September 30, 2019, total pension liability was $267.9 million, and plan fiduciary net position was $122.3 million. Resulting in a net pension liability of $145.6 million.

Other Postemployment Benefits Plan (OPEB)

The total OPEB liability is not reported in the basic financial statements, but is disclosed in Note 5 to the basic financial statements and in the required supplementary information. The total OPEB liability is determined by the actuary and is a measure of the present value of actuarial accrued liabilities estimated to be payable in the future to current retirees, beneficiaries, and employees for service earned to date. The net OPEB liability is measured as the total OPEB liability less the amount of the OPEB plan's fiduciary net position. As of September 30, 2019, total OPEB liability was $169.8 million, and plan fiduciary net position was $29.8 million. Resulting in a net OPEB liability of $140.1 million.

Letter of Transmittal (Continued)

PROFESSIONAL SERVICES

Audit Services

The Office of the Auditor General (OAG), independent auditors, conducts audits of the System. The independent auditor's report on the System's financial statements is included in the financial section of this report. The financial statements of the System are audited by the Auditor General as part of his constitutional responsibility.

Actuarial Services

Statute requires an annual actuarial valuation be conducted for the pension benefits. The purpose of the valuation is to evaluate the mortality, service, compensation, and other financial experience of the System and to recommend funding rates. This annual actuarial valuation was completed for the fiscal year ended September 30, 2018. Actuarial certification and supporting statistics are included in the actuarial section of this report.

Financial Services

The Board of Trustees for the System retains thirteen (13) investment managers and a financial consultant to assist the board in its statutory responsibility to invest the System's funds. These advisors are identified in the introductory section of this report. By statute, the State Treasurer acts as the custodian for the System. Investment information is included in the investment section of this report.

HONORS

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Michigan Legislative Retirement System for its comprehensive annual financial report for the fiscal year ended September 30, 2018. This was the 5th consecutive year that the LRS has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

ACKNOWLEDGEMENTS

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

We would like to express our appreciation for the assistance given by staff, the advisors, and other persons who contributed to the preparation of this report. We believe their combined efforts have produced a report that will enable the System Board of Trustees, plan members, and other interested parties to evaluate and understand the Michigan Legislative Retirement System.

Sincerely,

Christine Hammond, Director
Michigan Legislative Retirement System

INTRODUCTORY SECTION

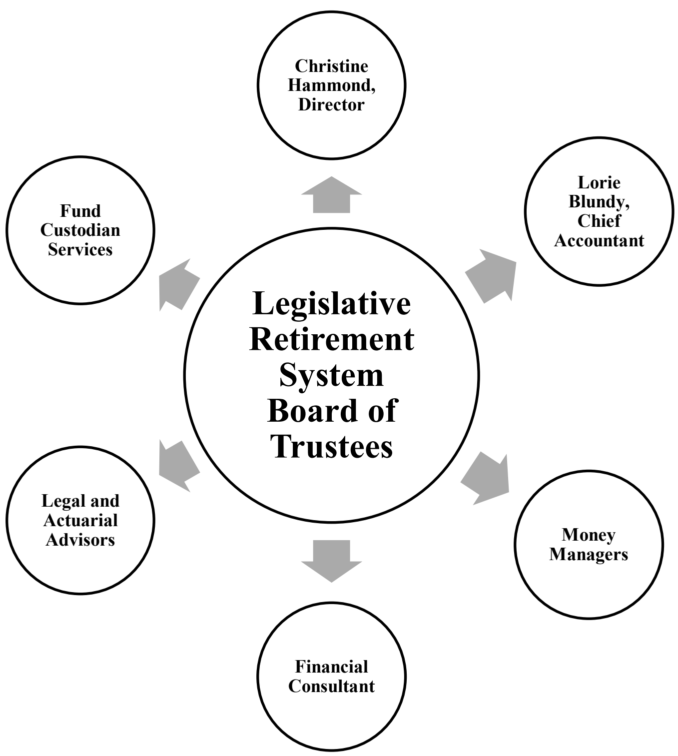
Administrative Organization

Retirement Board of Trustees Members
As of September 30, 2019

Administrative Organization

Anderson House Office Building
P.O. Box 30014
Lansing, Michigan 48909
(517) 373-0575
(877) 577-5628 toll-free

Organization Chart



Administrative Organization (Continued)

Investment Advisors*

As of September 30, 2019

The American Fund Group
Capital Research and Management
EuroPacific Growth Fund
Los Angeles, CA

Barrow Hanley Mewhinney & Strauss, Inc.
Dallas, TX

Cramer Rosenthal McGlynn, LLC
New York, NY

Dimensional Fund Advisors
Austin, TX

Dodge & Cox Funds
Kansas City, MO

DoubleLine Funds Trust
Los Angeles, CA

Fidelity Investments
Boston, MA

Ironwood Capital Management
San Franciso, CA

PIMCO
Newport Beach, CA

Rice Hall James and Associates, LLC
San Diego, CA

RWC Emerging Markets
Miami, FL

Tortoise
Leawood, KS

Wellington Management Co., LLP
Boston, MA

*The investments of the System are managed by the Investment Advisors, in accordance with Board directive, and applicable law.
The investment category and rate of return for the advisors can be found in the Investment Section, Schedule of Investment Results on page 53.
Investments fees of the advisors can be found in the Investment Section, Schedule of Investment Fees on page 55.

Advisors and Consultants

As of September 30, 2019

Actuary
Gabriel Roeder Smith & Company
Francois Peterse and Mark Buis
Southfield, MI

Financial Consultant
Fund Evaluation Group
Robert P. Van Den Brink
Cincinnati, OH

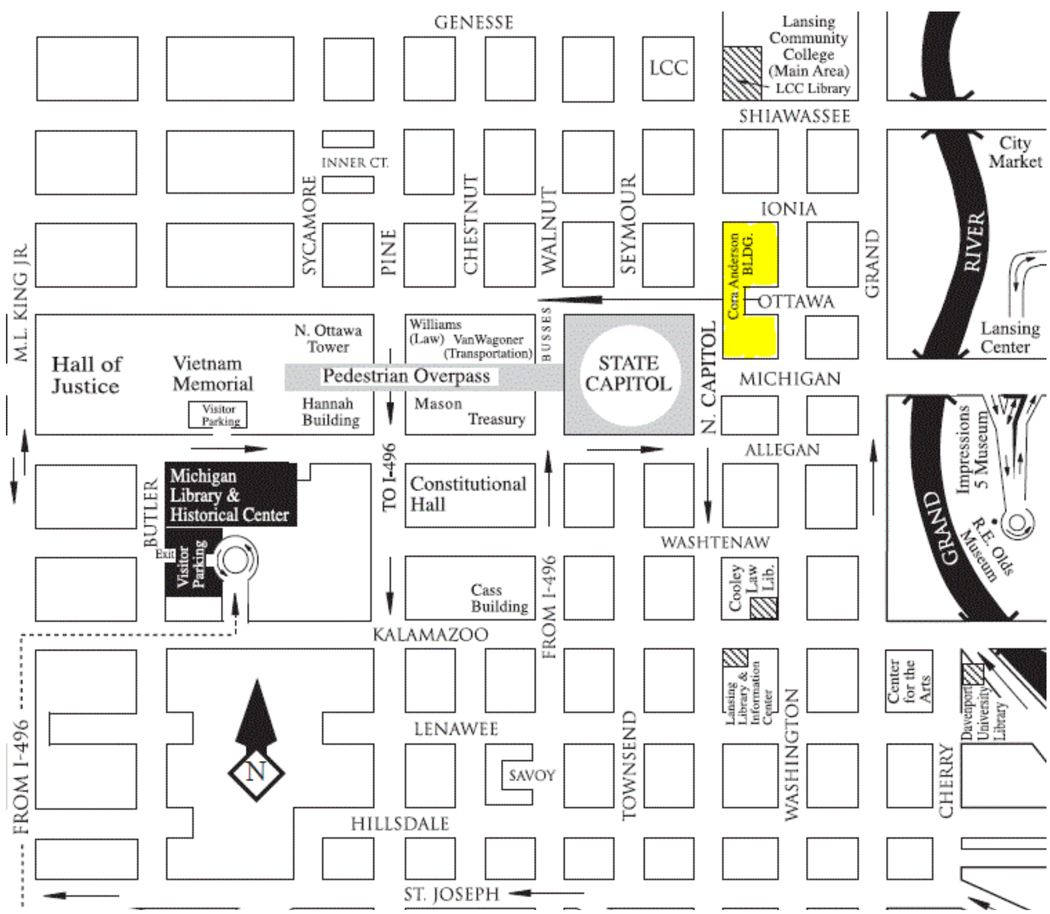
Independent Auditors
Doug A. Ringler, C.P.A., C.I.A
Auditor General
State of Michigan

Custodian
Rachael Eubanks
State Treasurer
State of Michigan

Legal Advisor
Dana Nessel
Attorney General
State of Michigan

Administrative Organization (Continued)

Office Location:
Michigan Legislative Retirement System
Cora Anderson House Office Building
124 N. Capitol Avenue, Suite S0927
Lansing, MI 48933



Michigan Legislative Retirement System

Comprehensive Annual Financial Report
for the Fiscal Year Ended September 30, 2019

FINANCIAL SECTION

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

OAG
Office of the Auditor General
Doug A. Ringler, CPA, CIA
Auditor General
201 N. Washington Square, Sixth Floor • Lansing, Michigan 48913 • Phone: (517) 334-8050 • audgen.michigan.gov

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

The Honorable R. Robert Geake, Chair
Board of Trustees
and
Ms. Christine I. Hammond, Director
Michigan Legislative Retirement System

Dear Mr. Geake and Ms. Hammond:

Report on the Financial Statements
We have audited the accompanying financial statements of the Michigan Legislative Retirement System as of and for the fiscal year ended September 30, 2019 and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

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

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

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

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

Opinion
In our opinion, the financial statements referred to in the first paragraph present fairly, in all material respects, the fiduciary net position of the Michigan Legislative Retirement System as of September 30, 2019 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.

OAG
Office of the Auditor General

Doug A. Ringler, CPA, CIA
Auditor General

The Honorable R. Robert Geake, Chair
Ms. Christine I. Hammond, Director
Page 2

Other Matters

Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in net pension liability, schedule of changes in net OPEB liability, schedules of contributions, schedules of investment returns, and related note, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, 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.

Other Information
Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The supporting schedules and the introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supporting schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

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

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

Sincerely,

Doug Ringler

Doug Ringler
Auditor General
December 27, 2019

Management's Discussion and Analysis

The management's discussion and analysis (MD&A) of the System provides an overview of the financial activities and performance for the fiscal years ended September 30, 2019 and 2018. This should be read in conjunction with the financial statements and required supplemental information (RSI), which provides information for September 30, 2019.

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

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

The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position, presents all of the System's assets and liabilities, with the difference between the two reported as net position. Over time, increases and decreases in net position measure whether the System's financial position is improving or deteriorating. The Statement Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position, presents how the System's net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Schedule of Net Pension Liability (page 40), Schedule of Net OPEB Liability (page 42) and Schedules of Contributions (page 43) to determine whether the System is becoming financially stronger or weaker and to understand changes over time in the funded status of the System.

FINANCIAL ANALYSIS

The Statement of Pension Plan and Other Postemployment Benefit Plan Net Position, presents information on the System's assets and liabilities using the accrual basis of accounting. Over time, increases or decreases in net position may serve as a useful indicator of the System's financial strength or weakness. System's net position, for the fiscal year ending September 30, 2019, **increased** by $1.7 million or 1.1%, due to an increase in the market value of the System's investments.

Plan Fiduciary Net Position
As of September 30
($ in thousands)

	2019	2018	Increase (Decrease)
Assets:			
Equity in common cash	$ 1,345	$ 1,932	(30.4) %
Receivables	245	387	(36.7)
Investments	150,693	148,512	1.5
Total assets	152,282	150,831	1.0
Liabilities:			
Accounts payable	201	454	(55.7)
Total liabilities	201	454	(55.7)
Total net position	$ 152,081	$ 150,377	1.1 %

Management's Discussion and Analysis (Continued)

ADDITIONS TO NET POSITION

The reserves needed to finance benefits provided by the System are accumulated through the collection of court fees, member and other contributions, State appropriations and through earnings on investments. Contributions and investment income/loss for fiscal year 2019 totaled $22.5 million. Total Additions to Net Position **increased** in fiscal year 2019 by 42.1% from the prior year, primarily due to additional appropriation from the prior year.

DEDUCTIONS FROM NET POSITION

The primary deductions of the System include the payment of pension and life insurance benefits to members and beneficiaries, the payments for health, dental, and vision benefits, the refund or transfer of contributions to former members, and the cost of administering the System. Total expenses for fiscal year 2019 were $20.8 million, a **decrease** of 4.2% over 2018 expenses, primarily due to decreased healthcare costs.

Changes in Plan Fiduciary Net Position
For Fiscal Year Ended September 30
($ in thousands)

	2019	2018	Increase (Decrease)
Additions			
Member contributions	$ 4	$ 7	(43.9)%
Employer contributions	17,508	4,928	255.3
Net Investment income/(loss)	3,946	10,203	(61.3)
Miscellaneous income	1,026	683	50.1
Total additions	22,484	15,822	42.1
Deductions			
Pension benefits	14,009	13,855	1.1
Health care benefits	6,164	6,695	(7.9)
Death benefits/life ins.	121	633	(80.8)
Refunds/qual. rollover	-	34	(100.0)
Administrative exp.	486	473	2.7
Total deductions	20,780	21,689	(4.2)
Net increase (decrease)	1,704	(5,868)	(129.0)
Net position - Beginning of year	150,377	156,244	(3.8)
Net position - End of year	$ 152,081	$ 150,377	1.1 %

Management's Discussion and Analysis (Continued)

Overall Financial Analysis

In accordance with its enabling statute, the MLRS Board of Trustees has fiduciary responsibility for the management of the system's funds, and it oversees its carefully structured and carefully monitored investment program to meet the system's financial goals, established through its Investment Policy Statement.

The Board seeks to achieve an optimal rate of return balanced with prudent levels of risk, to preserve capital and avoid large losses, to meet or exceed the system's 7% rate of return actuarial assumption over the long-term, to ensure that the portfolio investment managers meet or exceed their benchmarks over the long-term, and to ensure that the portfolio is invested in a cost-effective manner.

The fundamental weakness since early 2018 that has plagued many of the U.S.'s primary trading partners bled further into domestic economic data throughout the fiscal year, with some measures pointing to the weakest U.S. manufacturing backdrop in a decade. This was partially counterbalanced by a historically strong labor market, including the lowest unemployment rate in 50 years. Importantly, both the Federal Reserve (Fed) and European Central Bank (ECB) took steps to ease monetary conditions during the fiscal year, including the first Fed rate cut since 2008 and the announcement of a new round of quantitative easing by the ECB.

Despite a more accommodative monetary backdrop in the U.S. and euro zone—including forward guidance pointing to a continuation of this recent shift in policy—global equity performance for the fiscal year was tepid, with modestly positive returns generated in U.S. large cap, which outperformed both international developed and emerging market equities. A fragile global trade environment, including continued tensions between the U.S. and China and weak global trade-related economic data, helped weigh on international equity performance during the last quarter and year-to-date (YTD) periods.

Stylistically, U.S. mid cap and small cap value relatively outperformed their growth counterparts, while U.S. large cap value slightly underperformed growth. Sharp performance reversals among styles, market capitalizations, and geographies occurred in the first half of September, driven by (temporary) positive U.S.-Chinese developments and a related spike in U.S. Treasury interest rates. These short-term trend reversals proved short-lived, however, and moderated through the end of the fiscal year.

As with past practice, the Trustees of LRS continued their ongoing due diligence reviews, meeting on a regular basis to discuss markets, managers and portfolio positioning. Rather than shun risk or even attempt to predict it, the Trustees continue to diversify the portfolio in a way that avoids excess concentration in a single risk. By doing so they recognize long-term tendencies can help raise the probability of investment success by taking a smoother path. The Trustees further recognize that near-term price action can and will occasionally become unexpectedly detached from fair value and that a commitment to diversification can help stabilize returns over both the short and the long-term.

Detailed information regarding the MLRS investment program and performance can be found in the Investment Section of this report (beginning on page 49).

Financial Questions or Requests

This financial report is designed to provide a general overview of the System's financial position. Requests for additional information or questions about this report should be addressed to: Michigan Legislative Retirement System, P.O. Box 30014, Lansing, MI 48909.

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Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position

As of September 30, 2019

	Pension Plan	OPEB Plan	Total
ASSETS			
Equity in common cash	$ 1,244,726	$ 99,950	$ 1,344,677
Receivables			
Due from federal agencies		214,558	214,558
Interest and dividends	30,320		30,320
Total receivables:	30,320	214,558	244,878
Investments			
Equities	34,477,462	8,395,938	42,873,400
Alternative investments	12,202,738	2,971,606	15,174,344
Mutual funds	74,502,172	18,142,740	92,644,911
Total investments:	121,182,372	29,510,284	150,692,655
Total assets:	122,457,418	29,824,792	152,282,210
LIABILITIES			
Accounts payable and other liabilities	154,280	17,200	171,480
Amount due to other funds	4,275		4,275
Unearned revenue		25,421	25,421
Total liabilities:	158,556	42,621	201,177
Net position restricted for pension benefits and OPEB	$ 122,298,862	$ 29,782,171	$ 152,081,033

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

Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position

For fiscal year ended September 30, 2019

	Pension Plan	OPEB Plan	Total
ADDITIONS			
Member contributions:			
Other member contributions	$ 2,445	$ 1,737	$ 4,182
Employer contributions	8,063,327	8,337,573	16,400,900
Court fees		753,798	753,798
Other governmental contributions		353,649	353,649
Total contributions:	8,065,772	9,446,757	17,512,529
Investment Income (Loss):			
Net increase (decrease) in fair value of investments	132,156	26,261	158,417
Interest, dividends and other	3,562,641	673,908	4,236,549
Total investment income (loss)	3,694,797	700,169	4,394,966
Less investment expenses	(374,872)	(74,492)	(449,364)
Net investment income (loss)	3,319,925	625,677	3,945,602
Miscellaneous income		1,025,684	1,025,684
Total additions:	11,385,697	11,098,118	22,483,815
DEDUCTIONS			
Benefits & refunds paid to plan members and beneficiaries:			
Retirement benefits	14,008,685		14,008,685
Health benefits		5,791,875	5,791,875
Dental benefits		371,898	371,898
Death benefits	121,280		121,280
Administrative expenses	405,319	80,543	485,861
Total deductions:	14,535,284	6,244,315	20,779,600
Net increase (decrease) in net position	(3,149,587)	4,853,802	1,704,216
Net position restricted for pension benefits and OPEB:			
Beginning of year	125,448,449	24,928,368	150,376,817
End of year	$ 122,298,862	$ 29,782,171	$ 152,081,033

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

Notes to Basic Financial Statements

NOTE 1 - PLAN DESCRIPTION

ORGANIZATION

The Michigan Legislative Retirement System (MLRS or System) is a single employer, public employee, defined benefit retirement pension plan and post-employment healthcare plan governed by the State of Michigan (the "State"). The System was created by Public Act 261 of 1957, as amended, and provides retirement and ancillary benefits to eligible current and former state legislators. The System's pension plan was established by the State to provide retirement, survivor and disability benefits to the Michigan Legislature, elected for the first time before March 31, 1997. In addition, the System's other postemployment benefit (OPEB) plan provides health care to eligible vested members, the option of receiving health, prescription, dental and vision coverage under the Michigan Legislative Retirement Act. Public Act 200 of 2011 amended the System's enabling statute and closed the OPEB Plan. The System's financial statements are included as a pension (and other employee benefit) trust fund in the combined financial statements of the State of Michigan.

The System operates within the legislative branch of state government. The System's Board of Trustees appoints the director who serves as executive secretary to the System's board, with whom the general oversight of the System resides. Public Act 486 of 1996 amended the System's enabling statute to mandate that persons elected to the Michigan Legislature after March 30, 1997, participate in a state-wide defined contribution pension plan administered by the State of Michigan Department of Technology, Management and Budget. Thus the defined benefit plan is a closed plan. The System's financial statements are included as a pension and other employee benefit trust fund of the State of Michigan Comprehensive Annual Financial Report. The defined contribution retirement plan operates as a 401(k) plan and is part of the State of Michigan 401K plan. The State of Michigan 401K plan annual financial report is issued separately.

The System shall be administered by a board of trustees, consisting of eleven (11) members, and composed as defined in Public Act 261 of 1957, as amended, and in the bylaws. Board members are appointed for a 4-year term. The board of trustees oversee the Systems investments, advisors and consultants. Complete information on the retirement board, advisors and consultants are included in the introductory section of this report.

MEMBERSHIP

At September 30, 2019, the System's pension plan membership consisted of the following:

Inactive plan members or their beneficiaries currently receiving benefits	**2019**
Regular benefits	200
Survivor benefits	59
Disability benefits	0
Total	259 *
Inactive plan members entitled to but not yet receiving benefits	5
Active plan members:	
Vested	0
Non-vested	0
Total	0
Total Plan Members	264

*Includes 10 domestic relations orders (DRO) alternate payees for 2019

Notes to Basic Financial Statements (Continued)

MEMBERSHIP (continued)

The System provides life insurance benefits. The number of plan participants is as follows:

Life Insurance Plan	2019
Eligible active plan members	0
Eligible inactive vested plan members	5
Eligible retired plan members	147

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

Health/Dental/Vision Plan	2019
Active participants	3
Deferred participants	71
Participants currently eligible for health benefits	388 **
Participants receiving health benefits	359 **

**Includes 111 defined contribution (DC) participants at September 30, 2019 who are receiving health care insurance through System in accordance with state statute. At September 30, 2019, the number of DC participants who were eligible for health care insurance but declined to receive the benefits were 28.

BENEFIT PROVISIONS

Introduction

Public Act 261 of 1957, the Michigan Legislative Retirement System Act, as amended, establishes eligibility and benefit provisions for this defined benefit pension plan.

Michigan's constitutional term-limit amendment limits members of the House of Representatives to six (6) years in office and members of the Michigan Senate to eight (8) years in office. Effective March 31, 1997, Public Act 486 of 1996 closed the System to new legislators. The act provides certain re-elected former legislators the option to rejoin the system. All legislators who first take office after 1997 are automatically enrolled in the State of Michigan Defined Contribution Plan.

Benefit provisions of the post-employment healthcare plan are established by State statute, which may be amended. Public Act 261 of 1957, as amended, establishes eligibility and benefit provisions for the health plan. Eligible members may receive health, prescription, hearing, dental, and vision coverage.

Regular Retirement

A member may retire and receive retirement benefits based on age and service after: (1) attaining age 50, if age and years of credited service combined are equal to or greater than 70; or (2) attaining age 55 with 5 or more years of credited service if elected, qualified, and seated not less than (a) 3 full or partial terms in the House of Representatives, (b) 2 full or partial terms in the Senate, or (c) 1 term in the House of Representatives and 1 term in the Senate. Within 30 days after becoming 55 years of age, a deferred vested member may elect to defer receipt of the retirement allowance to which the member is entitled, not to exceed 70-1/2 years of age.

A member's retirement benefit is computed using a benefit formula prescribed by the enabling statute and described below. The benefit is paid on a monthly basis.

For those legislators who first became members on or before January 1, 1995, the retirement benefit is calculated by multiplying 20% of the highest salary earned for the first 5 years of service, plus 4% of highest salary for each of the next 11 years of service, plus 1% of the highest salary for each additional year.

Notes to Basic Financial Statements (Continued)

BENEFIT PROVISIONS (continued)

For those legislators who first became members after January 1, 1995, the retirement benefit is calculated by multiplying 3% of the highest salary for each year of service.

Post Retirement Benefit Adjustment

For those legislators who first became members on or before January 1, 1995, the annual retirement benefit payable to a retiree and/or his/her survivor is increased by 4% compounded annually. The adjustment is effective each January.

For those legislators who first became members after January 1, 1995, the annual retirement benefit payable to a retiree and/or his/her survivor is increased by 4%, but it is not compounded annually. The adjustment is effective each January.

Other Postemployment Benefits

Under Section 50a and 50b of the Legislative Retirement System Act, all retirees and their dependents and survivors receive health, dental, vision, and hearing insurance coverage. The System also provides health, dental, vision, and hearing insurance coverage for deferred vested members who were members on or before January 1, 1995, and for their survivors and dependents. In addition, in accordance with state law, the System provides health insurance coverage to eligible former legislators (and their dependents) who meet certain vesting requirements established by statute and who belong to the State's Defined Contribution Plan. Member enrollment to the System's health plan is voluntary. The System pays for health, dental, vision, and hearing benefits on a modified pay-as-you-go basis; however, the State has begun to advance fund for future System health insurance costs. Public Act 200 of 2011 amended the System's enabling statute and closed the OPEB Plan. All qualified participants must have completed six (6) years of service before January 1, 2013 to qualify for health insurance in the System.

Life Insurance Benefits

The System provides $150,000 in life insurance coverage to active members. Deferred vested members are covered by varying amounts of life insurance, ranging from $5,000 to $150,000, depending on the member's date of deferral and, in some instances, the payment of an annual premium. Retirees are covered by varying amounts of life insurance, ranging from $2,500 to $75,000, depending on their retirement dates and, in some instances, the payment of an annual premium. The System prefunds life insurance benefits using the entry age actuarial cost method. The life insurance plan and the pension plan use the same actuarial assumptions, which are stated in the actuarial section.

Disability Benefit

A member or deferred vested member who becomes disabled as determined by at least (2) licensed physicians appointed by the board of trustees is eligible for a disability benefit computed in the same manner described under Regular Retirement.

Survivor Benefit

Upon the death of a vested member or deferred vested member who meets the service, but not the age requirements, for regular retirement (see Regular Retirement), or upon the death of a retiree, a surviving spouse shall be entitled to a benefit equal to 66 2/3% of the benefit the member would have received or was receiving at the time of death. Special provisions apply to surviving minor children and surviving spouses with minor children.

Refunds

A member who leaves legislative service may request a refund of his/her contributions from the Members' Saving Fund. A member who receives a refund of contributions forfeits all rights to any future System benefits. Members who return to legislative service and who previously received a refund of their contributions may reinstate their service through repayment of the refund plus interest in accordance with the statute.

Notes to Basic Financial Statements (Continued)

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting and Presentation

The System's financial statements are prepared using the economic resources measurement focus and the accrual basis of accounting, as provided by generally accepted accounting principles for governments. Contributions are recognized as revenue when due, pursuant to formal commitments, as well as statutory requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

GASB Statement No. 67, which was adopted during the fiscal year ended September 30, 2014, addresses accounting and financial reporting requirements for pension plans. The requirements for GASB Statement No. 67 requires 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 receivables and investment balances. The total pension liability, determined in accordance with GASB Statement No. 67, is presented in Note 4 on page 28 and in the Required Supplementary Information on page 40.

GASB Statement No. 74, which was adopted during the fiscal year ended September 30, 2017, addresses accounting and financial reporting requirements for other postemployment benefit (OPEB) plans. The requirements for GASB Statement No. 74, are much like 67 addressed for pension plans, which requires 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 OPEB liability. It also includes comprehensive footnote disclosure regarding the OPEB liability, the sensitivity of the net OPEB liability to the discount rate, and increased investment activity disclosures. The implementation of GASB Statement No. 74 did not significantly impact the accounting for accounts receivables and investment balances. The total OPEB liability, determined in accordance with GASB Statement No. 74, is presented in Note 5 on page 30 and in the Required Supplementary Information on page 42.

Contributions and Reserves

The Legislative Retirement System Act provides for several "reserves" or "funds." These funds and the contributions and other monies allocated to them are described below.

Members' Savings Fund (MSF) — A member who first becomes a member on or before January 1, 1995, with less than 20 years of experience, contributed approximately 7% of salary to MSF. A member who first becomes a member after January 1, 1995, contributed approximately 5% of salary to MSF. Beginning January 1, 1999, there were no member contributions allocated to MSF except for approximately 4% of salary for the period beginning on January 1, 1999 and ending on December 31, 2000, for members who first becomes a member after December 1, 1994 and on or before January 1, 1995, in accordance with legislation. Eligible members may make other contributions to the MSF to purchase special service credit or to repay previously refunded contributions. MSF represents active member contributions (and interest credited from the Income Fund) less amounts transferred to reserves for retirement and amounts refunded to terminated members. At September 30, 2019, the balance in this account was $0.1 million.

Members' Retirement Fund (MRF) — The MRF represents the reserves for payment of retirement benefits. At retirement a member's accumulated contributions (with interest) are transferred to the MRF (from the MSF). Interest is credited to the MRF (from the Income Fund), and monthly allowances are debited. At each fiscal year end an actuarial valuation determines the 100% funding requirements for the MRF. Any amounts required to 100% fund the MRF are transferred in the next fiscal year. At September 30, 2019, the balance in this account was $17.8 million.

Notes to Basic Financial Statements (Continued)

Contributions and Reserves (continued)

Survivors' Retirement Fund (SRF) — On and before January 1, 1999, all members with less than 20 years of service contributed 1/2% of salary to the SRF. After January 1, 1999, there are no member contributions allocated to the SRF. Interest is credited annually to the SRF (from the Income Fund), and member savings are transferred to the SRF from the MSF upon the death of a vested member, and additional state contributions may be made in order to make the SRF 100% funded. Survivors' monthly retirement allowances are paid from this fund upon the death of vested members, deferred vested members, and retirants. At September 30, 2019, the balance in this account was $75.4 million.

Insurance Revolving Fund (IRF) — On and before January 1, 1999, all members contributed 1/2% of salary to the Insurance Revolving Fund. After January 1, 1999, there are no member contributions allocated to the IRF. State contributions, if any, member premiums, and interest from the Income Fund are credited to this fund. Life insurance benefits are paid from the IRF to beneficiaries of members, retirants, and deferred vested members. At September 30, 2019, the balance in this account was $29.1 million.

Health Insurance Fund (HIF) — On and before January 1, 1999, all members contributed 1% of salary to this fund. After January 1, 1999, member contributions are made as follows: (1) members who first became members on or before January 1, 1995, contribute 9% to the HIF; (2) members who first became members after January 1, 1995, contribute 7% to the HIF. This fund is also credited with employer contributions, court fees, other governmental contributions and interest income. Funds from this reserve are used to pay health care expenses and are accumulated to fully fund the future health insurance liabilities for the System. At September 30, 2019, the balance in this account was $29.8 million.

In July, 2011, the Michigan Legislature passed, and Governor Rick Snyder signed, a new law that provides for the use of the health insurance reserve funds to pay for the current costs associated with the retiree health insurance plan. Before the passage of the new law, Public Act 99 of 2011, the system statute prohibited the use of certain prefunding dollars maintained in the health insurance reserve, and their investment income, until the retiree health insurance (OPEB) liabilities in the system became 100% funded. Public Act 99 of 2011 removed the 100%-funding requirement, and thus allows for the immediate use of the funds for health insurance costs of the system. The system added $4.3 million to the reserve after paying health insurance costs for fiscal year ending September 30, 2019.

Income Fund (IF) — The IF is credited with all investment earnings and other miscellaneous income. Interest transfers are made annually to the other reserves, based on beginning balance. This fund also accounts for investment and administrative expenses and interest on refunds and transfers.

Fair Value of Investments

System investments are presented 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 8.

Reporting Entity

The System is a pension and OPEB trust fund of the State of Michigan. As such, the System is considered part of the State and is included in the State's comprehensive annual financial report as a pension and OPEB trust fund. The System and the System's Board of Trustees are not financially accountable for any other entities. Accordingly, the System is the only entity included in this financial report.

Investment Income

Dividend income is recognized on the ex-dividend date, and interest income is recognized on the accrual basis as earned. Fair value changes are recorded as investment income or loss. Purchases and sales of investments are recorded as of the trade date.

Notes to Basic Financial Statements (Continued)

Cost of Administering the System

The retirement system shall pay the expenses for the administration of the retirement system, exclusive of amounts payable as retirement allowances and other benefits provided in this act, from the income fund.

Related Party Transactions

The cash account includes $1.3 million on September 30, 2019, which represents funds deposited 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 from these activities amounted to $178,125 for the year ended September 30, 2019.

Excess Benefits

Internal Revenue Service (IRS) Code Section 415 requires that, for individuals who receive retirement benefits in excess of established limits, these benefits should be recorded and reported outside of the pension fund in order to keep the qualified status of the plan. This includes coordination of benefits issued where a retiree participates in more than one qualified plan. The System provided excess benefits to seven (7) retirees, for a total amount of $212,337 as of September 30, 2019.

NOTE 3 - CONTRIBUTIONS

Member Contributions

On or before January 1, 1999, the following contributions were made by members of the System:

Members who first became members on or before January 1, 1995, contributed 9% of their salaries to the System. The contributions were placed in the following reserves created by the enabling statute: 7% to the Members' Savings Fund for the first 20 years of service; 0.5% to the Insurance Revolving Fund; 0.5% to the Survivors' Retirement Fund for the first 20 years of service; and 1% to the Health Insurance Fund.

Members who first became members on or after January 1, 1995, contributed 7% of their salaries to the System. The contributions were placed in the following reserves created by the enabling statute: 5% to the Members' Savings Fund; 0.5% to the Insurance Revolving Fund; 0.5% to the Survivors' Retirement Fund; and 1% to the Health Insurance Fund.

After January 1, 1999, the following contributions are made by the members of the System:

Members who first became members after December 1, 1994, contribute 9% of their salaries to the System. The contributions are placed in accordance with enabling statute to Health Insurance Fund.

Members who first became members after December 1, 1994 and on or before January 1, 1995, contributed 13% of their salaries to the System. The contributions were placed in the following reserves in accordance with the enabling statute: 9% to the Health Insurance Fund and 4% to the Members' Savings Fund until December 31, 2000. After December 31, 2000, these members contribute 9% of their salaries to the System. The contributions are placed in accordance with enabling statute to Health Insurance Fund.

Members who first became members after January 1, 1995, contribute 7% of their salaries to the System. The contributions are placed in the following reserve in accordance with the enabling statute: 7% to the Health Insurance Fund.

Member contributions are tax-deferred through the provisions of section 414(h)(2) of the Internal Revenue Code.

Notes to Basic Financial Statements (Continued)

State Contributions

State contributions are made on the basis of actuarial requirements as determined by the System actuary and approved by the Board of Trustees. Through the annual state budgetary process, the Legislature annually appropriates, and the Governor approves, the State contributions along with certain court fee revenues, which are paid to the System pursuant to state statute. In fiscal year 2019, the MLRS received an additional appropriation of $12.4 million. The appropriation was an effort to begin to reduce and properly fund the system's increasing fiscal responsibilities for the pension and OPEB benefits.

Pension plan State contributions are determined based on an actuarially determined contributions. Actual employer contributions for pension plan benefits were $8.1 million for fiscal year 2019.

OPEB plan State contributions are determined based on an actuarially determined contributions. Actual employer contributions for OPEB were $8.3 million for fiscal year 2019.

Schedules showing actuarially determined State contributions are presented in the Required Supplementary Information, in the financial section of this report. Also included in the Required Supplementary Information, are the actuarial assumptions used to determine the contribution rates.

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 market 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	$	267,871,170
Plan Fiduciary Net Position		122,298,862
Net Pension Liability	$	145,572,308
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		45.66%
Net Pension Liability as a Percentage of Covered Payroll		203,072.20%
Total Covered Payroll (1)	$	71,685

(1) Payroll is for prior fiscal year since GASB 67 uses a roll forward and actuarial valuation data from prior fiscal year.

Notes to Basic Financial Statements (Continued)

Long-Term Expected Return on Pension Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2019, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Large Cap Equity	25.0 %	5.0 %
Small Cap Equity	10.0	6.0
International Equity	19.0	6.5
Emerging Markets	9.0	9.0
Fixed Income	20.0	3.5
Hedge Fund	10.0	5.3
Public Natural Resources	3.0	8.0
Real Assets	3.0	6.5
Cash	1.0	2.2
Total	100.0 %	

*Real rate of return is based on investment manager inflation assumption of 2.20%.

Pension Plan Rate of Return

For the year ended September 30, 2019, the annual money-weighted rate of return on pension plan investments, net pension plan investment expense, was 2.30%. The money weighted rate of return expresses investment performances, net of investment expense, adjusted for the changing amounts actually invested.

Pension Plan Discount Rate

The single discount rate used to measure the total pension liability decreased to 3.69%, compared to the prior year's 4.75%. This single discount rate was based on an expected rate of return on pension plan investments of 7.0% and a municipal bond rate of 2.75% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"). The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contributions rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance the benefit payments through the year 2031. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2031, and the municipal bond rate was applied to all benefit payments after that date.

Notes to Basic Financial Statements (Continued)

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

As required by GASB Statement No. 67, the following presents the plan's net pension liability, calculated using a single discount rate of 3.69%, 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 2.69%	Current Single Discount Rate Assumption 3.69%	1% Increase 4.69%
Net Pension Liability/(Asset)	$181,268,946	$145,572,308	$116,405,019

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, 2019, is based on the results of an actuarial valuation performed as of September 30, 2018 and rolled forward using generally accepted actuarial procedures.

NOTE 5 – NET OTHER POSTEMPLOYMENT BENEFIT LIABILITY

Measurement of the Net OPEB Liability

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

Net OPEB Liability	
Total OPEB Liability	$ 169,849,643
Plan Fiduciary Net Position	29,782,171
Net OPEB Liability	$ 140,067,472
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	17.53%

Notes to Basic Financial Statements (Continued)

Long-Term Expected Return on OPEB Plan Assets

The long-term expected rate of return on OPEB plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the OPEB plan's target asset allocation as of September 30, 2019, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Large Cap Equity	25.0 %	5.0 %
Small Cap Equity	10.0	6.0
International Equity	19.0	6.5
Emerging Markets	9.0	9.0
Fixed Income	20.0	3.5
Hedge Fund	10.0	5.3
Public Natural Resources	3.0	8.0
Real Assets	3.0	6.5
Cash	1.0	2.2
Total	100.0 %	

*The arithmetic rates of return were provided by the System's investment consultant along with a 2.2% price inflation assumption.

OPEB Plan Rate of Return

For the year ended September 30, 2019, the annual money-weighted rate of return on OPEB plan investments, net OPEB plan investment expense, was 6.74%. The money weighted rate of return expresses investment performances, net of investment expense, adjusted for the changing amounts actually invested.

OPEB Plan Discount Rate

The single discount rate of 3.86% was used to measure the total OPEB liability, compared to the prior year's 4.04%. This single discount rate was based on an expected rate of return on OPEB plan investments of 7.0% and a municipal bond rate of 2.75%. (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"). The projection of cash flows used to determine this single discount rate assumed that employer contributions will be made at rates equal to actuarially determined contributions rate. Based on these assumptions, the OPEB plan's fiduciary net position and future contributions were sufficient to finance the benefit payments through the year 2036. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2036, and the municipal bond rate was applied to all benefit payments after that date.

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

As required by GASB Statement No. 74, the following presents the plan's net OPEB liability, calculated using a single discount rate of 3.86%, as well as what the plan's net OPEB liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

	1% Decrease 2.86%	Current Single Discount Rate Assumption 3.86%	1% Increase 4.86%
Net OPEB Liability/(Asset)	$168,228,623	$140,067,472	$117,854,746

Sensitivity of the Net OPEB Liability to the Healthcare Cost Trend Rate

Regarding the sensitivity of the net OPEB liability to changes in the healthcare cost trend rates, the following presents the plan's net OPEB liability, calculated using the assumed trend rates as well as what the plan's net OPEB liability would be if it were calculated using a trend rate that is one percent lower or one percent higher:

	1% Decrease (7.25% decreasing to 3%)	Current Healthcare Cost Trend Rate Assumption (8.25 decreasing to 4%)	1% Increase (9.25% decreasing to 5%)
Net OPEB Liability/(Asset)	$117,131,635	$140,067,472	$168,627,778

Timing of the Valuation

An actuarial valuation to determine the total OPEB liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the OPEB plan's fiscal year end. The total OPEB liability as of September 30, 2019, is based on the results of an actuarial valuation performed as of September 30, 2018 and rolled forward using generally accepted actuarial procedures.

Notes to Basic Financial Statements (Continued)

NOTE 6 – PENSION PLAN

Actuarial Valuations and Assumptions

Actuarial valuations for pension plans 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. Amounts determined regarding the net pension liability of the plan and the rate of return 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 RSI present trend information about the amounts contributed to the plan by employers in comparison to an amount that is actuarially determined.

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

The information presented in the required supplementary 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

Methods and assumptions used to determine Net Pension Liability as of September 30, 2019:

Valuation Date	September 30, 2018
Actuarial Cost Method	Entry-Age Normal
Asset Valuation Method	Fair Value
Wage Inflation	4.00%
Salary Increases	4.00%
Investment Rate of Return	3.69% Single Discount Rate
Cost-of-living Adjustments	4% Annual Compounded (non-compounded for legislators who first became members after 1/1/95)
Retirement Age	Age-based table of rates with 100% probability of retirement once a member is subject to term limits
Mortality	RP-2014 Mortality Tables scaled by 100% and adjusted for mortality improvements using projection scale MP-2017 from 2006.

Note: Actuarial assumptions are periodically reviewed and modified, if needed, upon the recommendation of the actuary, and with approval of the board.

Notes to Basic Financial Statements (Continued)

NOTE 7 – OTHER POSTEMPLOYMENT BENEFITS PLAN

Actuarial Valuations and Assumptions

Actuarial valuations OPEB plans involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and the healthcare cost trend. Amounts determined regarding the net OPEB liability of the plan and the rate of return 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 RSI present trend information about the amounts contributed to the plans by employers in comparison to an amount that is actuarially determined.

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

The information presented in the required supplementary 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

Methods and assumptions used to determine Net OPEB Liability as of September 30, 2019:

Valuation Date	September 30, 2018
Actuarial Cost Method	Entry-Age Normal
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Wage Inflation	4%
Investment Rate of Return	3.86% Single Discount Rate
Retirement Age	Age-based table of rates with 100% probability of retirement once a member is subject to term limits
Mortality	RP-2014 Mortality Tables scaled by 100% and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Healthcare Cost Trend Rate	8.25% trend, gradually decreasing to 4% in 10 years
Excise Tax	A 2.0% load was applied to the health care liabilities of current retirees and a 4.0% load was applied to the health care liabilities of future retirees to approximate the cost for future excise tax.
Aging factors	Based on the 2013 SOA Study “Health Care Costs – From Birth to Death”

Note: Actuarial assumptions are periodically reviewed and modified, if needed, upon the recommendation of the actuary, and with approval of the board.

Notes to Basic Financial Statements (Continued)

NOTE 8 - INVESTMENTS

Investment Authority

All investments made are subject to approval by the Board of Trustees, which has investment authority under the act. Investments made are subject to statutory regulations imposed under the Michigan 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 governmental bonds and notes, mortgages, real estate, and certain short-term and alternative investments. The System also contracts with independent investment advisors.

Derivatives

State investment statutes limits total derivative exposure to 15% of a fund's total asset value, and restricts uses to replication of returns and hedging of assets. The System Investment Policy Statement (IPS) has a target asset allocation of 5% for hedge funds, which may include derivatives. Systems investment in hedge funds has an exposure to derivatives of approximately 15-20%. The System invests in derivatives for investment purposes and not hedging purposes. As of September 30, 2019, total investments in hedge funds was 10.0%. The fair value of the hedge funds at September 30, 2019 was $15,174,344.

Securities Lending

The System did not participate in any securities lending activities.

Risk

In accordance with GASB statement 40, investments require certain disclosure regarding policies and the risks associated with them. The credit risk, custodial credit risk, foreign currency risk and interest rate risk are discussed in the following paragraphs.

Credit risk

Credit risk is the risk that an issuer will not fulfill its obligations. The System has a policy to maintain an overall weighted average of "Aa" or better by Moody's Investors Service and "AA" or better by Standards & Poor's for active management of fixed income securities. Mutual fund fixed income investments are not subject to this constraint; they are governed by the terms of their prospectuses. GASB 40 states that governments should disclose the credit quality ratings of external investment pools, money market funds, bond mutual funds and other pooled investments of fixed income securities in which they invest.

Debt Securities
As of September 30, 2019

		Rating	
Investment Type	Fair Value	S & P	Moody's
Mutual Funds**	$ 15,186,064	B+	Baa2
	15,239,469	NR	NR
	$ 30,425,532		

**** Average Rating**

Custodial credit risk

The custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the System's deposits may not be recovered. Deposits are exposed to custodial credit risk if they are not covered by depository insurance and the deposits are: a.) Uncollateralized, b.) Collateralized with securities held by the pledging financial institution, or c.) Collateralized with securities held by the pledging financial institution's trust department or agent but not in the depositor-government's name.

The common cash pool is managed by the State Treasurer and is authorized to invest surplus funds in depository accounts at financial institutions, bonds, notes, and other U.S. government debt, prime commercial paper, certificates of deposits, and special State investment programs. At September 30, 2019, the common cash pool held the majority of its funds in depository accounts 13.0% and prime commercial paper 82.9%. The State Treasurer's policy for common cash depository accounts requires financial institutions to secure State funds with collateral, to be organized under federal or State law, and to maintain an office in Michigan. The policy also restricts deposits to a maximum of 50% of the financial institution's net worth. At September 30, 2019, the carrying amount of deposits including time and demand deposits, was $879.2 million. The deposits were reflected in the accounts of the banks at $879.2 million. Of the bank balance, $4.8 million was covered by federal depository insurance and $869.3 million was collateralized with securities held by the State's agent in the State's name. There were demand deposits of $5.1 million exposed to custodial credit risk that were uninsured and uncollateralized. The State Treasurer's policy requires prime commercial paper to be rated "A-1" by S&P or "P-1" by Moody's or higher at purchase and places requirements and restrictions on the borrower. Additional details on the common cash pool policies and risk disclosures are described in the State of Michigan Comprehensive Annual Financial Report.

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.

System is prohibited by Public Act 314 of 1965, as amended, from investing in more than 5% of the outstanding stock or obligations of any one issuer or investing more than 5% of its assets in the stock or obligations of any one issuer.

At September 30, 2019, there were no investments in any one issuer that accounted for more than 5% of System's assets nor were there any investments totaling more than 5% of the stock or obligations of any one issuer.

Foreign currency risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of deposits. Public Act 35 of 1997 requires State deposits be held in a financial institution which maintains a principal office or branch office located in the State of Michigan. The System had no common cash deposits subject to foreign currency risk at September 30, 2019.

Custodial credit risk associated with investments

In accordance with GASB statement 40, investments also require certain disclosures regarding policies and procedures with respect to the risks associated with them. The custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the System 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: a.) the counterparty, or b.) the counterparty's trust department or agent but are not in the government's name. The State Treasurer does not have an investment policy for managing custodial credit risk. At September 30, 2019, the System's investments were not exposed to custodial credit risk.

Notes to Basic Financial Statements (Continued)

Interest rate risk associated with 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 System has an 18% target allocation of fixed income securities, which are affected by interest rates because they are a debt investment. At September 30, 2019, the fair value was $30,425,532, with the investment activity for the year producing a total rate of return of 8.5%, and a rate of return since inception of 3.6%. The projected duration is 3.89 years. The System does not have a policy for controlling interest rate risk.

Foreign currency risk associated with investments

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of investments. The System invests in various foreign investments (including, but not limited to, equities, fixed income, and mutual funds), which are subject to various limitations in accordance with the System's Investment Policy Statement (or "IPS") (which incorporates the provisions of the Public Employee Retirement System Investment Act, or Public Act 314 of 1965, as amended). IPS foreign investment restrictions include a 20% limitation of the total assets of the system and, additionally, a 5% limitation in the outstanding foreign securities of a single issuer (allowances are made for the daily market pricing fluctuations of an investment). New investments in countries that have been identified by the United States Department of State as engaging in or sponsoring terrorism are prohibited, and existing investments in any such newly-identified country shall be quickly divested in accordance with the law. At September 30, 2019, the System held the following investments subject to foreign currency risk:

Foreign Currency Risk

As of September 30, 2019
(Value in US dollars)

Country	Currency	Alt. Invest	Mutual Funds	International Equities	TOTAL
PACIFIC					
China	Renminbi	$	$	$ 121,743	**$ 121,743**
EUROPE					
United Kingdom	Sterling			331,046	**331,046**
WORLD-WIDE					
Various	Various	15,174,344	42,149,192		**57,323,536**
	Total	$15,174,344	$42,149,192	$ 452,789	**$ 57,776,325**

Significant Accounting Policies

As of September 30, 2016, the Retirement System applies Governmental Accounting Standards Board ("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.

Notes to Basic Financial Statements (Continued)

Fair Value Measurements

The MLRS categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Not all investments held by the MLRS 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 a 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, 2019. Investments that are measured at fair value using the Net Asset Value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

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

Investment by Fair Value Level

As of September 30, 2019

	Level 1
Total Cash and Cash Equivalents	$ -
Equity	
Depository Receipts	253,987
Common Stocks	41,226,975
Real Estate Investment Trusts	1,392,438
Commingled Funds, ETF's	57,669,870
Total Equity	100,543,270
Fixed Income	
Commingled Funds and ETF's	34,975,041
Total Fixed Income	34,975,041
Total Investment by fair value level	**$ 135,518,311**
Investments measured at the net asset value (NAV)	
Private Equity	15,174,344
Total Investments measured at NAV	15,174,344
Total Investments measured at fair value	**$ 150,692,655**

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

Alternative Investments

Total investments measured at the NAV	$15,174,344
Unfunded commitments	$0

There is one investments reported at NAV:

- The one investment is a hedge fund that requires 95 days' notice for redemption; generally redemptions are only allowed quarterly. A full redemption would require withholding 5% of the NAV retained until all costs are settled.

Notes to Basic Financial Statements (Continued)

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Required Supplementary Information

Schedule of Changes in Net Pension Liability

Fiscal years ending September 30,	2019	2018	2017	2016	2015[1]
Total pension liability					
Service Cost	$ 38,955	$ 77,125	$ 85,889	$ 73,996	$ 61,979
Interest on the total pension liability	11,050,515	10,555,045	10,213,286	11,025,152	11,839,056
Benefit changes	-	-	-	-	-
Difference between expected and actual experience of the total pension liability	479,528	66,388	(1,617,292)	1,899,056	405,924
Assumption changes	30,744,212	(3,054,941)	(13,496,599)	18,936,985	20,079,527
Benefit payments and refunds	(14,129,965)	(14,521,128)	(14,282,224)	(13,919,312)	(14,495,307)
Net changes in total pension liability	28,183,245	(6,877,511)	(19,096,940)	18,015,877	17,891,179
Total pension liability - beginning	239,687,925	246,565,436	265,662,376	247,646,499	229,755,320
Total pension liability - ending (a)	$ 267,871,170	$239,687,925	$ 246,565,436	$265,662,376	$247,646,499
Plan fiduciary net position					
Employer contributions	$ 8,063,327	$ -	$ -	$ -	$ -
Employee contributions	2,445	998	3,895	3,648	3,226
Pension plan net investment income	3,319,925	8,629,843	15,840,766	11,324,783	(6,545,332)
Benefit payments and refunds	(14,129,965)	(14,521,128)	(14,282,224)	(13,919,312)	(14,495,307)
Pension plan administrative expense	(405,319)	(398,871)	(391,937)	(405,381)	(362,431)
Other	-	-	6,649	-	-
Net change in plan fiduciary net position	(3,149,587)	(6,289,158)	1,177,149	(2,996,262)	(21,399,844)
Plan fiduciary net position - beginning	125,448,449	131,737,607	130,560,458	133,556,720	154,956,564
Plan fiduciary net position - ending (b)	$ 122,298,862	$125,448,449	$ 131,737,607	$130,560,458	$133,556,720
Net pension liability - (a) - (b)	145,572,308	114,239,476	114,827,829	135,101,918	114,089,779
Plan fiduciary net position as a percentage of total pension liability	45.66%	52.34%	53.43%	49.15%	53.93%
Covered payroll [2]	$ 71,685	$ 71,685	$ 71,685	$ 71,685	$ 71,685
Net pension liability as a percentage of covered payroll	203,072.20%	159,363.15%	160,183.90%	188,466.09%	159,154.33%

(1) Schedule has been restated due to retroactively applying mortality assumption change.

(2) Payroll is for prior fiscal year since GASB 67 uses a roll forward and actuarial valuation data from prior fiscal year.

Required Supplementary Information (Continued)

2014[1]
$ 56,715
11,297,018
-
-
24,547,477
(13,550,106)
22,351,104
207,404,216
$ 229,755,320
$ -
5,662
14,868,119
(13,550,106)
(430,200)
-
893,475
154,063,089
$ 154,956,564
74,798,756
67.44%
$ 71,685
104,343.66%

Required Supplementary Information (Continued)

Schedule of Changes in Net OPEB Liability

Fiscal years ending September 30,	2019	2018	2017
Total OPEB liability			
Service Cost	$ 1,147,517	$ 1,482,175	$ 797,000
Interest on the total OPEB liability	7,517,765	7,076,802	8,463,585
Changes in benefit terms	-	-	-
Difference between expected and actual experience	(25,628,961)	3,291,754	18,099
Changes of assumptions	4,385,679	(9,407,229)	66,226,054
Benefit payments, including refunds of employee contributions	(6,163,773)	(6,695,207)	(6,342,947)
Net changes in total OPEB liability	(18,741,773)	(4,251,705)	69,161,791
Total OPEB liability - beginning	188,591,416	192,843,121	123,681,330
Total OPEB liability - ending (a)	$ 169,849,643	$ 188,591,416	$ 192,843,121
Plan fiduciary net position			
Employer contributions	$ 9,091,371	$ 4,657,040	$ 4,571,636
Employee contributions	1,737	6,452	6,452
OPEB plan net investment income	625,677	1,573,478	2,754,692
Benefit payments, including refunds of employee contributions	(6,163,773)	(6,695,207)	(6,342,947)
OPEB plan administrative expense	(80,542)	(74,201)	(68,871)
Other	1,379,333	953,927	643,981
Net change in plan fiduciary net position	4,853,803	421,489	1,564,943
Plan fiduciary net position - beginning	24,928,368	24,506,879	22,941,936
Plan fiduciary net position - ending (b)	$ 29,782,171	$ 24,928,368	$ 24,506,879
Net OPEB liability - (a) - (b)	$ 140,067,472	$ 163,663,048	$ 168,336,242
Plan fiduciary net position as a percentage of total OPEB liability	17.53%	13.22%	12.71%

Required Supplementary Information (Continued)

Schedules of Contributions

Pension Benefits

Fiscal Year Ended Sept. 30	Actuarially Determined Contribution	Actual Employer Contributions	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2010	$774,898	$0	$774,898	$1,173,100	0.0 %
2011	1,890,998	0	1,890,998	143,370	0.0
2011 [1]	2,915,182	0	2,915,182	143,370	0.0
2012	4,390,831	0	4,390,831	71,685	0.0
2013	5,993,209	0	5,993,209	71,685	0.0
2014	6,327,209	0	6,327,209	71,685	0.0
2015	7,843,450	0	7,843,450	71,685	0.0
2016	8,063,327	0	8,063,327	71,685	0.0
2017	7,878,170	0	7,878,170	71,685	0.0
2018	8,236,583	0	8,236,583	71,685	0.0
2019	9,348,433	8,063,327	1,285,106	17,921	N/A [2]

[1] *Under revised mortality assumptions.*

[2] *For the 2019 and later valuations, a contribution percentage is not computed because the Retirement System is closed.*

Other Postemployment Benefits[1]

Fiscal Year Ended Sept. 30	Actuarially Determined Contribution	Actual Employer Contributions	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2010	$10,842,010	$4,514,665	$6,327,345	$11,598,113	38.9 %
2011	11,817,097	4,287,509	7,529,588	3,658,557	117.2
2012	9,674,141	7,840,322	1,833,819	3,586,872	218.6
2013	9,630,395	4,240,388	5,390,007	3,312,132	128.0
2014	9,381,877	4,323,381	5,058,496	2,497,497	173.1
2015	9,362,804	4,473,374	4,889,430	1,733,547	258.0
2016	10,464,110	4,537,633	5,926,477	1,661,862	273.0
2017	11,336,578	4,571,636	6,764,942	1,661,862	275.1
2018[2]	11,631,582	4,657,040	6,974,542	N/A	N/A
2019	10,172,054	9,091,371	1,080,683	N/A	N/A

[1] *Includes members in both the defined benefit plan and the defined contribution plan*

[2] *Beginning FY2018, covered payroll is not disclosed*

Required Supplementary Information (Continued)

Schedules of Investment Returns

Pension Benefits

Fiscal Years Ending September 30,	Annual Return*
2014	9.76 %
2015	(4.61)
2016	8.58
2017	12.44
2018	6.58
2019	2.30

* Annual money-weighted rate of return, net of investment expenses

Other Postemployment Benefits

Fiscal Years Ending September 30,	Annual Return*
2017	14.87 %
2018	10.34
2019	6.74

* Annual money-weighted rate of return, net of investment expenses

NOTE A - DESCRIPTION

Ten-year historical trend information designed to provide information about the System's progress in accumulating sufficient assets to pay benefits when due is presented in the preceding schedules. Other ten-year historical trend information related to the System is presented in the Statistical and Actuarial sections of the report. This information is presented to enable the interested parties to assess the progress made by the System in accumulating sufficient assets to pay pension benefits and other postemployment benefits as they become due. In accordance with GASB Statement No. 67, six years of historical trend information is provided. Also, in accordance with GASB 74, three years of historical trend information is provided.

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 and OPEB obligations as a factor. A change in actuarial assumption, beginning with fiscal year ending September 30, 2018, was made to use the RP-2014 Mortality Table scaled by 100% and adjusted for mortality improvements using projection scale MP-2017 from 2006.

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

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

Required Supplementary Information (Continued)

The information presented in the Schedule of Contributions was used in the actuarial valuation for the purposes of determining actuarially determined contribution rate. Additional information as of the latest actuarial valuation for the pension plan follows:

Valuation Date: Actuarially determined rates are calculated as of September 30, each year, which is 1 day prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Pension Contribution Rates:

Valuation Date	September 30, 2018
Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Dollar
Remaining Amortization Period	10-Years Open
Asset Valuation Method	5-Year Smoothed Market
Wage Inflation	4%
Actuarial Assumptions:	
Investment Rate of Return	7%
Projected Salary Increases	4%
Cost-of-living Adjustments	4% Annual Compounded (non-compounded for legislators who first became members after 1/1/95)
Retirement Age	Age-based table of rates with 100% probability of retirement once a member is subject to term limits
Mortality	The RP-2014 Healthy Annuitant Generational Mortality Tables, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017.

Methods and Assumptions Used to Determine Other Postemployment Contribution Rates:

Valuation Date	September 30, 2018
Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level Dollar Closed
Remaining Amortization Period	22 Years Closed
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Investment Rate of Return	4%
Wage Inflation	4%
Projected Salary Increases	4%
Healthcare Cost Trend Rate	8.25% in 2019, grading to 4% in 2028
Retirement Age	Age-based table of rates with 100% probability of retirement once a member is subject to term limits
Mortality	The RP-2014 Healthy Annuitant Generational Mortality Tables, extended via cubic spline. This table is adjusted backwards to 2006 with the MP-2014 scale, resulting in a base year of 2006 with future mortality improvements assumed each year using scale MP-2017.
Excise Tax	A 2.00% load was applied to the health care liabilities of current retirees and a 4.00% load was applied to the health care liabilities of future retirees to approximate the cost for future excise tax
Aging Factors	Based on the 2013 SOA Study "Health Care Costs – From Birth to Death"

Note: Actuarial assumptions are periodically reviewed and modified, if needed, upon the recommendation of the actuary, and with approval of the board.

Supporting Schedules

Summary Schedule of Administrative Expenses
For Year Ended September 30, 2019

Personnel services	$	343,538
Actuarial services		64,930
Audit		29,800
Attorney & other professional services		1,585
Postage, telephone and other		46,009
Total Administrative Expenses	$	485,861

Schedule of Investment Expenses*
For Year Ended September 30, 2019

Management fees	$	330,646
State Treasurer and custody fees		22,913
Other investment expenses		95,805
Total Investment Expenses	$	449,364

*Mutual fund management fees are netted againt returns earned.

Schedule of Payments to Consultants
For Year Ended September 30, 2019

VanOverbeke Michaud & Timmony PC	$	893
Dykema Gossett		692
Gabriel Roeder		64,930
Total Payments to Consultants	$	66,515

Supporting Schedules (Continued)

Detail of Changes in Plan Fiduciary Net Position (Pension and Other Postemployment Benefits)

For Year Ended September 30, 2019

	Member Savings Fund	Member Retirement Fund	Survivors Retirement Fund	Insurance Revolving Fund	Health Insurance Fund	Income Fund	Total
ADDITIONS							
Member contributions:							
Other member contributions	$	$	$	$ 2,445	$ 1,737	$	$ 4,182
Employer contributions		8,063,327			8,337,573		16,400,900
Court fees					753,798		753,798
Other governmental contributions					353,649		353,649
Total contributions:		8,063,327		2,445	9,446,757		17,512,529
Investment income (loss)							
Net increase (decrease) in fair value of investments					26,261	132,156	158,417
Interest, dividends and other					673,908	3,562,641	4,236,549
Total investment income (loss)					700,169	3,694,797	4,394,966
Less investment expenses					(74,492)	(374,872)	(449,364)
Net investment income (loss)					625,677	3,319,925	3,945,602
Miscellaneous income					1,025,684		1,025,684
Total additions:		8,063,327		2,445	11,098,118	3,319,925	22,483,815
DEDUCTIONS							
Benefits & refunds paid to plan members & beneficiaries:							
Retirement benefits		11,579,049	2,429,636				14,008,685
Health benefits					5,791,875		5,791,875
Dental benefits					371,898		371,898
Death benefits				121,280			121,280
Administrative expenses					80,543	405,319	485,861
Total deductions:		11,579,049	2,429,636	121,280	6,244,315	405,319	20,779,600
Net increase (decrease) in net position		(3,515,722)	(2,429,636)	(118,835)	4,853,802	2,914,606	1,704,216
Other changes in net position:							
Interest/loss allocations	4,063	483,049	1,765,203	662,290		(2,914,606)	
Transfer upon retirements	(18,354)	18,354					
Total other changes in net position	(14,291)	501,403	1,765,203	662,290		(2,914,606)	
Net increase (decrease) after changes	(14,291)	(3,014,319)	(664,433)	543,456	4,853,802		1,704,216
Net position restricted for pension benefits and OPEB:							
Beginning of Year:	101,585	20,803,228	76,021,109	28,522,527	24,928,368		150,376,817
End of Year:	$ 87,294	$ 17,788,909	$ 75,356,676	$ 29,065,983	$ 29,782,171	$	$ 152,081,033

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Michigan Legislative Retirement System

Comprehensive Annual Financial Report
for the Fiscal Year Ended September 30, 2019

INVESTMENT SECTION

INVESTMENT SECTION

Report on Investment Activity

INTRODUCTION

The System's Board of Trustees is the investment fiduciary for the system in accordance with the law. Investment decisions, including investment policies and procedures, are subject to statutory regulations imposed by the Michigan Public Employee Retirement System Investment Act, Public Act 314 of 1965, as amended.

As the investment fiduciary for the system, the board's responsibilities include, but are not limited to: (1) establishing an investment policy and asset allocation for the System pension fund; (2) prudently selecting investment managers and consultants for the system, and (3) conducting periodic reviews to ensure that its policies are followed and that its investment professionals perform satisfactorily in accordance with established standards and goals.

The State Treasurer for the State of Michigan acts as the custodian for the System funds pursuant to state law, and the board has also contracted with independent investment advisors to assist with investment decisions and to manage the pension fund assets.

Fund Evaluation Group (FEG) is the investment advisor for the System and they monitor all the investments and the performance of the investments for both the pension and OPEB funds. The market review is prepared in its entirety by FEG. While the rest of the report of investment activity is prepared by the System, using information from FEG.

INVESTMENT OBJECTIVES

The System's primary investment objective is to provide a real rate of return, net of inflation, administrative and investment expenses, sufficient to support the system's ability to meet its obligations to plan participants and beneficiaries without undue exposure to risk. In absolute terms, this return objective should approximate the System's actuarial assumed rate of return, which is currently 7%. The System seeks to attain investment results over a full market cycle. It does not expect that all investment objectives will be attained in each year and recognizes that over various periods of time the System investment results may produce significant "over" or "under" performance relative to broad markets. For this reason, the board of trustees takes a LONG-TERM perspective and will measure quantitative investment returns over a 5-year moving period. Managers and other parties are also expected to meet qualitative performance objectives (adherence to its investment philosophy and System policies, continuity of firm personnel and practices, etc.) as established by the board.

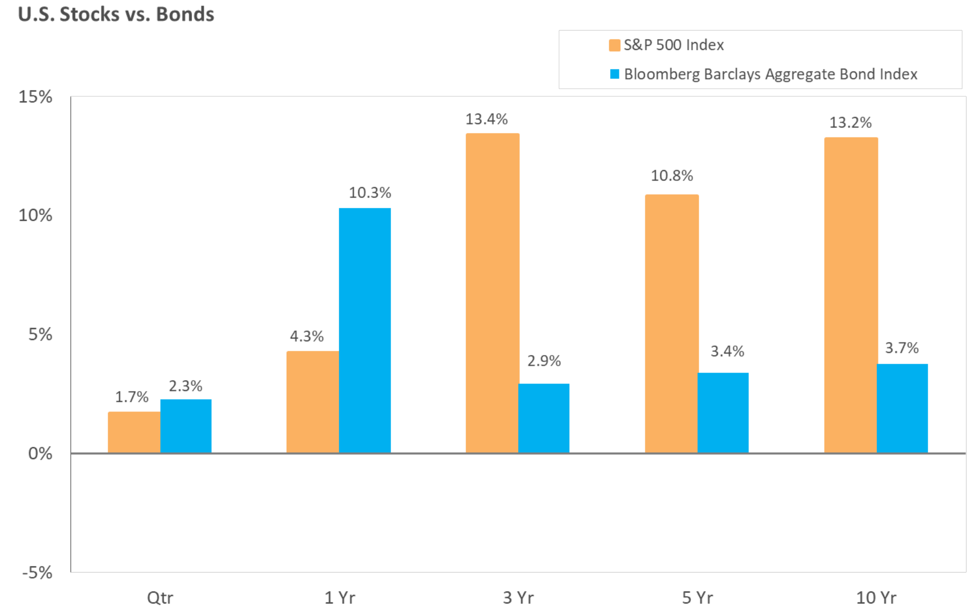
MARKET REVIEW

Twelve Months Ending September 30, 2019

Over the last year, the U.S. economy has gone from expectations of steady growth to concerns over a potential recession on the horizon. The Federal Reserve switched gears from a multi-year tightening cycle, to a brief "pause," to today's environment of policy easing. During the Legislative Retirement System's (LRS) fiscal year ended September 30, 2019, equity markets experienced heighted volatility. The fiscal year started with double-digit negative returns, only to be followed by double-digit positive returns in the second fiscal quarter. Since the end of March, equity returns have been more muted. At the same time, bond returns have outpaced equity returns as interest rates have declined. Within this environment, the LRS large cap domestic equity managers produced positive returns, but it was the fixed income segment that produced the strongest absolute returns. (See chart on top of page 51)

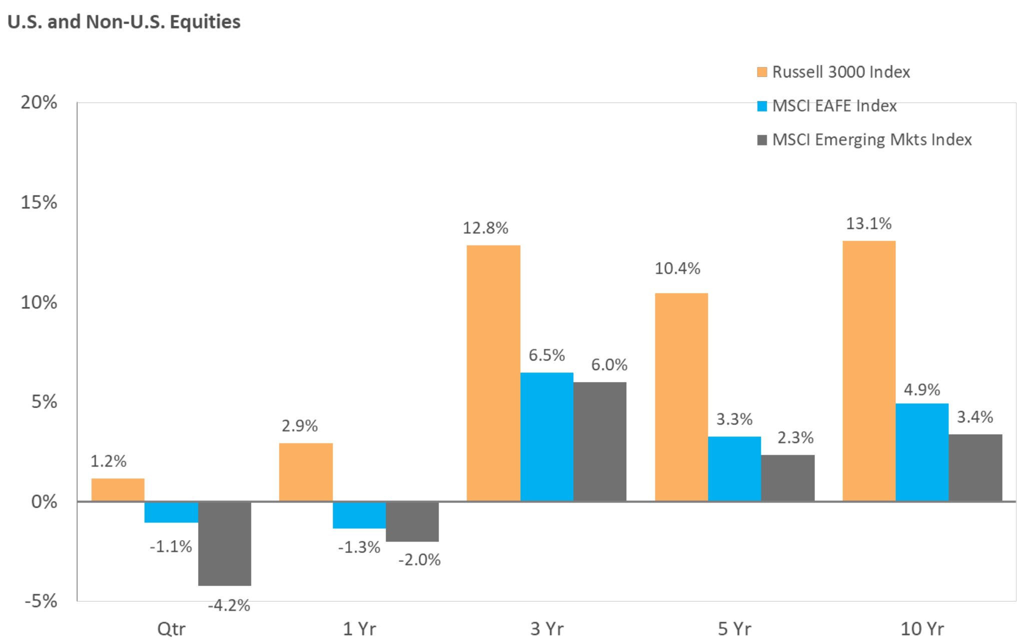
Report on Investment Activity (Continued)

MARKET REVIEW (continued)



Data Source: Lipper

International equity performance continued to suffer on a relative basis due to the appreciating U.S. dollar, trade tensions, particularly with China, and slower economic growth. The European Central Bank is grappling with a growth slowdown, the theme of which has been in place for the past handful of quarters but has recently gathered pace. The United Kingdom changed leadership as part of the ongoing Brexit saga. Asia and other emerging market regions struggled during the year due to the impacts to China of the ongoing trade war and secondary effects to Chinese trading partners. Argentina suffered from a geopolitical shock in August, as stocks sold off due to the presidential election surprise. Similar to last fiscal year, the LRS portfolio's holding in the international markets detracted from the overall returns generated during the twelve months ended September 30, 2019.

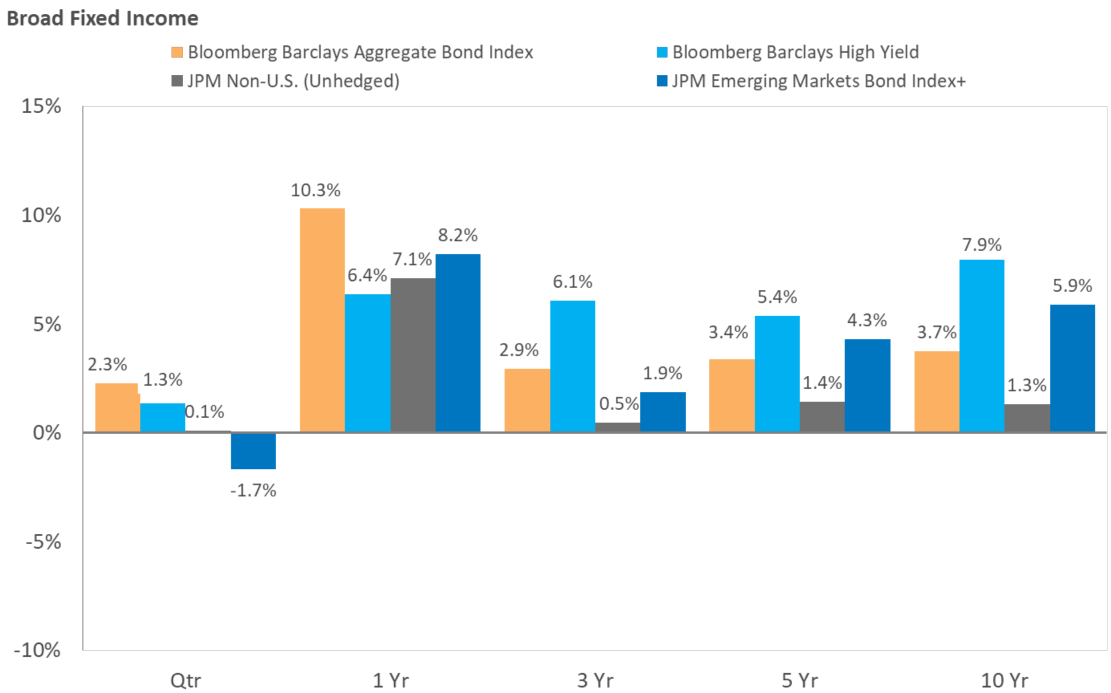


Data Source: Lipper

Report on Investment Activity (Continued)

MARKET REVIEW (continued)

The Treasury yield curve inverted during portions of the last several months. In past economic cycles, an inverted yield curve has often been a leading indicator of a future recession. However, the pressure on the yield curve subsided as the Federal Open Market Committee (FOMC) decreased the federal funds rate in July and September (25 bps each time), bringing the target range to 1.75%-2.00%. The decrease in Treasury interest rates led to price increases across the higher quality fixed income market (e.g., Bloomberg Barclays Aggregate Bond Index, see chart below). While producing strong absolute results, the LRS fixed income managers lagged the broad fixed income market due to their duration posture.



Data Source: Lipper

After a difficult start to the fiscal year, the Legislative Retirement System bounced back and produced a positive return of 2.8% net-of-fees for the one-year period ending September 30, 2019. Over longer time periods, the LRS portfolio returned 5.2% (net of fees) over five years and 8.1% (net of fees) over ten years. For comparison, the actuarially assumed rate-of-return is 7%. At the same time, the LRS portfolio has exceeded its market benchmark over most time periods.

The LRS portfolio remains well-diversified and positioned to generate results under a wide variety of economic scenarios. The largest allocations within the portfolio continue to be domestic and non-U.S. equity investments combined with investment grade fixed. The portfolio includes allocations to real asset investments to offer inflation protection as well as non-traditional exposures to provide diversification to the total portfolio.

The LRS Trustees continued to meet on a regular basis to discuss markets, managers and portfolio positioning. The Trustees met several times toward the end of the previous fiscal year and into the current fiscal year to discuss modifications to the portfolio's asset allocation and investment manager structure. The changes to asset allocation included modest increases in global equity and diversifying strategies with corresponding decreases in fixed income and real assets. Several changes were made to the investment manager line-up, as well, in part to streamline and reduce fees in certain segments of the portfolio. The resulting decisions were implemented primarily during the first half of the 2019 fiscal year.

Report on Investment Activity (Continued)

Schedule of Investment Results

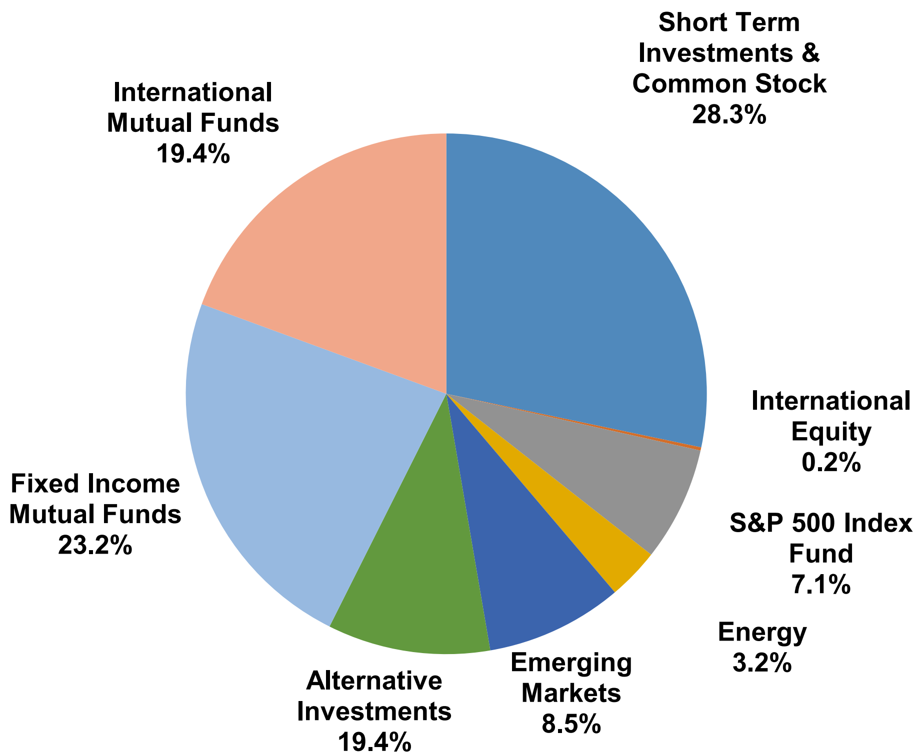
for period ending September 30, 2019

Investment Category	Current Year	Annualized Rate of Return[1] 3 years	5 years	10 years
Total Portfolio	2.8 %	7.4 %	5.2 %	8.1 %
Large Cap Equity Managers				
Wellington	9.5	20.2	15.8	15.3
Barrow, Hanley, Mewhinney & Strauss	3.3	11.4	8.3	11.3
Russell 1000 Growth Index	3.7	16.9	13.4	14.9
Fidelity 500 Index				
S&P 500 Index	4.3	13.4	10.8	13.2
Small Cap Equity Managers				
Rice Hall James	(12.4)	5.4	5.4	10.9
Cramer Rosenthal McGlynn	(1.8)	9.3	9.2	10.9
Russell 2000 Index	(8.9)	8.2	8.2	11.2
International Equity Managers				
EuroPacific Growth	0.8	7.0	4.7	5.7
Fidelity Total International Index				
MSCI AC World Index	(1.2)	6.3	2.9	4.5
DFA Emerging Markets Fund				
RWC Emerging Markets Equity Fund				
MSCI Emerging Markets Index				
Fixed Income Managers				
Dodge & Cox Income Fund	9.1	3.8		
DoubleLine Total Return Bond Fund	7.9	3.2	3.5	
Bloomberg Barclays US Aggregate Ind	10.3	2.9	3.4	
Natural Resources Managers				
Tortoise MLP & Pipeline Fund	(2.4)			
Alerian MLP Index	(8.1)			
PIMCO Inflation Response				
PIMCO IRMAF Benchmark				
Hedge Fund Manager				
Ironwood International Ltd	2.8	5.4	4.1	
HFRI FOF: Conservative Index	1.0	3.1	2.0	

[1] Calculations used a time-weighted net-of-fees total return based on the market rate of return in accordanace with industry standards

Asset Allocation

As of September 30, 2019



Investment Summary

As of September 30, 2019

Investment Category	Fair Value	Percentages of Fair Value	Percentages of Income/ (Loss)	Fiscal Year Income/(Loss)**
Short Term Investments* & Common Stocks	$ 42,619,413	28.3 %	(165.5) %	$ (7,273,811)
International Equity	253,987	0.2	1.2	50,469
S&P 500 Index Fund	10,739,295	7.1	181.5	7,977,110
Energy	4,781,383	3.2	4.3	189,256
Emerging Markets	12,887,156	8.5	2.9	128,775
Alternative Investments	15,174,344	10.1	(35.5)	(1,558,272)
Fixed Income Mutual Funds	34,975,041	23.2	32.4	1,424,578
International Mutual Funds	29,262,036	19.4	78.7	3,456,862
Total Investments	$ 150,692,655	100.0 %	100.0 %	$ 4,394,966

* Short Term Investments are equity in the State Treasurer's Common Cash Fund.

**Includes realized/unrealized gains and losses.

Largest Assets Held

Largest Stock Holdings (By Fair Value)
September 30, 2019

Rank	Shares	Stocks	Fair Value
1	7,916	MICROSOFT CORP	$ 1,100,561
2	356	AMAZON.COM INC	617,984
3	498	ALPHABET INC CL C	607,062
4	3,336	FACEBOOK INC - A	594,075
5	2,350	HOME DEPOT INC	545,247
6	2,494	UNITEDHEALTH GROUP INC	541,996
7	3,197	DOLLAR GENERAL CORP	508,131
8	1,806	MASTERCARD INC A	490,455
9	2,178	APPLE INC	487,807
10	23,535	REGIS CORP	475,878

A complete list of stock holdings is available from the System.

Schedule of Investment Fees

Schedule of Investment Fees at September 30, 2019

Investment Managers Fees*:	Assets under Management	Fees
World Asset Mgt/Comerica	$0	$ 1,396
Cramer Rosenthal McGlynn	8,244,023	83,549
Barrow Hanley Mewhinney & Strauss	13,844,866	94,862
Rice Hall James	7,740,111	67,706
Wellington	13,986,369	83,133
		330,646
Other Investment Fees		
State Treasurer		22,913
Fund Evaluation Group		95,805
		118,718
	TOTAL	$ 449,364

*Europacific Growth Fund, Fidelity, Ironwood International Ltd., PIMCO, DFA, RWC, Dodge & Cox, DoubleLine and Tortoise management fees are netted against return earned by mutual fund money managers.

Schedule of Fees and Commissions

Investment Broker Name	Fiscal Year Ended September 30, 2019 Shares Traded	Total Value of Commissions	Average Commission Per Share
ABEL NOSER CORP	15,103	604.12	0.04
ALLEN & COMPANY LLC	3,200	64.00	0.02
B.RILEY & CO., LLC	4,299	128.97	0.03
BARCLAYS CAPITAL LE	19,327	245.76	0.01
BMO CAPITAL MARKETS	11,787	414.94	0.04
BOFA SECURITIES, INC.	3,108	108.50	0.03
BTIG, LLC	9,441	254.06	0.03
BUCKINGHAM RESEARCH GROUP INC	1,565	62.60	0.04
CANACCORD GENUITY INC.	5,476	191.58	0.03
CANTOR FITZGERALD + CO.	2,229	57.29	0.03
CAPITAL INSTITUTIONAL SVCS INC EQUITIES	830	29.06	0.04
CITATION GROUP	8,739	69.07	0.01
CITIGROUP GLOBAL MARKETS INC	18,635	598.56	0.03
CJS SECURITIES INC	8,390	251.70	0.03
CORNERSTONE MACRO LLC	6,444	225.55	0.04
COWEN AND COMPANY, LLC	129,059	3,697.84	0.03
CRAIG - HALLUM	26,261	787.83	0.03
CREDIT SUISSE SECURITIES (USA) LLC	72,330	1,710.43	0.02
DAIWA SECURITIES AMERICA INC	1,294	45.29	0.04
DAVIDSON D.A. + COMPANY INC.	8,322	249.66	0.03
DEUTSCHE BANK SECURITIES INC	11,424	217.82	0.02
DOUGHERTY & COMPANY LLC	13,087	392.61	0.03
FIDELITY CAPITAL MARKETS	6,687	50.16	0.01
FIRST ANALYSIS SECURITIES CORP	1,090	32.70	0.03
FRANK RUSSELL SEC/BROADCORT CAP CLEARING	79	2.77	0.04
GOLDMAN SACHS + CO LLC	71,602	1,913.96	0.03
GUGGENHEIM CAPITAL MARKETS LLC	830	21.42	0.03
GUZMAN AND COMPANY	125	5.00	0.04
HILLTOP SECURITIES INC.	36	1.26	0.04
HSBC BROKERAGE (USA) INC.	449	15.71	0.03
INSTINET	42,735	747.07	0.02
INVESTMENT TECHNOLOGY GROUP INC.	20,846	394.45	0.02
ISI GROUP INC	6,213	123.06	0.02
ITG INC.	1,591	63.64	0.04
J.P. MORGAN SECURITIES LLC	53,293	1,618.04	0.03
JANNEY MONTGOMERY, SCOTT INC	117	4.68	0.04
JEFFERIES + COMPANY INC	44,386	1,364.75	0.03
JOHNSON RICE & COMPANY LLC	3,089	108.12	0.04
JONESTRADING INSTITUTIONAL SERVICES LLC	29,232	831.14	0.03
KEEFE BRUYETTE + WOODS INC	3,683	145.80	0.04

Schedule of Fees and Commissions (Continued)

	Fiscal Year Ended September 30, 2019		
Investment Broker Name	Shares Traded	Total Value of Commissions	Average Commission Per Share
KEYBANC CAPITAL MARKETS INC	31,272	1,031.44	0.03
KING, CL, & ASSOCIATES, INC	3,396	101.88	0.03
LEERINK PARTNERS LLC	700	-	-
LIQUIDNET INC	75,249	1,705.96	0.02
LOOP CAPITAL MARKETS	11,866	355.98	0.03
LUMINEX TRADING AND ANALYTICS LLC	1,165	5.84	0.01
MACQUARIE SECURITIES (USA) INC	1,641	65.64	0.04
MERRILL LYNCH PROFESSIONAL CLEARING CORP	209	8.36	0.04
MIRAE ASSET SEC USA	1,931	75.41	0.04
MIZUHO SECURITIES USA INC.	765	22.20	0.03
MKM PARTNERS LLC	4,148	145.18	0.04
MORGAN STANLEY CO INCORPORATED	21,869	706.74	0.03
NEEDHAM AND COMPANY LLC	26,202	799.33	0.03
O NEIL, WILLIAM AND CO. INC/BCC CLRG	220	7.71	0.04
OPPENHEIMER + CO. INC.	3,487	109.51	0.03
PIPER JAFFRAY & CO.	12,806	175.16	0.01
RAYMOND JAMES AND ASSOCIATES INC	41,306	1,286.74	0.03
RBC CAPITAL MARKETS, LLC	16,094	232.31	0.01
RENAISSANCE MACRO SECURITIES, LLC	100	2.00	0.02
ROBERT W. BAIRD CO.INCORPORATED	46,197	1,430.41	0.03
SANDLER ONEILL AND PARTNERS L.P.	994	29.82	0.03
SANFORD C BERNSTEIN CO LLC	13,177	269.36	0.02
SEAPORT GROUP SECURITIES, LLC	109	2.18	0.02
SIDOTI + COMPANY LLC	1,393	41.79	0.03
STATE STREET GLOBAL MARKETS, LLC	6,587	104.81	0.02
STEPHENS, INC.	13,194	428.82	0.03
STIFEL NICOLAUS + CO INC	24,825	771.55	0.03
STRATEGAS SECURITIES LLC	615	21.55	0.04
SUNTRUST CAPITAL MARKETS, INC.	19,832	732.28	0.04
UBS SECURITIES LLC	17,464	583.69	0.03
VIRTU AMERICAS LLC	12,230	276.70	0.02
WALL STREET ACCESS	4,992	21.07	0.00
WEDBUSH MORGAN SECURITIES INC	2,257	67.71	0.03
WEEDEN + CO.	23,202	525.60	0.02
WELLS FARGO SECURITIES, LLC	5,821	186.28	0.03
WILLIAM BLAIR & COMPANY L.L.C	24,232	726.96	0.03
WOLFE TRAHAN SECURITIES	11,261	341.35	0.03
ZACKSTRADE	300	6.00	0.02
TOTALS	1,149,541	31,256.29	

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Michigan Legislative Retirement System

Comprehensive Annual Financial Report
for the Fiscal Year Ended September 30, 2019

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

Actuary's Certification

GRS Retirement Consulting

800.521.0498 | P: 248.799.9000 | F: 248.799.9020 | www.grsconsulting.com

December 12, 2019

Board of Trustees
Michigan Legislative Retirement System
124 North Capitol Avenue – Suite S0927
Lansing, Michigan 48933

Ladies and Gentlemen:

The basic financial objective of the Tier 1 Defined Benefit Plan of the Michigan Legislative Retirement System (MLRS) is to establish and receive contributions which, when combined with present assets and future investment return, will be sufficient to meet the financial obligations of the System to present and future benefit recipients.

The purpose of the September 30, 2018 annual actuarial valuations was to determine the contribution requirements for the fiscal year ending September 30, 2019 and to measure the System's funding progress. The valuations should not be relied upon for any other purpose. The valuation process develops employer contributions that are sufficient 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, 2018.

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

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 of Trustees after considering the advice of the actuary and other professionals. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution requirements as needed. Assets are valued according to a method that fully recognizes expected investment return, and recognizes unanticipated market return over a five-year period. The assumptions and the methods comply with the disclosure requirements of GASB Statement No. 67.

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

Actuary's Certification (Continued)

Board of Trustees
Michigan Legislative Retirement System
December 12, 2019
Page 2

The Michigan Legislative Retirement System is a closed plan consisting of only retired and inactive members (1 remaining active member). The primary assumptions which impact liabilities are the investment return and mortality assumptions. While there has not been a formal experience study performed in recent history, these assumptions are reviewed annually. All assumptions and methods comply with relevant actuarial standards of practice.

As of the valuation date, MLRS is 64.3% funded based upon the smoothed value of assets and 66.0% funded based upon market value.

The following schedules in the Actuarial Section of the CAFR were prepared based upon certain information presented in the previously mentioned funding valuation reports. MLRS Staff excerpted information from various schedules in the actuarial reports and tabulated it to produce the appropriate CAFR Schedule.

- Schedule of Active Member Pension Valuation Data
- Schedule of Changes in the Pension Retirement Rolls
- Priority Solvency Test – Pension Benefits
- Analysis of System Experience – Pension Benefits
- Schedule of Active Member OPEB Valuation Data
- Schedule of Changes in the OPEB Retirement Rolls
- Priority Solvency Test – OPEB Benefits
- Analysis of System Experience – OPEB Benefits

The current benefit structure is outlined in the Actuarial Section of the Comprehensive Annual Financial Report (CAFR). The following schedules in the Statistical Section were prepared based upon certain information presented in the previously mentioned funding valuation reports. MLRS Staff excerpted information from various schedules in the actuarial reports and tabulated it to produce the appropriate CAFR Schedule.

- Schedule of Funding Progress – Pension Plan
- Schedule of Funding Progress – Other Postemployment Benefit Plan

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

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Actuary's Certification (Continued)

Board of Trustees
Michigan Legislative Retirement System
December 12, 2019
Page 3

Based upon the results of the September 30, 2018 valuation, the actuarial liabilities are less than fully funded on a funding value of assets basis and market value of assets basis. It is most important that this plan receive contributions at least equal to the actuarial rates. The actual public financed contribution for the year ended September 30, 2018 was zero, instead of the actuarially computed $8,236,583. Lower than recommended actual contributions will increase future required contributions or possibly lead to a depletion in fund assets.

The signing actuaries are independent of the plan sponsor.

The actuarial valuation of the Michigan Legislative Retirement System as of September 30, 2018 was 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. Mark Buis, and Francois Pieterse are Members of the American Academy of Actuaries (MAAA), are independent of the plan sponsor and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the calculated employer contribution meets the financial objective of the Retirement System.

Respectfully submitted,

Mark Buis

Mark Buis, FSA, EA, FCA, MAAA

Pieterse

Francois Pieterse, ASA, FCA, MAAA

MB/FP:dj

GRS

Summary of Actuarial Assumptions and Methods

1. The investment return rate used in making the valuations was 7% per year, compounded annually. This rate of return is not the assumed real rate of return. The real rate of return is the rate of investment return in excess of the inflation rate. Considering other financial assumptions, this 7% investment return rate translates to an assumed real rate of return of 3%. Adopted 1987.

2. The mortality table used in evaluating allowances to be paid was the RP-2014 tables, as extended, and includes a margin for future mortality improvement projected using a fully generational improvement scale. These rates were first used for the September 30, 2018 valuation.

3. Sample probabilities of retirement with an age and service allowance are shown in Schedule 1. Adopted 1987.

4. Sample probabilities of withdrawal from service and disability, together with individual pay increase assumptions, are shown in Schedule 2. Adopted 1993, 1979, and 1987, respectively.

5. Total active member payroll is assumed to increase 4% per year. This represents the portion of the individual pay increase assumptions attributable to inflation.

6. An individual entry age actuarial cost method of valuation was used in determining age and service allowance actuarial liabilities and normal cost. Adopted 1987. Unfunded actuarial accrued liabilities, including actuarial gains and losses, are financed over a period of 10 years.

7. Effective for the September 30, 1993 valuation, valuation assets were equal to valuation assets (prior method) as of September 30, 1992, with subsequent differences between total investment income and projected investment income (actuarial assumption) being spread over a five (5) year period.

8. Member data and asset information was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

9. The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). The assumptions used in the actuarial valuations were adopted by the board of trustees after consulting with the actuary.

10. Beginning fiscal year 2011, the System board approved using the prior year actuarial report for the System current year comprehensive annual financial report.

Summary of Actuarial Assumptions and Methods (Continued)

SCHEDULE 1

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
50	10 %
52	10
55	10
58	10
61	10
64	10
67	10
70	100

SCHEDULE 2

Separation From Active Employment Before
Age & Service Retirement & Individual Pay Increase Assumptions

Years of Service[#]	Percent of Active Members Withdrawing Within Next Year		Sample Ages	Percent of Active Members Becoming Disabled Within Next Year		Percent Increase In Pay During Next Year
	House	Senate		Men	Women	
0	6 %	6 %	25	0.08 %	0.10 %	4 %
1	6	6	35	0.08	0.10	4
2	6	6	40	0.20	0.36	4
3	6	6	45	0.27	0.41	4
4	6	6	50	0.49	0.57	4
5	4	4	55	0.89	0.77	4
6	100	4	60	1.41	1.02	4
7		4	65	1.66	1.23	4
8		100				

[#] Years after 1992, for persons who were members on December 31, 1992

Actuarial Valuation Data

Schedule of Active Member Pension Valuation Data

Valuation Date Sept. 30	Number	Reported Annual Payroll	Average Annual Pay	% Increase (Decrease)	Average Age	Average Service
2009	14	$ 1,151,100	$ 82,221	(1.3)%	58.6	13.6
2010	14	1,173,100	83,739	1.8	59.6	14.6
2011	2	143,370	71,685	(14.4)	57.2	9.6
2012	1	71,685	71,685	0.0	52.3	9.8
2013	1	71,685	71,685	0.0	53.3	10.8
2014	1	71,685	71,685	0.0	54.3	11.8
2015	1	71,685	71,685	0.0	55.3	12.8
2016	1	71,685	71,685	0.0	56.3	13.8
2017	1	71,685	71,685	0.0	57.3	14.8
2018	1	71,685	71,685	0.0	58.3	15.8

Schedule of Active Member OPEB Valuation Data

Valuation Date Sept. 30	Number	Reported Annual Payroll	Average Annual Pay	% Increase (Decrease)	Average Age	Average Service
2012	48	$ 3,515,187	$ 73,233	%	52.6	7.7
2013	44	3,240,447	73,647	0.6	52.9	8.6
2014	34	2,497,497	73,456	(0.3)	53.4	10.2
2015	24	1,733,547	72,231	(1.7)	52.2	10.5
2016	23	1,661,862	72,255	0.0	53.7	11.4
2017	23	1,661,862	72,255	0.0	54.7	12.4
2018	24	1,733,547	72,231	0.0	56.3	13.2

Actuarial Valuation Data (Continued)

Schedule of
Changes in the Pension Retirement Rolls

Year Ended Sept. 30	Added to Rolls No.	Added to Rolls Annual Allowances	Removed from Rolls No.	Removed from Rolls Annual Allowances	Rolls–End of Year No.	Rolls–End of Year Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
2009	13	$ 783,304	9	$ 352,972	288	$10,853,048	4.1%	$ 37,684
2010	8	629,090	8	286,285	288	11,195,853	3.2	38,874
2011	22	1,279,764	10	300,085	300	12,175,532	8.8	40,585
2012	8	752,346	15	428,828	293	12,499,050	2.7	42,659
2013	5	631,881	8	278,216	290	12,852,715	2.8	44,320
2014	4	594,824	10	364,336	284	13,083,203	1.8	46,068
2015	5	723,413	10	391,953	279	13,414,663	2.5	48,081
2016	5	656,260	13	735,829	271	13,335,094	(0.6)	49,207
2017	13	803,468	15	540,339	269	13,598,223	2.0	50,551
2018	10	834,312	17	689,748	262	13,742,787	1.1	52,453

Schedule of
Changes in the OPEB Retirement Rolls

Year Ended Sept. 30	Added to Rolls No.	Added to Rolls Annual Allowances	Removed from Rolls No.	Removed from Rolls Annual Allowances	Rolls–End of Year No.	Rolls–End of Year Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
2011					356	$ 5,225,619		
2012	18	$ 175,876	12	$ 415,990	362	4,979,441	(4.6) %	$ 13,755
2013	16	381,825	9	61,892	369	5,299,374	6.4	14,361
2014	8	71,424	15	149,945	362	5,220,853	(1.5)	14,422
2015	16	514,854	14	163,980	364	5,571,727	6.7	15,307
2016	8	162,321	13	159,096	359	5,574,952	0.1	15,529
2017	16	904,549	17	247,893	358	6,231,608	11.8	17,407
2018	11	481,308	16	129,730	356	6,583,186	5.6	18,492

Prioritized Solvency Test

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

A prioritized solvency test is another means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with: (1) liability for 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 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) is normally partially covered by the remainder of present assets. Generally, if the System has been using level-cost financing, the funded portion of liability 3 will increase over time. Liability 3 being fully funded is not necessarily a byproduct of level percent of payroll funding methods.

The schedule below illustrates the history of the liabilities of the System and is indicative of the System's policy of following the discipline of level percent of payroll financing.

Pension Benefits
($ in thousands)

	Actuarial Accrued Liability (AAL)							
	(1)	(2)	(3)					
Valuation Date Sept. 30	Active Member Contributions	Retirants and Beneficiaries	Active Members (Employer Financed Portion)	Valuation Assets	Portion of AAL Covered by Assets (1)	(2)	(3)	(4)[1]
2009	$ 1,483	$ 149,132	$ 20,826	$ 165,810	100 %	100 %	73 %	97 %
2010	1,280	151,675	19,739	158,952	100	100	30	92
2011	659	171,022	10,165	149,940	100	87	0	83
2012	587	171,388	8,491	136,916	100	80	0	76
2013	500	172,877	7,532	134,932	100	78	0	75
2014	446	185,067	7,249	135,767	100	73	0	70
2015	284	186,103	6,255	134,049	100	72	0	70
2016	236	184,070	5,918	132,976	100	72	0	70
2017	152	184,169	4,450	128,919	100	70	0	68
2018	102	186,251	3,840	122,261	100	66	0	64

[1]percents funded on a total valuation asset and total actuarial accrued liability basis

Prioritized Solvency Test (Continued)

Other Postemployment Benefits
($ in thousands)

Valuation Date Sept. 30	Actuarial Accrued Liability (AAL) (1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of AAL Covered by Assets (1)	(2)	(3)	(4)[1]
2009	$ -	$ 80,198	$ 56,672	$ 14,588	0 %	18 %	0 %	11 %
2010	-	86,786	68,473	15,886	0	18	0	10
2011	-	92,385	48,311	15,179	0	16	0	11
2012	-	98,511	46,650	20,825	0	21	0	14
2013	-	103,824	49,842	22,806	0	22	0	15
2014	-	109,400	49,169	23,625	0	22	0	15
2015	-	123,962	50,602	21,840	0	18	0	13
2016	-	132,404	51,821	22,942	0	17	0	13
2017	-	136,308	52,683	24,507	0	18	0	13
2018	-	119,220	46,311	24,928	0	21	0	15

[1] percents funded on a total valuation asset and total actuarial accrued liability basis

Analysis of System Experience

Pension Benefits

Gains/Losses in Accrued Liabilities During Year Ended September 30, 2018

Resulting from Differences Between Assumed Experience & Actual Experience

	Type of Activity	Gain/(Loss)
1.	**Retirements (including Disability Retirement).** If members retire at older ages or with lower final average pay than assumed, there is a gain. If younger ages or higher average pays, a loss.	$
2.	**Withdrawals From Employment.** (including death-in-service) If more liabilities are released by withdrawals and deaths than assumed, there is a gain. If smaller releases, a loss.	
3.	**Pay Increases.** If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	
4.	**Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss.	(653,176)
5.	**Death After Retirement.** If retirants live longer than assumed, there is a loss. Of not as long, a gain.	(34,768)
6.	**Rehires.** Rehires will generally result in an actuarial loss.	
7.	**Other.** Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	29,458
8.	**Composite Gain (or Loss) During Year**	**$ (658,486)**

Analysis of System Experience (Continued)

OPEB Benefits
Gains/Losses in Accrued Liabilities During Year Ended September 30, 2018
Resulting from Differences Between Assumed Experience & Actual Experience

A.	**Derivation of Actuarial Gain/(Loss):**	
	1. **Unfunded Actuarial Accrued Liability (UAAL) -** Previous Valuation	$ 164,483,779
	2. **Total Normal Cost** (employer plus member) for Year Ending 9/30/2018	776,026
	3. **Total Contributions** (employer plus member) for Year Ending 9/30/2018	4,934,164
	4. **Interest on:**	
	a. UAAL: .04 x (1)	6,579,351
	b. Normal Cost and Contributions: .04 x [(2) - (3)]	(83,163)
	c. Net Total: (a) + (b)	6,496,188
	5. **Change in UAAL due to Benefit Changes**	-
	6. **Change in UAAL due to Assumptions/Methods** (i.e., Trend/Discount Rate)	1,206,456
	7. **Expected UAAL Current Year:**	
	(1) + (2) - (3) + (4c) + (5) + (6)	168,028,285
	8. **Actual UAAL Current Year**	140,603,093
	9. **Experience Gain/(Loss): (7) - (8)**	27,425,192
B.	**Approximate Portion of Gain/(Loss) due to Investments**	807,801
C.	**Approximate Portion of Gain/(Loss) due to Liabilities: (A.9) - (B)**	26,617,391

	Type of Activity	Gain/(Loss)
1.	**Premiums.** Gains and losses resulting from actual premiums in valuation year versus that assumed from prior valuation	$ 25,549,826
2.	**Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss.	807,801
3.	**Demographic and Other.** Gains and losses resulting from demographic experience, data adjustments, timing of financial transactions, etc.	1,067,565
4.	**Composite Gain/(Loss) During Year.**	$ 27,425,192

Summary Of Plan Provisions

Membership

Legislators who first become legislators after March 30, 1997, will *not* be members of the Tier 1 defined benefit plan. This summary of benefits applies only to persons who first became legislators on or before March 30, 1997, and who did not elect to transfer to Tier 2, the defined contribution plan.

Term Limits

For terms of office beginning on or after January 1, 1993, no person shall be elected to the House of Representatives (House) more than three (3) times and no person shall be elected to the Senate more than two (2) times. With the exception of persons who fill vacancies for partial terms and persons who serve in both the House and the Senate, the normal service limits are:

House - 6 years (three 2-year terms)
Senate - 8 years (two 4-year terms)

Regular Retirement

Eligibility - At least age 50 with age plus service equal to or exceeding 70; or at least age 55 with 5 or more years service if seated either: a) 3 times in the House or b) 2 times in the Senate or c) 1 time in the House and 1 time in the Senate.

Annual Amount - Persons who first became members on or before January 1, 1995: 20% of the highest salary earned for the first 5 years of service, plus 4% of highest salary for each of the next 11 years of service, plus 1% of highest salary for each additional year of service.

Persons who first became members after January 1, 1995: 3% of highest salary for each year of service.

Deferred Retirement (Vested Benefit)

Eligibility - 5 or more years of service if seated either: a) 3 times in the House or b) 2 times in the Senate or c) 1 time in the House and 1 time in the Senate. Benefit begins at age 55 (as early as age 50 if age plus service equals or exceeds 70). Member may delay commencement of benefits to an age not greater than age 70-1/2.

Annual Amount - Computed as regular retirement benefit based on service and highest salary at termination. For persons who first became members on or before January 1, 1995, the benefit is increased 4% annually (compounded) between termination of membership and the earlier of a) benefit commencement or b) age 55. Benefits delayed beyond age 55 are actuarially equivalent to the age 55 benefit.

Disability Retirement

Eligibility - Disability before becoming eligible to retire or during a benefit deferral period.

Annual Amount - Computed as a regular retirement benefit based on service and highest salary at time of disability.

Summary Of Plan Provisions (Continued)

Death Benefit

Eligibility - 5 or more years of service if seated either: a) 3 times in the House or b) 2 times in the Senate or c) 1 time in the House and 1 time in the Senate. Benefit is paid immediately.

Annual Amount - Surviving spouse receives 66 2/3% of the retirement allowance earned as of the date of death of the member. If there are eligible dependent children in his or her care, the surviving spouse receives 75% of the retirement allowance earned as of the date of death until the children are no longer dependent, at which time 66-2/3% then becomes payable. Special conditions apply if there is no surviving spouse, or if the eligible children are not under the care of the surviving spouse.

Post-Retirement Cost-of-Living Adjustments

The annual retirement allowance payable to a retirant or survivor is increased by 4% per year, compounded annually (non-compounded for persons first becoming members after January 1, 1995), each January 1.

Life Insurance

Life insurance coverage is provided from the Insurance Revolving Fund for active members, retirants, and deferred vested members. Coverage varies from $2,500 to $150,000 depending on premium payments, board policy, and statutory provisions in place at deferral and/or retirement.

Post-Retirement Health Insurance

Hospital, medical, and dental insurance shall be provided from the Health Insurance Fund for retirants, deferred vested members who first became members on or before January 1, 1995, and their survivors, and to the spouses and eligible children of retirants and of deferred vested members who first became members on or before January 1, 1995.

In addition, the System provides health insurance coverage to eligible former legislators who belong to the State's Defined Contribution Plan (Tier 2).

Member Contributions

For members who first became a member on or before January 1, 1995: 9% of annual salary to the Health Insurance Fund.

For members who first became a member after January 1, 1995: 7% of annual salary to the Health Insurance Fund.

Michigan Legislative Retirement System

Comprehensive Annual Financial Report
for the Fiscal Year Ended September 30, 2019

STATISTICAL SECTION

Schedule of Revenue by Source
Schedule of Expenses by Type
Schedule of Benefit Expenses by Type
Schedules of Changes in Net Position
Schedules of Benefit and Refund Deductions from Net Position by Type
Schedule of Retired Members by Type of Benefit
Schedule of Funding Progress
Actuarial Value of Assets compared to Actuarial Accrued Liability
Schedule of Average Benefit Payments

STATISTICAL SECTION

Narrative Explanation to Statistical Section

The intention of this narrative description is to explain the System's financial and operating trends of the schedules in the statistical section. It is important that this section be written clearly and accurately to help improve the understandability and usefulness of the statistical information. The statistical section contains the following schedules:

Schedule of Revenue By Source - Pension Plan and Other Postemployment Benefit Plan (OPEB)

Schedule of Expenses By Type - Pension Plan and OPEB

Schedule of Benefit Expenses By Type - Pension Plan and OPEB

Schedule of Changes in Fiduciary Net Position - Pension Plan

Schedule of Changes in Fiduciary Net Position - OPEB

Schedule of Benefit and Refund Deductions from Net Position by Type – Pension Plan

Schedule of Benefit and Refund Deductions from Net Position by Type – OPEB

These schedules are a ten (10) year comparison of the Statement of Changes in Pension Plan and Postemployment Benefits Fiduciary Net Position found in the Financial Section of this report. This is to provide a longer time period for reference and show possible trends.

Schedule of Retired Members by Type of Benefit – Pension Plan

Schedule of Retired Members by Type of Benefit – OPEB

This schedule is to show the average amount of benefits. It is broken out by amount and type to show possible trends.

Schedule of Funding Progress – Pension Plan

Schedule of Funding Progress – OPEB Plan

This schedule is to show the System funding status on a going-concern basis. Analysis of this percentage over time indicates whether the system is becoming financially stronger or weaker. This schedule was in the financial section, but was replaced by the Net Pension Liability for the pension plan and Net OPEB Liability for the OPEB plan.

Actuarial Value of Pension Plan Assets compared to Actuarial Accrued Pension Plan Liability

Actuarial Value of OPEB Plan Assets compared to Actuarial Accrued OPEB Plan Liability

This is to show the trend of the actuarial value of assets compared to the actuarial accrued liability.

Schedule of Average Benefit Payments – Pension Plan

Schedule of Average Benefit Payments – OPEB

This schedule is to show the average amount of new benefits by years of service.

Schedule of Revenue By Source
Pension Plan and Other Postemployment Benefit Plan

Fiscal Year Ended	Member Contributions	Employer Contributions	Other Governmental Contributions	Court Fees	Investment & Other Income(Loss)	Total
2010	$164,411	$3,424,100	$150,113	$1,090,565	$16,840,841	$21,670,030
2011	114,663	3,287,900	880,159	999,609	(1,160,783)	4,121,548
2012	99,322	6,887,400	255,590	952,922	29,197,705	37,392,939
2013	113,784	3,300,200	153,256	940,187	26,568,449	31,075,876
2014	123,791	3,451,900	167,078	871,481	17,256,085	21,870,335
2015	126,290	3,607,200	180,690	866,174	(6,908,086)	(2,127,732)
2016	135,739	3,733,500	207,065	804,133	13,785,524	18,665,961
2017	10,346	3,808,200	204,042	763,436	19,042,045	23,828,070
2018	7,450	3,884,400	270,673	772,640	10,886,576	15,821,738
2019	4,182	16,400,900	353,649	753,798	4,971,286	22,483,815

Schedule of Expenses By Type
Pension Plan and Other Postemployment Benefit Plan

Fiscal Year Ended	Benefits*	Refunds and Transfers	Administrative Expenses	Total
2010	$16,747,744	$305,475	$391,145	$17,444,364
2011	17,819,328	11,496	510,858	18,341,682
2012	18,315,849	15,672	458,702	18,790,223
2013	18,704,799	11,700	439,791	19,156,290
2014	19,643,402	20,911	493,883	20,158,196
2015	19,905,147	724,352	427,768	21,057,267
2016	20,015,578	72,715	471,670	20,559,964
2017	20,589,553	35,618	460,807	21,085,978
2018	21,182,711	33,623	473,073	21,689,407
2019	20,293,738	-	485,861	20,779,600

* Includes health benefits

Schedule of Benefit Expenses by Type
Pension Plan and Other Postemployment Benefit Plan

Fiscal Year Ended	Regular & Survivor Pension Benefits	Death Benefits	Dental Benefits	Health Benefits	Total
2010	$11,121,971	$333,172	$426,560	$4,866,041	$16,747,744
2011	11,974,289	140,000	448,263	5,256,776	17,819,328
2012	12,469,893	325,796	417,299	5,102,861	18,315,849
2013	12,757,228	134,000	417,115	5,396,456	18,704,799
2014	13,147,695	381,500	417,313	5,696,894	19,643,402
2015	13,394,276	376,678	409,246	5,724,946	19,905,147
2016	13,451,597	395,000	404,929	5,764,052	20,015,578
2017	13,639,606	607,000	390,630	5,952,317	20,589,553
2018	13,855,004	632,500	380,005	6,315,202	21,182,711
2019	14,008,685	121,280	371,898	5,791,875	20,293,738

Schedule of Changes in Fiduciary Net Position - Pension Plan (Ten Years)

	Fiscal Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Additions										
Member contributions	$ 11,044	$ 10,343	$ 7,635	$ 6,527	$ 5,662	$ 3,226	$ 3,648	$ 3,895	$ 998	$ 2,445
Employer contributions										8,063,327
Other Gov't contributions										
Court fees										
Net Investment income	15,031,593	(1,001,060)	26,171,659	23,207,036	14,868,119	(6,545,332)	11,324,783	15,840,765	8,629,843	3,319,925
Other income		1						6,649		
Total additions	15,042,637	(990,716)	26,179,294	23,213,563	14,873,781	(6,542,106)	11,328,431	15,851,309	8,630,841	11,385,697
Deductions										
Benefit payments	11,455,143	12,114,289	12,795,689	12,891,228	13,529,195	13,770,955	13,846,597	14,246,606	14,487,504	14,129,965
Refunds	17,506	11,496	15,672	11,700	20,911	13,285	72,715	35,618	33,623	
Qualified rollovers	287,969					711,067				
Administrative expenses	354,649	396,358	411,128	372,703	430,200	362,431	405,381	391,937	398,871	405,319
Total deductions	12,115,267	12,522,143	13,222,489	13,275,631	13,980,306	14,857,738	14,324,693	14,674,160	14,919,999	14,535,284
Changes in Net position	$ 2,927,370	$ (13,512,859)	$ 12,956,805	$ 9,937,932	$ 893,475	$ (21,399,844)	$ (2,996,262)	$ 1,177,149	$ (6,289,158)	$ (3,149,587)

Schedule of Changes in Fiduciary Net Position - Other Postemployment Benefit Plan (Ten Years)

	Fiscal Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Additions										
Member contributions	$ 153,367	$ 104,320	$ 91,687	$ 107,257	$ 118,129	$ 123,064	$ 132,090	$ 6,452	$ 6,452	$ 1,737
Employer contributions	3,424,100	3,287,900	6,887,400	3,300,200	3,451,900	3,607,200	3,733,500	3,808,200	3,884,400	8,337,573
Other Gov't contributions	150,113	880,159	255,590	153,256	167,078	180,690	207,065	204,042	270,673	353,649
Court fees	1,090,565	999,609	952,922	940,187	871,481	866,174	804,133	763,436	772,640	753,798
Net Investment income	1,556,845	(159,724)	3,026,046	3,361,413	2,187,276	(996,079)	1,834,640	2,754,692	1,573,479	625,677
Other income	252,403				200,690	633,325	626,101	439,939	683,254	1,025,684
Total additions	6,627,393	5,112,264	11,213,645	7,862,313	6,996,554	4,414,374	7,337,530	7,976,761	7,190,898	11,098,118
Deductions										
Benefit payments	5,292,601	5,705,039	5,520,160	5,813,571	6,114,207	6,134,192	6,168,981	6,342,947	6,695,207	6,163,773
Refunds										
Qualified rollovers										
Administrative expenses	36,496	114,500	47,574	67,088	63,683	65,337	66,289	68,871	74,201	80,543
Total deductions	5,329,097	5,819,539	5,567,734	5,880,659	6,177,890	6,199,529	6,235,271	6,411,818	6,769,408	6,244,315
Changes in Net position	$ 1,298,296	$ (707,275)	$ 5,645,911	$ 1,981,654	$ 818,664	$ (1,785,155)	$ 1,102,259	$ 1,564,943	$ 421,490	$ 4,853,802

Schedule of Benefit and Refund Deductions from Net Position by Type
Pension Plan
(Ten Years)

	Fiscal Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Type of Benefit										
Age and service benefits:										
Retirees	$ 9,403,769	$ 10,178,018	$ 10,669,077	$ 10,850,420	$ 11,137,006	$ 11,398,185	$ 11,398,950	$ 11,502,955	$ 11,457,806	$ 11,579,049
Survivors	1,718,202	1,796,271	1,800,816	1,906,808	2,010,689	1,996,092	2,052,647	2,136,651	2,397,198	2,429,636
Death in service benefits	333,172	140,000	325,796	134,000	381,500	376,678	395,000	607,000	632,500	121,280
Total benefits	$ 11,455,143	$ 12,114,289	$ 12,795,689	$ 12,891,228	$ 13,529,195	$ 13,770,955	$ 13,846,597	$ 14,246,606	$ 14,487,504	$ 14,129,965
Type of refund										
Death	$ 17,506	$ 11,098	$ 15,672	$ 11,700	$ 20,911	$ 13,284	$ 61,780	$ 35,618	$ 33,623	$
Separation										
Other	287,969	398				711,067	10,935			
Total Refunds	$ 305,475	$ 11,496	$ 15,672	$ 11,700	$ 20,911	$ 724,352	$ 72,715	$ 35,618	$ 33,623	$

Schedule of Benefit and Refund Deductions from Net Position by Type
Other Postemployment Benefit Plan
(Ten Years)

	Fiscal Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Type of Benefit										
Heathcare benefits:										
Health benefits	$ 4,866,041	$ 5,256,776	$ 5,102,861	$ 5,396,456	$ 5,696,894	$ 5,724,946	$ 5,764,052	$ 5,952,317	$ 6,315,202	$ 5,791,875
Dental benefits	426,560	448,263	417,299	417,115	417,313	409,246	404,929	390,630	380,005	371,898
Total benefits	$ 5,292,601	$ 5,705,039	$ 5,520,160	$ 5,813,571	$ 6,114,207	$ 6,134,192	$ 6,168,981	$ 6,342,947	$ 6,695,207	$ 6,163,773

Schedule of Retired Members by Type of Benefit - Pension Plan
As of September 30, 2019

Amount of Monthly Benefit	Number of Retired Members	Type of Retirement*				
		1	2	3	4	5
Deferred	5	2	3	0	0	0
$ 1 - $ 500	1	1	0	0	0	0
501 - 1,000	4	3	0	1	0	0
1,001 - 1,500	11	4	2	3	2	0
1,501 - 2,000	21	6	3	12	0	0
2,001 - 2,500	26	21	4	1	0	0
2,501 - 3,000	21	16	0	5	0	0
3,001 - 3,500	24	18	0	6	0	0
3,501 - 4,000	14	5	2	7	0	0
4,001 - 4,500	21	16	2	3	0	0
4,501 - 5,000	14	7	0	7	0	0
Over 5,000	102	90	0	12	0	0
Total	264	189	16	57	2	0

Notes:
*Type of Retirement
1 - Regular retirement - first became members on or before 1/1/95
2 - Regular retirement - first became members after 1/1/95
3 - Survivor payment - survivor of type 1 regular retiree
4 - Survivor payment - survivor of type 2 regular retiree
5 - Disability Retirement

Schedule of Retired Members by Type of Benefit - Other Postemployment Benefits
As of September 30, 2019

Amount of Monthly Pension Benefit	Number of Eligible Members	Type of Other Postemployment Benefits Receiving Health*	Receiving Dental	Receiving Health and/or Dental
Defined Contribution	139	107	110	111
Deferred	1	1	1	1
$ 1 - $ 500	0	0	0	0
501 - 1,000	1	1	1	1
1,001 - 1,500	8	8	8	8
1,501 - 2,000	19	18	19	19
2,001 - 2,500	26	26	26	26
2,501 - 3,000	19	19	19	19
3,001 - 3,500	24	24	24	24
3,501 - 4,000	14	14	14	14
4,001 - 4,500	21	21	21	21
4,501 - 5,000	14	14	14	14
Over 5,000	102	100	101	101
Total	388	353	358	359

*Health includes: health, prescription, hearing and vision insurance

Schedule of Funding Progress – Pension Plan

(in thousands)

Valuation Date Sept 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio AAL (a/b)	Covered Payroll[1] (c)	UAAL as a % of Covered Payroll[2] ((b-a)/c)
2009	$ 165,810	$ 171,441	5,631	97 %	$ 1,151	N/A
2010	158,952	172,694	13,741	92	1,173	N/A
2011	149,940	181,847	31,907	83	143	N/A
2012	136,916	180,466	43,550	76	72	N/A
2013	134,932	180,909	45,978	75	72	N/A
2014	135,767	192,762	56,995	70	72	N/A
2015	134,049	192,642	58,593	70	72	N/A
2016	132,976	190,224	57,248	70	72	N/A
2017	128,919	188,771	59,852	68	72	N/A
2018	122,261	190,193	67,932	64	72	N/A

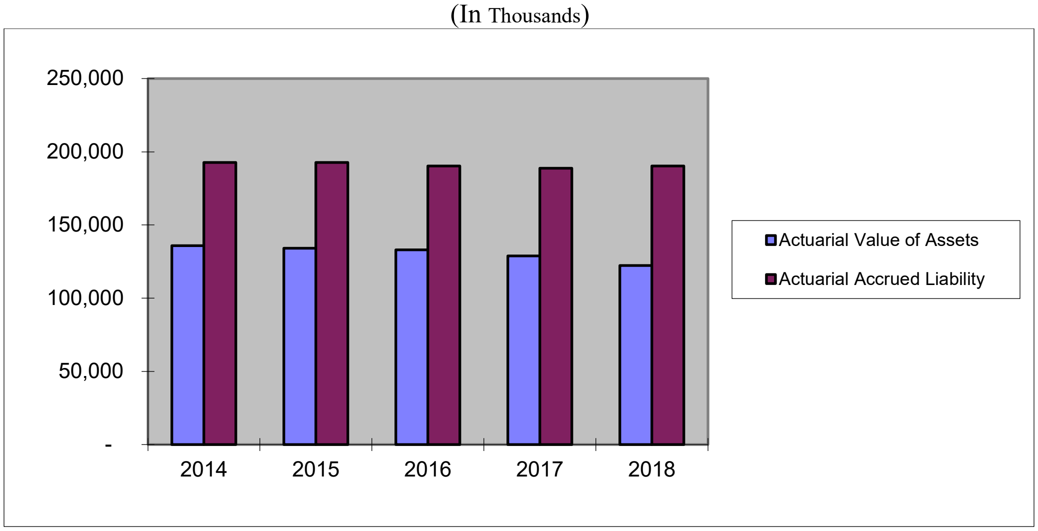
(1) October based payrolls

(2) Percentage of covered payroll is not applicable (N/A) as the System is closed.

Actuarial Value of Pension Plan Assets compared to Actuarial Accrued Pension Plan Liability

Fiscal Years Ended September 30

(In Thousands)



Schedule of Funding Progress – Other Postemployment Benefit Plan(2)

(in thousands)

Valuation Date Sept 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded (Overfunded) Accrued Liability (UAAL) (b-a)	Funded Ratio AAL (a/b)	Covered Payroll(1) (c)	UAAL as a % of Covered Payroll(2) ((b-a)/c)
2009	$ 14,588	$ 136,870	122,282	11	$ 11,718	1,044 %
2010	15,886	155,259	139,373	10	11,598	1,202
2011	15,179	140,696	125,517	11	3,659	3,431
2012	20,825	145,161	124,337	14	3,587	3,466
2013	22,806	153,666	130,860	15	3,312	3,951
2014	23,625	158,568	134,943	15	2,497	5,404
2015	21,840	174,564	152,724	13	1,734	8,810
2016	22,942	184,225	161,283	12	1,662	9,705
2017	24,507	188,991	164,484	13	1,662	9,898
2018	24,928	165,531	140,603	15	1,734	8,111

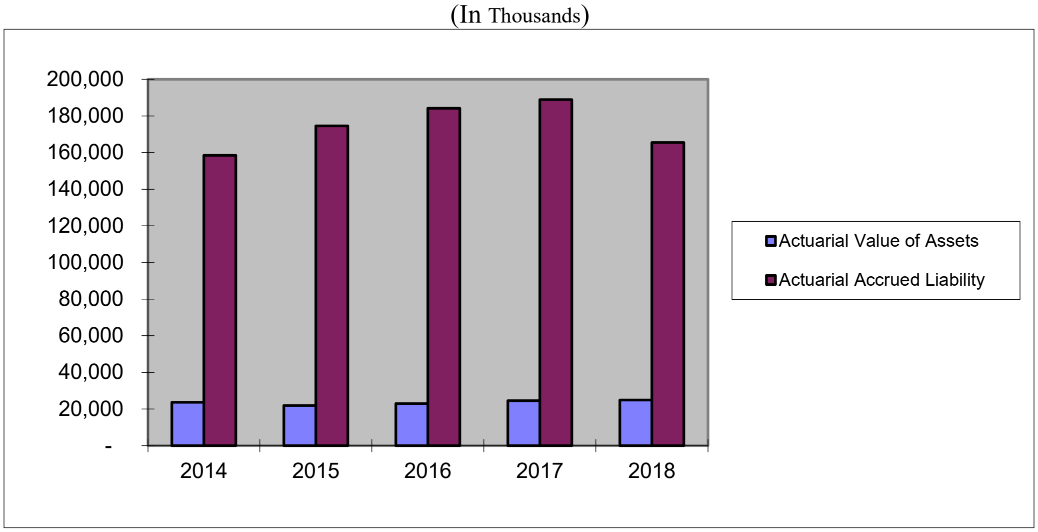
(1) October based payrolls

(2) Includes members in both the defined benefit plan and the defined contribution plan

Actuarial Assets compared to Actuarial Accrued OPEB Plan Liability

Fiscal Years Ended September 30

(In Thousands)



Schedule of Average Benefit Payments - Pension Plan (Ten Years)

	Years of Credited Services						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Retirement Effective Dates							
Period 10/1/09 to 9/30/10							
Average monthly benefit		$1,811	$3,067	$4,234	$4,988	$5,407	$4,649
Average final average salary		$47,576	$39,304	$44,598	$59,222	$65,297	$49,120
Number of retired members		85	98	62	25	10	8
Period 10/1/10 to 9/30/11							
Average monthly benefit		$1,884	$3,232	$4,431	$5,439	$5,624	$4,835
Average final average salary		$49,104	$42,906	$46,482	$65,409	$65,297	$49,120
Number of retired members		89	104	64	24	10	8
Period 10/1/11 to 9/30/12							
Average monthly benefit		$1,962	$3,446	$4,711	$5,712	$5,849	$5,028
Average final average salary		$49,797	$44,775	$47,385	$64,790	$65,297	$49,120
Number of retired members		91	99	62	23	10	8
Period 10/1/12 to 9/30/13							
Average monthly benefit		$2,024	$3,606	$4,973	$5,924	$6,225	$5,229
Average final average salary		$49,834	$45,365	$48,447	$64,790	$69,108	$49,120
Number of retired members		92	99	59	23	9	8
Period 10/1/13 to 9/30/14							
Average monthly benefit		$2,135	$3,749	$5,185	$6,143	$6,714	$5,439
Average final average salary		$50,974	$45,709	$48,929	$64,790	$72,065	$49,120
Number of retired members		92	96	57	23	8	8
Period 10/1/14 to 9/30/15							
Average monthly benefit		$2,239	$3,885	$5,385	$6,475	$6,983	$5,648
Average final average salary		$51,004	$46,021	$48,929	$66,364	$72,065	$50,920
Number of retired members		90	94	57	23	8	7
Period 10/1/15 to 9/30/16							
Average monthly benefit		$2,299	$4,075	$5,488	$6,690	$7,262	$5,729
Average final average salary		$51,404	$46,754	$49,315	$67,415	$72,065	$44,966
Number of retired members		91	90	55	21	8	6
Period 10/1/16 to 9/30/17							
Average monthly benefit		$2,309	$4,264	$5,719	$6,916	$7,553	$5,958
Average final average salary		$52,796	$48,174	$49,731	$69,236	$72,065	$44,966
Number of retired members		92	89	54	20	8	6
Period 10/1/17 to 9/30/18							
Average monthly benefit		$2,358	$4,457	$6,133	$7,566	$7,527	$6,197
Average final average salary		$53,786	$48,770	$51,735	$72,880	$72,065	$44,966
Number of retired members		94	84	51	19	8	6
Period 10/1/18 to 9/30/19							
Average monthly benefit		$2,448	$4,590	$6,430	$7,707	$7,828	$6,521
Average final average salary		$53,786	$49,055	$53,983	$70,215	$72,065	$44,414
Number of retired members		94	84	49	19	8	5

Schedule of Average Benefit Payments - Other Postemployment Benefit Plan (Ten Years)

	Years of Credited Services						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
Retirement Effective Dates							
Period 10/1/09 to 9/30/10							
Average monthly benefit		$1,337	$1,142	$1,117	$1,242	$1,249	$952
Average final average salary		$57,837	$40,308	$45,027	$56,725	$64,197	$50,920
Number of retired members		138	101	61	31	11	7
Period 10/1/10 to 9/30/11							
Average monthly benefit		$1,152	$1,015	$967	$1,137	$1,106	$836
Average final average salary		$60,037	$45,916	$46,447	$61,970	$64,197	$50,920
Number of retired members		150	113	62	29	11	7
Period 10/1/11 to 9/30/12							
Average monthly benefit		$1,220	$1,093	$1,061	$1,178	$1,249	$933
Average final average salary		$61,074	$48,392	$46,721	$61,970	$64,197	$50,920
Number of retired members		155	111	62	29	11	7
Period 10/1/12 to 9/30/13							
Average monthly benefit		$1,291	$1,142	$1,128	$1,184	$1,270	$993
Average final average salary		$62,059	$48,938	$48,101	$62,620	$67,516	$50,920
Number of retired members		163	111	59	27	10	7
Period 10/1/13 to 9/30/14							
Average monthly benefit		$1,311	$1,152	$1,187	$1,278	$1,366	$1,009
Average final average salary		$62,815	$49,343	$48,570	$62,675	$69,968	$50,920
Number of retired members		163	108	57	26	9	7
Period 10/1/14 to 9/30/15							
Average monthly benefit		$1,306	$1,167	$1,189	$1,255	$1,319	$891
Average final average salary		$62,272	$51,442	$49,322	$67,072	$73,193	$50,920
Number of retired members		160	112	58	24	9	7
Period 10/1/15 to 9/30/16							
Average monthly benefit		$1,321	$1,215	$1,209	$1,301	$1,411	$849
Average final average salary		$62,719	$52,238	$48,947	$65,248	$69,968	$44,966
Number of retired members		163	108	55	22	9	6
Period 10/1/16 to 9/30/17							
Average monthly benefit		$1,444	$1,362	$1,373	$1,545	$1,629	$970
Average final average salary		$63,820	$53,951	$49,353	$66,859	$69,968	$44,966
Number of retired members		160	109	54	22	9	6
Period 10/1/17 to 9/30/18							
Average monthly benefit		$1,529	$1,459	$1,464	$1,659	$1,624	$1,036
Average final average salary		$63,911	$54,948	$51,335	$66,859	$69,968	$44,966
Number of retired members		162	105	51	22	9	6
Period 10/1/18 to 9/30/19							
Average monthly benefit		$1,362	$1,337	$1,342	$1,557	$1,515	$856
Average final average salary		$63,614	$57,108	$53,566	$66,613	$69,968	$44,414
Number of retired members		159	114	49	23	9	5