**Michigan Legislative Retirement System**

# Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2018

# 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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**for the Fiscal Year Ended September 30, 2018**

# INTRODUCTORY SECTION

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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, 2017**

Christopher P. Morrill

Executive Director/CEO

# Letter of Transmittal

CHRISTINE HAMMOND
DIRECTOR

TEL. NO.: (517) 373-0575
FAX NO.: (517) 373-5639
TOLL FREE: (877) 577-5628
EMAIL: chammon@house.mi.gov

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

January 11, 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 2018.

**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 6.9%. 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 Combined Statements of 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, 2018, total pension liability was $239.7 million, and plan fiduciary net position was $125.4 million. Resulting in a net pension liability of $114.2 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, 2018, total OPEB liability was $188.6 million, and plan fiduciary net position was $24.9 million. Resulting in a net OPEB liability of $163.7 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, 2017. Actuarial certification and supporting statistics are included in the actuarial section of this report.

***Financial Services***

The Board of Trustees for the System retains fourteen (14) 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, 2017. This was the 4th 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

Christine Hammond, Director
Michigan Legislative Retirement System

# INTRODUCTORY SECTION

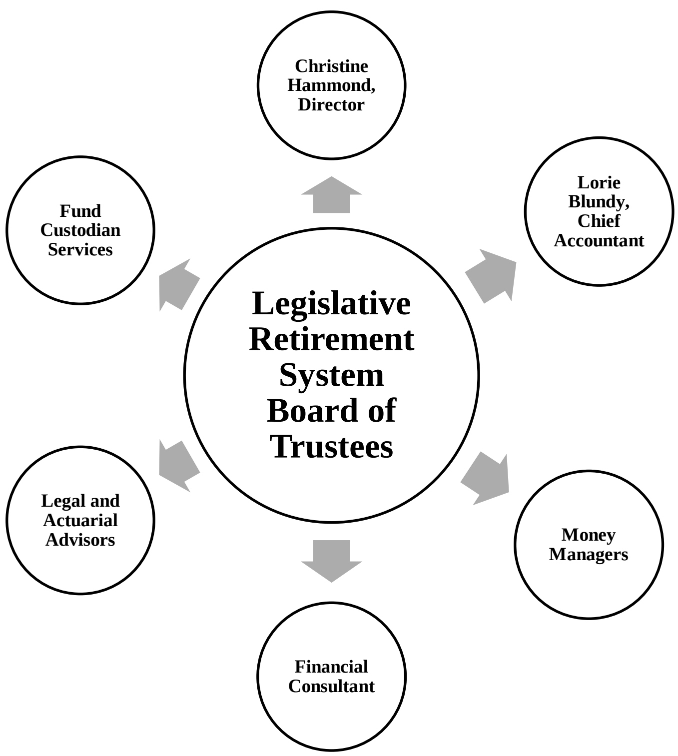
## Administrative Organization



### 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, 2018

The American Fund Group
Capital Research and Management
EuroPacific Growth Fund
333 South Hope Street
Los Angeles, CA 90071

Barrow Hanley Mewhinney & Strauss, Inc.
JPMorgan Chase Tower
2200 Ross Ave., 31st Floor
Dallas, TX 75201

Cramer Rosenthal McGlynn, LLC
520 Madison Avenue, 20th Floor
New York, NY 10022

Dodge & Cox Funds
c/o Boston Financial Data Services
30 Dan Road
Canton, MA 02021

DoubleLine Funds Trust
333 South Grand Ave., 18th Floor
Los Angeles, CA 90071

Franklin Templeton Investments
One Franklin Parkway
San Mateo, CA 94403

Ironwood Capital Management
One Market Plaza
Steuart Tower, Suite 2500
San Francisco, CA 94105

Lazard Asset Management
30 Rockefeller Plaza
New York, NY 10112

Morgan Stanley
MSIF Frontier Emerging Markets
522 Fifth Avenue
New York, NY 10036

Parametric Portfolio Associates
3600 Minnesota Drive, Suite 325
Minneapolis, MN 55435

Rice Hall James and Associates, LLC
600 West Broadway, Suite 1000
San Diego, CA 92101

Tortoise
615 E. Michigan St.
Milwaukee, WI 53201

Wellington Management Co., LLP
280 Congress Street
Boston, MA 02210

World Asset Management/Comerica
411 West Lafayette Street
Mail Code 3462, 4th & 5th Floors
Detroit, MI 48226

*The investments of the System are managed by the Investment Advisors, in accordance with Board directive, and applicable law. Information on the investments and the fiduciary, the System's Board of Trustees, can be found in the Investment Section.

## Advisors and Consultants

As of September 30, 2018

**Actuary**
Gabriel Roeder Smith & Company
Francois Peterse and Mark Buis
Southfield, MI 48076

**Financial Consultant**
Fund Evaluation Group
Robert P. Van Den Brink
Cincinnati, OH 45202

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

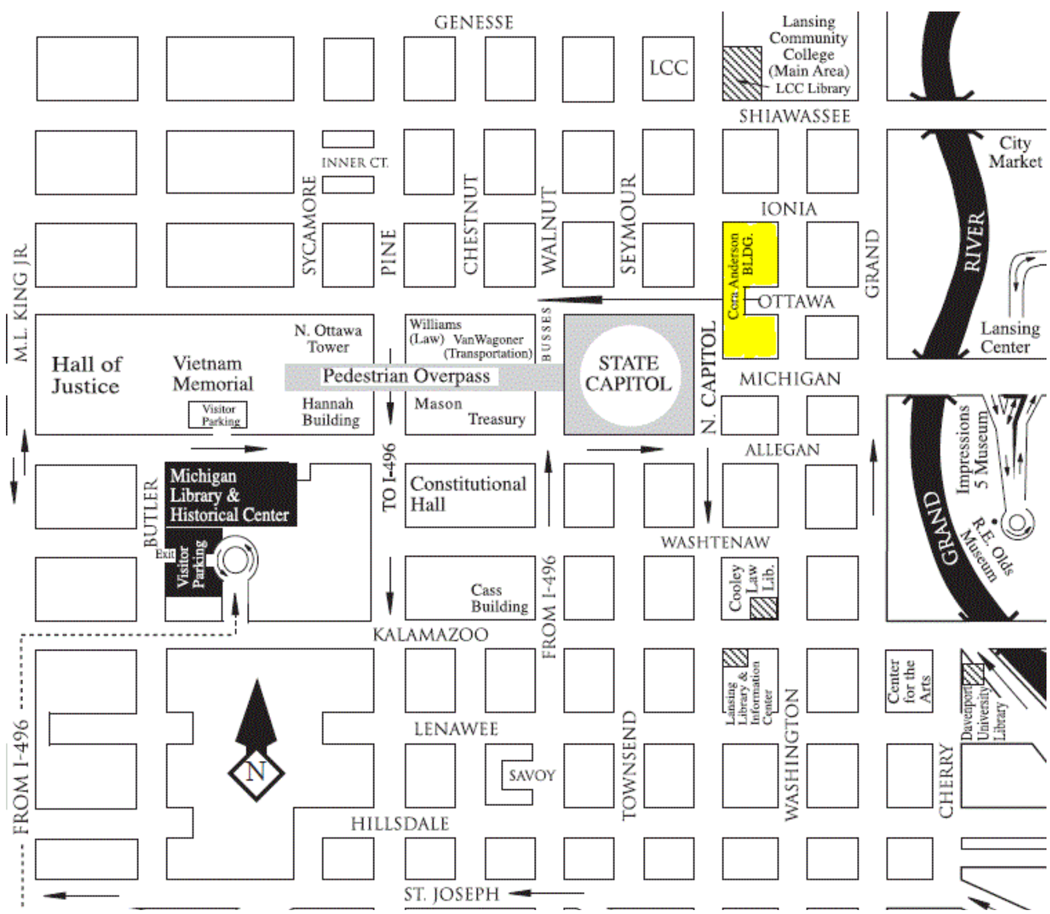
**Custodian**
Nick Khouri
State Treasurer
State of Michigan

**Legal Advisor**
Bill Schuette
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, 2018**

# FINANCIAL SECTION

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

OAG
Office of the Auditor General
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, 2018 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, 2018 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.

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
January 11, 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, 2018 and 2017. This should be read in conjunction with the financial statements and required supplemental information (RSI), which provides information for September 30, 2018.

**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 18) and Statements of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position (page 19). 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 38), Schedule of Net OPEB Liability (page 39) and Schedules of Contributions (page 40) 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, 2018, **decreased** by $5.9 million or 3.8%, due to a decrease in the market value of the System's investments.

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

| | 2018 | 2017 | Increase (Decrease) |
|---|---|---|---|
| Assets: | | | |
| Equity in common cash | $ 1,932 | $ 2,691 | (28.2) % |
| Receivables | 387 | 453 | (14.6) |
| Investments | 148,512 | 153,583 | (3.3) |
| **Total assets** | 150,831 | 156,727 | (3.8) |
| Liabilities: | | | |
| Warrants outstanding | N/A | 1 | (100.0) |
| Accounts payable | 454 | 482 | (5.6) |
| **Total liabilities** | 454 | 483 | (5.9) |
| **Total net position** | $ 150,377 | $ 156,244 | (3.8) % |

# 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 2018 totaled $15.8 million. Total Additions to Net Position **decreased** in fiscal year 2018 by 33.6% from the prior year, primarily due to the fact that the System investments decreased 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 2018 were $21.7 million, an **increase** of 2.9% over 2017 expenses, primarily due to increased pension and healthcare costs.

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

| | 2018 | 2017 | Increase (Decrease) |
|---|---|---|---|
| **Additions** | | | |
| Member contributions | $ 7 | $ 10 | (28.0)% |
| Employer contributions | 4,928 | 4,776 | 3.2 |
| Net Investment income/(loss) | 10,203 | 18,595 | (45.1) |
| Miscellaneous income | 683 | 447 | 53.0 |
| **Total additions** | 15,822 | 23,828 | (33.6) |
| **Deductions** | | | |
| Pension benefits | 13,855 | 13,640 | 1.6 |
| Health care benefits | 6,695 | 6,343 | 5.6 |
| Death benefits/life ins. | 633 | 607 | 4.2 |
| Refunds/qual. rollover | 34 | 36 | (5.6) |
| Administrative exp. | 473 | 461 | 2.7 |
| **Total deductions** | 21,689 | 21,086 | 2.9 |
| **Net increase (decrease)** | (5,868) | 2,742 | (314.0) |
| **Net position - Beginning of year** | 156,244 | 153,502 | 1.8 |
| **Net position - End of year** | $ 150,377 | $ 156,244 | (3.8)% |

# 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 LRS portfolio remains well-diversified and positioned to generate results under a wide variety of economic scenarios. The portfolio has both domestic and international equity exposure with the fixed income segment invested in a wide variety of disparate segments. The portfolio includes inflation protection in the form of commodities and exposures related to energy sector and non-traditional exposures to add balance to the total portfolio.

A strong tailwind behind domestic macroeconomic fundamentals supported healthy returns across U.S. equities, including the strongest quarterly total return for the Russell 1000 Index since 2013. Conversely, international developed and emerging market equities struggled amid an increasingly tenuous global trade backdrop, incrementally tighter Fed policy, and rising U.S. interest rates. The robust U.S. economy and increasing cost pressures helped drive a broad-based increase in Treasury interest rates, leading to price declines across the higher quality fixed income market and supporting returns among credit-sensitive areas. Energy infrastructure posted solid returns for the second consecutive quarter, with increasing energy prices, elevated domestic crude oil production, and renewed positive investor sentiment underpinning the recent run of impressive returns.

While the economy may indeed slow in the coming years, current conditions remain exceptionally favorable. The Institute for Supply Management (ISM) Economy-Weighted Purchasing Manager Index (PMI), for example, ascended to the highest level on record through September, at more than 11 index points above the critical expansion/contraction level of 50 and with both the Services and Manufacturing components at or near cyclically high levels. The headline U-3 unemployment rate dropped to 3.7% in September, the lowest level since December 1969 despite a weak payrolls reading. Employee wage growth held steady near 3%, essentially at the highest level since 2009. While wage growth has accelerated gradually since 2015, much of this improvement can be attributed to rebounding inflation rates, as inflation-adjusted (real) wage growth has declined meaningfully since 2015.

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 46).

***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, 2018**

| | Pension Plan | OPEB Plan | Total |
|---|---|---|---|
| **ASSETS** | | | |
| Equity in common cash | $ 1,610,037 | $ 322,410 | $ 1,932,447 |
| Receivables | | | |
| Due from other funds | 86,304 | | 86,304 |
| Due from federal agencies | | 208,120 | 208,120 |
| Interest and dividends | 42,194 | | 42,194 |
| Sale of investments | 50,370 | | 50,370 |
| Total receivables: | 178,867 | 208,120 | 386,987 |
| Investments | | | |
| Equities | 39,620,743 | 8,747,920 | 48,368,663 |
| Alternative investments | 13,208,272 | 2,752,488 | 15,960,760 |
| Mutual funds | 71,261,448 | 12,920,998 | 84,182,446 |
| Total investments: | 124,090,463 | 24,421,406 | 148,511,869 |
| **Total assets:** | 125,879,367 | 24,951,936 | 150,831,303 |
| **LIABILITIES** | | | |
| Accounts payable and other liabilities | 426,764 | | 426,764 |
| Amount due to other funds | 4,154 | | 4,154 |
| Unearned revenue | | 23,567 | 23,567 |
| **Total liabilities:** | 430,919 | 23,567 | 454,486 |
| **Net position restricted for pension benefits and OPEB** | $ 125,448,449 | $ 24,928,368 | $ 150,376,817 |

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, 2018**

| | Pension Plan | OPEB Plan | Total |
|---|---|---|---|
| **ADDITIONS** | | | |
| Member contributions: | | | |
| Other member contributions | $ 998 | $ 6,452 | $ 7,450 |
| Employer contributions | | 3,884,400 | 3,884,400 |
| Court fees | | 772,640 | 772,640 |
| Other governmental contributions | | 270,673 | 270,673 |
| Total contributions: | 998 | 4,934,164 | 4,935,162 |
| Investment Income (Loss): | | | |
| Net increase (decrease) in fair value of investments | 5,967,539 | 1,110,129 | 7,077,668 |
| Interest, dividends and other | 3,091,232 | 543,143 | 3,634,375 |
| Total investment income (loss) | 9,058,771 | 1,653,272 | 10,712,043 |
| Less investment expenses | (428,928) | (79,793) | (508,721) |
| Net investment income (loss) | 8,629,843 | 1,573,479 | 10,203,322 |
| Miscellaneous income | | 683,254 | 683,254 |
| **Total additions:** | 8,630,841 | 7,190,898 | 15,821,738 |
| **DEDUCTIONS** | | | |
| Benefits & refunds paid to plan members and beneficiaries: | | | |
| Retirement benefits | 13,855,004 | | 13,855,004 |
| Health benefits | | 6,315,202 | 6,315,202 |
| Dental benefits | | 380,005 | 380,005 |
| Death benefits | 632,500 | | 632,500 |
| Refund of contribution & interest | 33,623 | | 33,623 |
| Administrative expenses | 398,871 | 74,201 | 473,073 |
| **Total deductions:** | 14,919,999 | 6,769,408 | 21,689,407 |
| Net increase (decrease) in net position | (6,289,158) | 421,490 | (5,867,669) |
| **Net position restricted for pension benefits and OPEB:** | | | |
| **Beginning of year** | 131,737,607 | 24,506,879 | 156,244,486 |
| **End of year** | $ 125,448,449 | $ 24,928,368 | $ 150,376,817 |

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, 2018, the System's membership consisted of the following:

| | 2018 |
|---|---|
| Inactive plan members or their beneficiaries currently receiving benefits | |
| Regular benefits…………………………… | 200 |
| Survivor benefits…………………………… | 62 |
| Disability benefits………………………… | 0 |
| **Total……………………………………** | 262 * |
| Inactive plan members entitled to but not yet receiving benefits | 6 |
| Active plan members: | |
| Vested…………………………………… | 1 |
| Non-vested……………………………… | 0 |
| **Total……………………………………** | 1 |
| **Total Plan Members** | 269 |

*Includes 10 domestic relations orders (DRO) alternate payees for 2018

# 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 | 2018 |
|---|---|
| Eligible active plan members | 1 |
| Eligible inactive vested plan members | 5 |
| Eligible retired plan members | 146 |

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

| Health/Dental/Vision Plan | 2018 | |
|---|---|---|
| Active participants | 24 | |
| Deferred participants | 59 | |
| Participants currently eligible for health benefits | 380 | ** |
| Participants receiving health benefits | 355 | ** |

**Includes 103 defined contribution (DC) participants at September 30, 2018 who are receiving health care insurance through System in accordance with state statute. At September 30, 2018, the number of DC participants who were eligible for health care insurance but declined to receive the benefits were 24.

**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 26 and in the Required Supplementary Information on page 38.

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 28 and in the Required Supplementary Information on page 39.

***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, 2018, 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, 2018, the balance in this account was $20.8 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, 2018, the balance in this account was $76.0 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, 2018, the balance in this account was $28.5 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, 2018, the balance in this account was $24.9 million.

Use of Health Insurance Reserve Funds

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 used $1.1 million from the reserve to pay health insurance costs for fiscal year ending September 30, 2018.

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 7.

***Reporting Entity***

The System is a pension 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 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 $1.9 million on September 30, 2018, 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 $23,334 for the year ended September 30, 2018.

***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 $192,366 as of September 30, 2018.

## 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.

Pension plan State contributions are determined based on an actuarially determined contributions. Actual employer contributions for pension plan benefits was $0 for fiscal year 2018.

Public Act 64 of 2012 began prefunding State contributions for prefunding costs for other postemployment benefits (OPEB) in fiscal year 2012. OPEB plan State contributions are determined based on an actuarially determined contributions. Actual employer contributions for OPEB was $4.7 million for fiscal year 2018.

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 | $ | 239,687,925 |
| Plan Fiduciary Net Position | | 125,448,449 |
| Net Pension Liability | $ | 114,239,476 |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | | 52.34% |
| Net Pension Liability as a percentage of Covered Payroll | | 159,363.15% |
| Total Covered Payroll | $ | 71,685 |

# 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, 2018, are summarized in the following table:

| Asset Class | Target Allocation | Long-Term Expected Real Rate of Return* |
|---|---|---|
| Large Cap Equity | 27.0 % | 4.5 % |
| Small Cap Equity | 13.0 | 5.5 |
| International Developed Equity | 11.0 | 7.0 |
| International Small Cap Equity | 5.0 | 7.0 |
| Emerging Markets | 9.0 | 9.0 |
| Fixed Income | 18.0 | 2.2 |
| Hedge Fund | 5.0 | 5.2 |
| Public Natural Resources | 10.0 | 7.0 |
| Cash | 2.0 | 1.6 |
| **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, 2018, the annual money-weighted rate of return on pension plan investments, net pension plan investment expense, was 6.58%. 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 increased to 4.75%, compared to the prior year's 4.41%. 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 3.83% (based on the weekly 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 4.75%, 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 3.75% | Current Single Discount Rate Assumption 4.75% | 1% Increase 5.75% |
|---|---|---|---|
| Net Pension Liability/(Asset) | $143,998,445 | $114,239,476 | $89,674,626 |

***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, 2018, is based on the results of an actuarial valuation performed as of September 30, 2017 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 | $ | 188,591,416 |
| Plan Fiduciary Net Position | | 24,928,368 |
| Net OPEB Liability | $ | 163,663,048 |
| Plan Fiduciary Net Position as a Percentage of Total OPEB Liability | | 13.22% |

# 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, 2018, are summarized in the following table:

| Asset Class | Target Allocation | Long-Term Expected Real Rate of Return* |
|---|---|---|
| Large Cap Equity | 27.0 % | 4.5 % |
| Small Cap Equity | 13.0 | 5.5 |
| International Developed Equity | 11.0 | 7.0 |
| International Small Cap Equity | 5.0 | 7.0 |
| Emerging Markets | 9.0 | 9.0 |
| Fixed Income | 18.0 | 2.2 |
| Hedge Fund | 5.0 | 5.2 |
| Public Natural Resources | 10.0 | 7.0 |
| Cash | 2.0 | 1.6 |
| **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, 2018, the annual money-weighted rate of return on OPEB plan investments, net OPEB plan investment expense, was 10.34%. 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 4.04% was used to measure the total OPEB liability, compared to the prior year's 3.72%. 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 3.83% (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 2025. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2025, and the municipal bond rate was applied to all benefit payments after that date.

# Notes to Basic Financial Statements (Continued)

***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 4.04%, 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 3.04% | Current Single Discount Rate Assumption 4.04% | 1% Increase 5.04% |
|---|---|---|---|
| Net OPEB Liability/(Asset) | $195,519,047 | $163,663,048 | $138,584,752 |

***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 (7.75% decreasing to 3%) | Current Healthcare Cost Trend Rate Assumption (8.75 decreasing to 4%) | 1% Increase (9.75% decreasing to 5%) |
|---|---|---|---|
| Net OPEB Liability/(Asset) | $137,781,729 | $163,663,048 | $195,976,386 |

***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, 2018, is based on the results of an actuarial valuation performed as of September 30, 2017 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, 2018:

| | |
|---|---|
| Valuation Date | September 30, 2017 |
| Actuarial Cost Method | Entry-Age Normal |
| Asset Valuation Method | Fair Value |
| Wage Inflation | 4.00% |
| Salary Increases | 4.00% |
| Investment Rate of Return | 4.75% 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 Table 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, 2018:

| | |
|---|---|
| Valuation Date | September 30, 2017 |
| Actuarial Cost Method | Entry-Age Normal |
| Asset Valuation Method | Fair Value |
| | |
| Actuarial Assumptions: | |
| Wage Inflation | 4% |
| Investment Rate of Return | 4.04% 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 Table scaled by 100% and adjusted for mortality improvements using projection scale MP-2017 from 2006. |
| Healthcare Cost Trend Rate | 8.75% trend, gradually decreasing to 4% in 10 years |
| Excise Tax | A 6.0% load was applied to the health care liabilities of current retirees and a 9.0% 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, 2018, total investments in hedge funds was 5.7%. The fair value of the hedge funds at September 30, 2018 was $8,570,154.

***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, 2018**

| Investment Type | Fair Value | Rating S & P | Moody's |
|---|---|---|---|
| Mutual Funds** | $ 15,204,933 | BB | Baa2 |
| | 15,272,560 | NR | NR |
| | $ 30,477,493 | | |

**** Average Rating**

## Notes to Basic Financial Statements (Continued)

*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, 2018, the common cash pool held the majority of its funds in depository accounts 14.2% and prime commercial paper 81.1%. 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, 2018, the carrying amount of deposits including time and demand deposits, was $0.9 billion. The deposits were reflected in the accounts of the banks at $0.9 billion. Of the bank balance, $4.5 million was covered by federal depository insurance and $0.9 billion was collateralized with securities held by the State's agent in the State's name. There were demand deposits of $1.0 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, 2018, 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, 2018.

*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, 2018, 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, 2018, the fair value was $30,477,493, with the investment activity for the year producing a total rate of return of 0.1%, and a rate of return since inception of 2.4%. The projected duration is 4.33 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, 2018, the System held the following investments subject to foreign currency risk:

**Foreign Currency Risk**

As of September 30, 2018

(Value in US dollars)

| Country | Currency | Alt. Invest | Mutual Funds | International Equities | **TOTAL** |
|---|---|---|---|---|---|
| **PACIFIC** | | | | | |
| China | Renminbi | $ | $ | $ 178,600 | **$ 178,600** |
| Taiwan | New Taiwan Dollar | | | 197,723 | **197,723** |
| **EUROPE** | | | | | |
| Eurozone | Euro | | | 232,641 | **232,641** |
| United Kingdom | Pound Sterling | | | 419,510 | **419,510** |
| **VARIOUS** | | 15,960,760 | 36,752,855 | | **52,713,616** |
| | Total | $15,960,760 | $36,752,855 | $ 1,028,475 | **$ 53,742,090** |

***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, 2018. 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, 2018

| | Level 1 |
|---|---|
| **Total Cash and Cash Equivalents** | $ 169 |
| **Equity** | |
| Depository Receipts | 1,028,475 |
| Common Stocks | 46,305,275 |
| Real Estate Investment Trusts | 1,034,914 |
| Commingled Funds, ETF's | 53,704,952 |
| **Total Equity** | 102,073,615 |
| **Fixed Income** | |
| Commingled Funds and ETF's | 30,477,493 |
| **Total Fixed Income** | 30,477,493 |
| **Total Investment by fair value level** | **$ 132,551,277** |
| **Investments measured at the net asset value (NAV)** | |
| Private Equity | 15,960,760 |
| **Total Investments measured at NAV** | 15,960,760 |
| **Total Investments measured at fair value** | **$ 148,512,037** |

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 | $15,960,760 |
| Unfunded commitments | $0 |

There are two investments reported at NAV:

- One investment is a fund that requires 95 days' notice for redemption; generally redemptions are only allowed quarterly. A full redemption would require with 5% of the NAV retained until all costs are settled.
- One investment is a hedge funds that requires 5 day notice for any redemption; redemptions must occur at the end of each month.

# Notes to Basic Financial Statements (Continued)

## NOTE 9 – SUBSEQUENT EVENTS

Effective October 1, 2018, through an annual omnibus budget appropriation bill (PA 207 of 2018), the MLRS received an additional appropriation of $12,400,000. These monies were appropriated in an effort to begin to reduce and properly fund the system's increasing fiscal responsibilities for pension and OPEB benefits.

## NOTE 10 - ACCOUNTING CHANGES

GASB issued Statement No. 85, Omnibus 2017. The principal objective of this Statement is to address practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits [OPEB]). This statement was implemented in fiscal year 2018

## NOTE 11 - NEW ACCOUNTING PRONOUNCEMENTS

GASB issued Statement No. 84, *Fiduciary Activities*. The principal objective of this Statement is to enhance the consistency and comparability of fiduciary activity reporting by state and local governments. This Statement also is intended to improve the usefulness of fiduciary activity information primarily for assessing the accountability of governments in their roles as fiduciaries. This Statement is effective for participating employers for their fiscal years beginning after December 15, 2018.

# Required Supplementary Information

### Schedule of Changes in Net Pension Liability

| Fiscal years ending September 30, | 2018 | 2017 | 2016 | 2015[1] | 2014[1] |
|---|---|---|---|---|---|
| **Total pension liability** | | | | | |
| Service Cost | $ 77,125 | $ 85,889 | $ 73,996 | $ 61,979 | $ 56,715 |
| Interest on the total pension liability | 10,555,045 | 10,213,286 | 11,025,152 | 11,839,056 | 11,297,018 |
| Benefit changes | - | - | - | - | - |
| Difference between expected and actual experience of the total pension liability | 66,388 | (1,617,292) | 1,899,056 | 405,924 | - |
| Assumption changes | (3,054,941) | (13,496,599) | 18,936,985 | 20,079,527 | 24,547,477 |
| Benefit payments and refunds | (14,521,128) | (14,282,224) | (13,919,312) | (14,495,307) | (13,550,106) |
| **Net changes in total pension liability** | (6,877,511) | (19,096,940) | 18,015,877 | 17,891,179 | 22,351,104 |
| **Total pension liability - beginning** | 246,565,436 | 265,662,376 | 247,646,499 | 229,755,320 | 207,404,216 |
| **Total pension liability - ending (a)** | $239,687,925 | $ 246,565,436 | $265,662,376 | $247,646,499 | $ 229,755,320 |
| **Plan fiduciary net position** | | | | | |
| Employer contributions | $ - | $ - | $ - | $ - | $ - |
| Employee contributions | 998 | 3,895 | 3,648 | 3,226 | 5,662 |
| Pension plan net investment income | 8,629,843 | 15,840,766 | 11,324,783 | (6,545,332) | 14,868,119 |
| Benefit payments and refunds | (14,521,128) | (14,282,224) | (13,919,312) | (14,495,307) | (13,550,106) |
| Pension plan administrative expense | (398,871) | (391,937) | (405,381) | (362,431) | (430,200) |
| Other | - | 6,649 | - | - | - |
| **Net change in plan fiduciary net position** | (6,289,158) | 1,177,149 | (2,996,262) | (21,399,844) | 893,475 |
| **Plan fiduciary net position - beginning** | 131,737,607 | 130,560,458 | 133,556,720 | 154,956,564 | 154,063,089 |
| **Plan fiduciary net position - ending (b)** | $125,448,449 | $ 131,737,607 | $130,560,458 | $133,556,720 | $ 154,956,564 |
| **Net pension liability - (a) - (b)** | 114,239,476 | 114,827,829 | 135,101,918 | 114,089,779 | 74,798,756 |
| **Plan fiduciary net position as a percentage of total pension liability** | 52.34% | 53.43% | 49.15% | 53.93% | 67.44% |
| **Covered payroll** | $ 71,685 | $ 71,685 | $ 71,685 | $ 71,685 | $ 71,685 |
| **Net pension liability as a percentage of covered payroll** | 159,363.15% | 160,183.90% | 188,466.09% | 159,154.33% | 104,343.66% |

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

# Required Supplementary Information (Continued)

### Schedule of Changes in Net OPEB Liability

| Fiscal years ending September 30, | 2018 | 2017 |
|---|---|---|
| **Total OPEB liability** | | |
| Service Cost | $ 1,482,175 | $ 797,000 |
| Interest on the total OPEB liability | 7,076,802 | 8,463,585 |
| Changes in benefit terms | - | - |
| Difference between expected and actual experience | 3,291,754 | 18,099 |
| Changes of assumptions | (9,407,229) | 66,226,054 |
| Benefit payments, including refunds of employee contributions | (6,695,207) | (6,342,947) |
| **Net changes in total OPEB liability** | (4,251,705) | 69,161,791 |
| **Total OPEB liability - beginning** | 192,843,121 | 123,681,330 |
| **Total OPEB liability - ending (a)** | $ 188,591,416 | $ 192,843,121 |
| **Plan fiduciary net position** | | |
| Employer contributions | $ 4,657,040 | $ 4,571,636 |
| Employee contributions | 6,452 | 6,452 |
| OPEB plan net investment income | 1,573,478 | 2,754,692 |
| Benefit payments, including refunds of employee contributions | (6,695,207) | (6,342,947) |
| OPEB plan administrative expense | (74,201) | (68,871) |
| Other | 953,927 | 643,981 |
| **Net change in plan fiduciary net position** | 421,489 | 1,564,943 |
| **Plan fiduciary net position - beginning** | 24,506,879 | 22,941,936 |
| **Plan fiduciary net position - ending (b)** | $ 24,928,368 | $ 24,506,879 |
| **Net OPEB liability - (a) - (b)** | $ 163,663,048 | $ 168,336,242 |
| **Plan fiduciary net position as a percentage of total OPEB liability** | 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 |
|---|---|---|---|---|---|
| 2009 | $269,944 | $269,944 | $0 | $1,151,100 | 23.5 % |
| 2010 | 774,898 | 0 | 774,898 | 1,173,100 | 0.0 |
| 2011 | 1,890,998 | 0 | 1,890,998 | 143,370 | 0.0 |
| 2011^ | 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 |

*^Under revised mortality assumptions.*

### 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 |
|---|---|---|---|---|---|
| 2009 | $ 7,978,764 | $ 4,302,354 | 3,676,410 | 11,717,900 | 36.7 % |
| 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 |

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

(2) Beginning FY2018, coverd 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 |

* 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 |

* 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, five years of historical trend information is provided. Also, in accordance with GASB 74, two 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, 2017 |
| 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 | RP-2000 Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projected scale BB |

**Methods and Assumptions Used to Determine Other Postemployment Contribution Rates:**

| | |
|---|---|
| Valuation Date | September 30, 2017 |
| Actuarial Cost Method | Projected Unit Credit |
| Amortization Method | Level Dollar Closed |
| Remaining Amortization Period | 23 Years Closed |
| Asset Valuation Method | Fair Value |
| Actuarial Assumptions: | |
| Investment Rate of Return | 4.04% Single Discount Rate |
| Wage Inflation | 4% |
| Projected Salary Increases | 4% |
| Healthcare Cost Trend Rate | 8.75% in 2018, grading to 4% in 2027 |
| Retirement Age | Age-based table of rates with 100% probability of retirement once a member is subject to term limits |
| Mortality | RP-2000 Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projected scale BB |
| Excise Tax | A 6.00% load was applied to the health care liabilities of retirees and a 9.00% 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, 2018

| | | 2018 |
|---|---|---|
| Personnel services | $ | 330,798 |
| Actuarial services | | 67,150 |
| Audit | | 29,200 |
| Attorney & other professional services | | 216 |
| Postage, telephone and other | | 45,708 |
| **Total Administrative Expenses** | $ | 473,073 |

### Schedule of Investment Expenses*
### For Year Ended September 30, 2018

| | | 2018 |
|---|---|---|
| Management fees | $ | 389,138 |
| State Treasurer and custody fees | | 22,206 |
| Other investment expenses | | 97,376 |
| **Total Investment Expenses** | $ | 508,721 |

*Mutual fund management fees are netted againt returns earned.

### Schedule of Payments to Consultants
### For Year Ended September 30, 2018

| | | 2018 |
|---|---|---|
| Dykema Gossett | $ | 216 |
| Gabriel Roeder | | 67,150 |
| **Total Payments to Consultants** | $ | 67,366 |

# Supporting Schedules (Continued)

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

### For Year Ended September 30, 2018

| | Reserves for year ended September 30, 2018 | | | | | | |
|---|---|---|---|---|---|---|---|
| | Member Savings Fund | Member Retirement Fund | Survivors Retirement Fund | Insurance Revolving Fund | Health Insurance Fund | Income Fund | Total |
| **ADDITIONS** | | | | | | | |
| Member contributions: | | | | | | | |
| Other member contributions | $ | $ | $ | $ 998 | $ 6,452 | $ | $ 7,450 |
| Employer contributions | | | | | 3,884,400 | | 3,884,400 |
| Court fees | | | | | 772,640 | | 772,640 |
| Other governmental contributions | | | | | 270,673 | | 270,673 |
| Total contributions: | | | | 998 | 4,934,164 | | 4,935,162 |
| Investment income (loss) | | | | | | | |
| Net increase (decrease) in fair value of investments | | | | | 1,110,129 | 5,967,539 | 7,077,668 |
| Interest, dividends and other | | | | | 543,143 | 3,091,232 | 3,634,375 |
| Total investment income (loss) | | | | | 1,653,272 | 9,058,771 | 10,712,043 |
| Less investment expenses | | | | | (79,793) | (428,928) | (508,721) |
| Net investment income (loss) | | | | | 1,573,479 | 8,629,843 | 10,203,322 |
| Miscellaneous income | | | | | 683,254 | | 683,254 |
| Total additions: | | - | | 998 | 7,190,898 | 8,629,843 | 15,821,738 |
| **DEDUCTIONS** | | | | | | | |
| Benefits & refunds paid to plan members & beneficiaries: | | | | | | | |
| Retirement benefits | | 11,457,806 | 2,397,198 | | | | 13,855,004 |
| Health benefits | | | | | 6,315,202 | | 6,315,202 |
| Dental benefits | | | | | 380,005 | | 380,005 |
| Death benefits | | | | 632,500 | | | 632,500 |
| Refund of contribution & interest | | | 33,623 | | | | 33,623 |
| Administrative expenses | | | | | 74,201 | 398,871 | 473,073 |
| Total deductions: | - | 11,457,806 | 2,430,822 | 632,500 | 6,769,408 | 398,871 | 21,689,407 |
| Net increase (decrease) in net position | - | (11,457,806) | (2,430,822) | (631,502) | 421,490 | 8,230,972 | (5,867,669) |
| Other changes in net position: | | | | | | | |
| Interest/loss allocations | 6,087 | 1,894,546 | 4,615,239 | 1,715,099 | | (8,230,972) | |
| Transfer upon retirements | (56,676) | 56,676 | | | | | |
| Total other changes in net position | (50,589) | 1,951,223 | 4,615,239 | 1,715,099 | | (8,230,972) | |
| Net increase (decrease) after changes | (50,589) | (9,506,583) | 2,184,418 | 1,083,597 | 421,490 | | (5,867,669) |
| **Net position restricted for pension benefits and OPEB:** | | | | | | | |
| **Beginning of Year:** | 152,174 | 30,309,811 | 73,836,691 | 27,438,930 | 24,506,879 | | 156,244,486 |
| **End of Year:** | $ 101,585 | $ 20,803,228 | $ 76,021,109 | $ 28,522,527 | $ 24,928,368 | $ | $ 150,376,817 |

**Michigan Legislative Retirement System**

**Comprehensive Annual Financial Report**
**for the Fiscal Year Ended September 30, 2018**

# INVESTMENT SECTION

**Report on Investment Activity**
**Asset Allocation**
**Investment Summary**
**List of Largest Assets Held**
**Schedule of Investment Fees**
**Schedule of Fees and Commissions**

# 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.

**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**

The market review is prepared by the Fund Evaluation Group (FEG). FEG is the investment advisor for the System and they monitor all the investments and the performance of the investments.

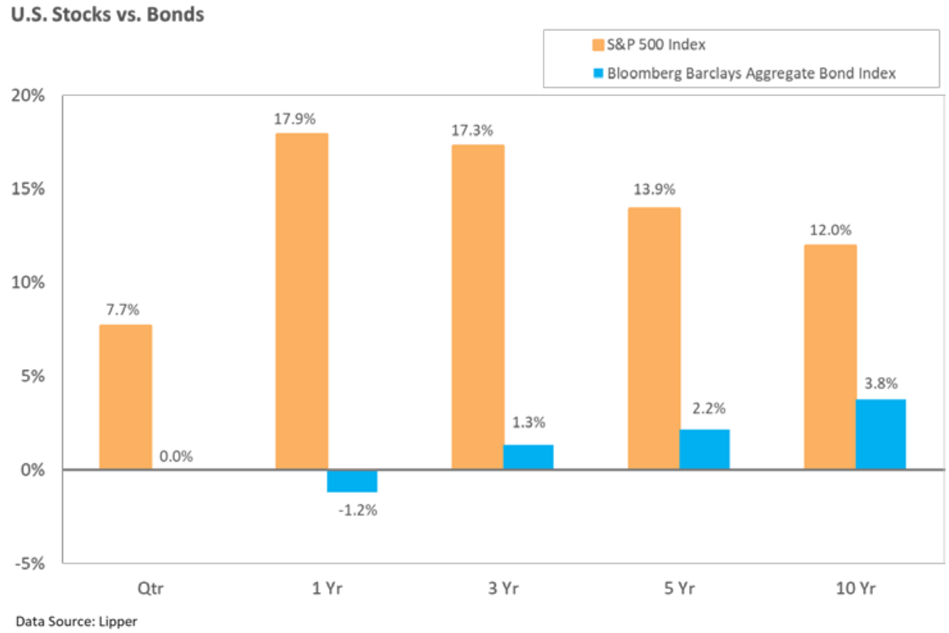
*Twelve Months Ending September 30, 2018*

Most measures of U.S. business activity have been strong, a trend which has supported increases in the U.S. stock markets while also contributing to a rise in interest rates. Throughout much of the Legislative Retirement System's (LRS) fiscal year ended September 30, 2018, strong tailwind forces supported solid returns across domestic equities. The LRS domestic equity managers participated in these gains and provided strong absolute returns for portfolio. The robust domestic economic backdrop and increasing inflation rates helped drive a meaningful increase in U.S. Treasury interest rates, in turn hampering the performance of the higher quality segments of the fixed income market.

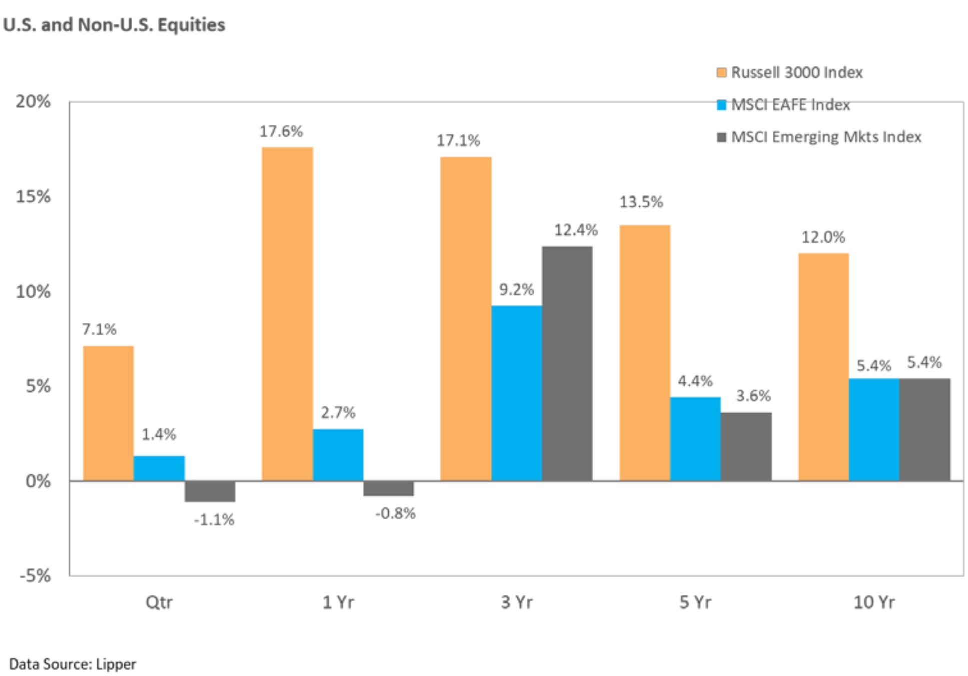
(See chart on top of page 47)

# Report on Investment Activity (Continued)

**MARKET REVIEW (continued)**



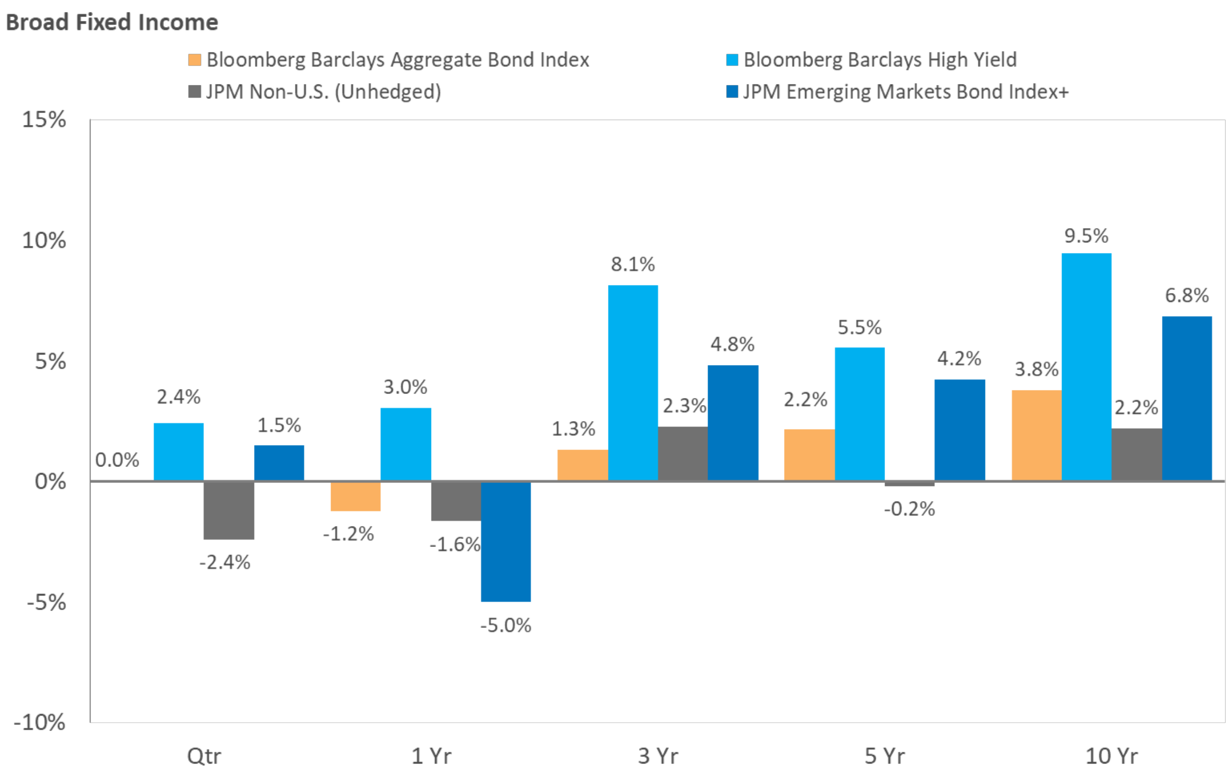

International equity performance suffered amid growing trade-related tensions, an appreciating U.S. dollar, and country-specific macro challenges. Economic news from the eurozone showed weakness for much of the year, which pressured consumer confidence in the region. The United Kingdom faced headwinds due to difficulties in the ongoing Brexit negotiations that weighed on markets and led to a decline in the British pound. Emerging market equities lagged the broader equity market due in part to a slowdown in China, fears over the potential impact of trade tensions, and tighter U.S. monetary policy. Additionally, the rise in oil prices hurt emerging market economies that import oil for their energy needs. In contrast to last fiscal year, the LRS portfolio's positioning in the international markets detracted from the overall returns generated during the twelve months nded September 30, 2018.



# Report on Investment Activity (Continued)

**MARKET REVIEW (continued)**

The Federal Open Market Committee (FOMC) increased the federal funds rate at their September 25-26th meeting by 25 bps, bringing the target range to 2.0%-2.25%. Since the FOMC began hiking rates in December 2015, it has hiked rates eight times. The increase in Treasury interest rates led to price declines across the higher quality fixed income market (e.g., Bloomberg Barclays Aggregate Bond Index, see chart below). At the same time, the robust U.S. economy provided support among credit-sensitive areas (e.g., high yield, see chart below). Despite a focus on high quality bonds, the LRS fixed income managers were positioned properly and provided incremental returns versus the broad fixed income market.




Data Source: Lipper

Despite the contrasting results between domestic and non-U.S. equities and the challenging fixed income markets, the Legislative Retirement System generated a solid 6.9% net-of-fees return for the one-year period ending September 30, 2018. Over longer time periods, the LRS portfolio returned 6.5% (net of fees) over five years and 8.3% (net of fees) over ten years. For comparison, the actuarially assumed rate-of-return is 7%.

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 help provide inflation protection as well as non-traditional exposures to add balance to the total portfolio.

The LRS Trustees continued to meet on a regular basis to discuss markets, managers and portfolio positioning. The Trustees engaged in an in-depth review of asset allocation which began toward the end of the fiscal year and continued into the new year. It is expected that modest changes will be implemented during fiscal year 2019 to streamline the investment portfolio and reduce investment expenses.

# Report on Investment Activity (Continued)

## Schedule of Investment Results

for period ending September 30, 2018

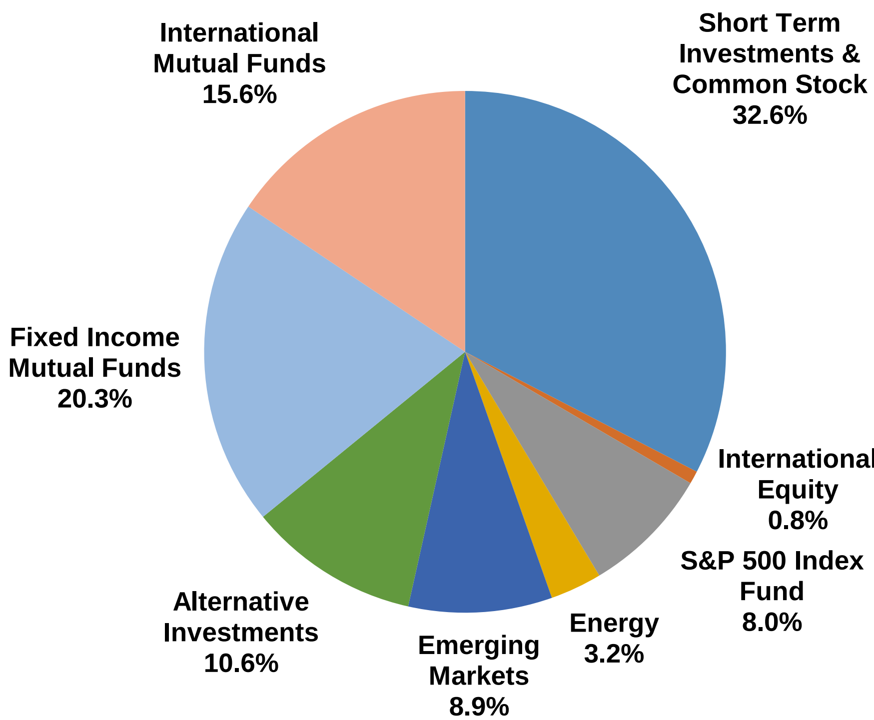
| Investment Category | Current Year | Annualized Rate of Return[1] 3 years | 5 years | 10 years |
|---|---|---|---|---|
| Total Portfolio | 6.9 % | 9.6 % | 6.5 % | 8.3 % |
| Large Cap Equity Managers | | | | |
| Wellington | 31.8 | 21.6 | 17.6 | 14.6 |
| Barrow, Hanley, Mewhinney & Strauss | 16.5 | 14.7 | 11.0 | 10.0 |
| Russell 1000 Growth Index | 26.3 | 20.6 | 16.6 | 14.3 |
| Comerica | 18.2 | 17.4 | 14.0 | 12.0 |
| S&P 500 Index | 17.9 | 17.3 | 13.9 | 12.0 |
| Small Cap Equity Managers | | | | |
| Rice Hall James | 21.7 | 11.7 | 8.9 | 12.0 |
| Cramer Rosenthal McGlynn | 8.2 | 15.8 | 10.6 | 10.3 |
| Russell 2000 Index | 15.2 | 17.1 | 11.1 | 11.1 |
| International Equity Managers | | | | |
| EuroPacific Growth | 1.1 | 9.5 | 5.8 | 6.5 |
| MSCI AC World Index | 1.8 | 10.0 | 4.1 | 5.2 |
| Templeton Inst'l Foreign Smaller Co. | 0.4 | 9.4 | 5.4 | |
| MSCI Small Cap EAFE Index | 3.7 | 12.4 | 8.0 | |
| Lazard Emerging Markets | (7.8) | 10.1 | 0.8 | 4.0 |
| MSCI Emerging Markets Index | (0.8) | 12.4 | 3.6 | 5.4 |
| Morgan Stanley Frontier Emerging Markets | (14.5) | 0.7 | | |
| MSCI Frontier Markets Index | (7.7) | 5.3 | | |
| Fixed Income Managers | | | | |
| Dodge & Cox Income Fund | (0.1) | 3.1 | | |
| DoubleLine Total Return Bond Fund | 0.2 | 1.8 | 2.9 | |
| Bloomberg Barclays US Aggregate Ind | (1.2) | 1.3 | 2.2 | |
| Natural Resources Managers | | | | |
| Tortoise MLP & Pipeline Fund | | | | |
| Tortoise North American Pipline Index | | | | |
| Alerian MLP Index | | | | |
| Parametric Equal Sector Commodity | (1.2) | 2.4 | | |
| Dow Jones UBS Commodities Index | 2.6 | (0.1) | | |
| Hedge Fund Manager | | | | |
| Ironwood International Ltd | 5.8 | 4.6 | 5.6 | |
| HFRI FOF: Conservative Index | 3.6 | 2.8 | 2.9 | |
| Bloomberg Barclays US Aggregate Ind | (1.2) | 1.3 | 2.2 | |

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

# INVESTMENT SECTION

## Asset Allocation

**As of September 30, 2018**




## Investment Summary

**As of September 30, 2018**

| Investment Category | Fair Value | Percentages of Fair Value | Percentages of Income/ (Loss) | Fiscal Year Income/(Loss)** |
|---|---|---|---|---|
| Short Term Investments* & Common Stocks | $ 49,045,893 | 32.6 % | 117.1 % | $ 12,542,549 |
| International Equity | 1,217,117 | 0.8 | 2.1 | 231,318 |
| S&P 500 Index Fund | 12,052,029 | 8.0 | 12.8 | 1,369,726 |
| Energy | 4,900,068 | 3.2 | (34.2) | (3,666,048) |
| Emerging Markets | 13,339,572 | 8.9 | (11.7) | (1,254,385) |
| Alternative Investments | 15,960,760 | 10.6 | 5.5 | 593,943 |
| Fixed Income Mutual Funds | 30,477,493 | 20.3 | 1.1 | 115,069 |
| International Mutual Funds | 23,413,283 | 15.6 | 7.3 | 779,871 |
| Total Investments | $ 150,406,217 | 100.0 % | 100.0 % | $ 10,712,043 |

* 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, 2018**

| Rank | Shares | Stocks | Fair Value |
|---|---|---|---|
| 1 | 2,896 | UNITEDHEALTH GROUP INC | $ 770,452 |
| 2 | 6,254 | MICROSOFT CORP | 715,270 |
| 3 | 356 | AMAZON.COM INC | 713,068 |
| 4 | 589 | ALPHABET INC CL C | 702,954 |
| 5 | 2,760 | APPLE INC | 623,042 |
| 6 | 2,733 | MASTERCARD INC A | 608,393 |
| 7 | 4,560 | LOWE S COS INC | 523,579 |
| 8 | 15,442 | PERFORMANCE FOOD GROUP CO | 514,219 |
| 9 | 2,362 | HOME DEPOT INC | 489,288 |
| 10 | 1,699 | ANTHEM INC | 465,611 |

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

# Schedule of Investment Fees

### Schedule of Investment Fees at September 30, 2018

| | Assets under Management | Fees |
|---|---|---|
| Investment Managers Fees*: | | |
| World Asset Mgt/Comerica | $12,052,029 | $ 7,144 |
| Cramer Rosenthal McGlynn | 10,264,242 | 101,368 |
| Barrow Hanley Mewhinney & Strauss | 15,092,603 | 101,922 |
| Rice Hall James | 9,840,882 | 89,531 |
| Wellington | 14,510,352 | 89,173 |
| | | 389,138 |
| Other Investment Fees | | |
| State Treasurer | | 22,206 |
| Fund Evaluation Group | | 97,376 |
| | | 119,582 |
| | TOTAL | $ 508,721 |

*Europacific Growth Fund, Lazard Emerging Markets, Ironwood International Ltd., Parametric Clifton, Dodge & Cox, DoubleLine, JPM Alerian, Morgan Stanley, Tortoise and Franklin Templeton management fees are netted against return earned by mutual fund money managers.

## Schedule of Fees and Commissions

| | Fiscal Year Ended September 30, 2018 | | |
|---|---|---|---|
| Investment Broker Name | Shares Traded | Total Value of Commissions | Average Commission Per Share |
| ABEL NOSER CORP | 3,676 | 147.04 | 0.04 |
| B.RILEY & CO., LLC | 10,036 | 301.08 | 0.03 |
| BARCLAYS CAPITAL LE | 11,094 | 388.48 | 0.04 |
| BLOOMBERG TRADEBOOK LLC | 660 | 7.24 | 0.01 |
| BMO CAPITAL MARKETS | 345 | 5.85 | 0.02 |
| BTIG, LLC | 5,685 | 155.50 | 0.03 |
| BURKE AND QUICK PARTNERS LLC | 520 | 20.80 | 0.04 |
| CANACCORD GENUITY INC. | 1,974 | 56.22 | 0.03 |
| CANTOR FITZGERALD + CO. | 4,808 | 130.53 | 0.03 |
| CAPITAL INSTITUTIONAL SVCS INC EQUITIES | 2,938 | 102.83 | 0.04 |
| CITATION GROUP | 16,582 | 119.88 | 0.01 |
| CITIGROUP GLOBAL MARKETS INC | 9,207 | 322.93 | 0.04 |
| CLSA AMERICAS | 4,134 | 141.47 | 0.03 |
| COWEN AND COMPANY, LLC | 127,614 | 3,884.30 | 0.03 |
| CRAIG - HALLUM | 26,093 | 782.79 | 0.03 |
| CREDIT SUISSE SECURITIES (USA) LLC | 12,408 | 415.33 | 0.03 |
| DAIWA SECURITIES AMERICA INC | 1,153 | 40.35 | 0.03 |
| DAVIDSON D.A. + COMPANY INC. | 7,307 | 219.21 | 0.03 |
| DEUTSCHE BANK SECURITIES INC | 10,773 | 289.60 | 0.03 |
| DOUGHERTY & COMPANY LLC | 6,549 | 196.47 | 0.03 |
| FBN SECURITIES INC | 4,848 | 184.76 | 0.04 |
| FBR CAPITAL MARKETS & CO. | 205 | 4.10 | 0.02 |
| FIDELITY CAPITAL MARKETS | 13,399 | 162.93 | 0.01 |
| FIRST ANALYSIS SECURITIES CORP | 1,888 | 56.64 | 0.03 |
| GOLDMAN SACHS + CO | 14,852 | 501.59 | 0.03 |
| GORDON HASKETT CAPITAL CORP | 1,160 | 46.40 | 0.04 |
| GUGGENHEIM CAPITAL MARKETS LLC | 1,913 | 41.62 | 0.02 |
| IMPERIAL CAPITAL LLC | 983 | 29.49 | 0.03 |
| INSTINET | 48,465 | 886.38 | 0.02 |
| INVESTMENT TECHNOLOGY GROUP INC. | 1,965 | 23.14 | 0.01 |
| ISI GROUP INC | 13,366 | 480.97 | 0.04 |
| J.P. MORGAN SECURITIES LLC | 30,358 | 1,086.48 | 0.04 |
| JANNEY MONTGOMERY, SCOTT INC | 2,520 | 100.80 | 0.04 |
| JEFFERIES + COMPANY INC | 22,114 | 771.05 | 0.03 |
| JMP SECURITIES | 1,400 | 56.00 | 0.04 |
| JOHNSON RICE & COMPANY LLC | 780 | 23.40 | 0.03 |
| JONESTRADING INSTITUTIONAL SERVICES LLC | 10,596 | 279.58 | 0.03 |
| KEEFE BRUYETTE + WOODS INC | 3,913 | 155.30 | 0.04 |
| KEYBANC CAPITAL MARKETS INC | 20,336 | 719.26 | 0.04 |
| KING, CL, & ASSOCIATES, INC | 7,337 | 220.11 | 0.03 |

# Schedule of Fees and Commissions (Continued)

| Investment Broker Name | Shares Traded | Total Value of Commissions | Average Commission Per Share |
|---|---|---|---|
| | Fiscal Year Ended September 30, 2018 | | |
| LEERINK PARTNERS LLC | 1,120 | 44.80 | 0.04 |
| LIQUIDNET INC | 66,993 | 1,145.60 | 0.02 |
| LOOP CAPITAL MARKETS | 9,637 | 289.11 | 0.03 |
| LUMINEX TRADING AND ANALYTICS LLC | 780 | 1.95 | 0.00 |
| MERRILL LYNCH,PIERCE,FENNER & SMITH INC. | 14,082 | 295.36 | 0.02 |
| MIRAE ASSET SEC USA | 1,112 | 38.93 | 0.04 |
| MIZUHO SECURITIES USA INC. | 1,000 | 23.50 | 0.02 |
| MKM PARTNERS LLC | 800 | 26.50 | 0.03 |
| MORGAN STANLEY CO INCORPORATED | 9,739 | 248.47 | 0.03 |
| NATIONAL FINANCIAL SERVICES CORPORATION | 700 | 14.00 | 0.02 |
| NEEDHAM AND COMPANY LLC | 35,125 | 1,058.85 | 0.03 |
| O NEIL, WILLIAM AND CO. INC/BCC CLRG | 2,655 | 92.93 | 0.04 |
| OPPENHEIMER + CO. INC. | 6,989 | 250.38 | 0.04 |
| PENSERRA SECURITIES | 14,670 | 146.70 | 0.01 |
| PERSHING LLC | 1,942 | 67.97 | 0.04 |
| PICKERING ENERGY PARTNERS, INC | 2,084 | 72.97 | 0.04 |
| PIPER JAFFRAY & CO. | 4,808 | 160.08 | 0.03 |
| RAYMOND JAMES AND ASSOCIATES INC | 17,264 | 545.63 | 0.03 |
| RBC CAPITAL MARKETS, LLC | 18,457 | 363.29 | 0.02 |
| RENAISSANCE MACRO SECURITIES, LLC | 1,400 | 49.00 | 0.04 |
| ROBERT W. BAIRD CO.INCORPORATED | 16,499 | 519.90 | 0.03 |
| SANDLER ONEILL AND PARTNERS L.P. | 2,767 | 83.01 | 0.03 |
| SANFORD C BERNSTEIN CO LLC | 6,958 | 92.11 | 0.01 |
| SCOTIA CAPITAL (USA) INC | 5,158 | 180.54 | 0.04 |
| SEAPORT GROUP SECURITIES, LLC | 696 | 20.88 | 0.03 |
| SIDOTI + COMPANY LLC | 19,803 | 594.09 | 0.03 |
| STATE STREET GLOBAL MARKETS, LLC | 221,378 | 6,422.04 | 0.03 |
| STEPHENS, INC. | 21,469 | 644.07 | 0.03 |
| STIFEL NICOLAUS + CO INC | 37,231 | 1,144.62 | 0.03 |
| STRATEGAS SECURITIES LLC | 3,910 | 136.86 | 0.04 |
| STUART FRANKEL + CO INC | 3,170 | 47.55 | 0.02 |
| SUNTRUST CAPITAL MARKETS, INC. | 35,309 | 1,209.89 | 0.03 |
| TELSEY ADVISORY GROUP LLC | 6,051 | 198.06 | 0.03 |
| UBS SECURITIES LLC | 4,899 | 142.12 | 0.03 |
| VIRTU AMERICAS LLC | 12,524 | 365.13 | 0.03 |
| WALL STREET ACCESS | 2,647 | 16.06 | 0.01 |
| WEDBUSH MORGAN SECURITIES INC | 9,741 | 308.83 | 0.03 |
| WEEDEN + CO. | 118,976 | 1,847.83 | 0.02 |
| WELLS FARGO SECURITIES, LLC | 12,253 | 430.73 | 0.04 |
| WILLIAM BLAIR & COMPANY L.L.C | 14,090 | 422.70 | 0.03 |
| TOTALS | 1,232,840 | 33,320.94 | |

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**Michigan Legislative Retirement System**

**Comprehensive Annual Financial Report**
**for the Fiscal Year Ended September 30, 2018**

# ACTUARIAL SECTION

**Actuary's Certification**
**Summary of Actuarial Assumptions and Methods**
**Schedule of Member Data**
**Schedule of Changes in Retirement Rolls**
**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 19, 2018

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, 2017 annual actuarial valuations was to determine the contribution requirements for the fiscal year ending September 30, 2018 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, 2017.

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 19, 2018
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 68.3% funded based upon the smoothed value of assets and 69.8% funded based upon market value.

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.

The current benefit structure is outlined in the actuarial section of the Comprehensive Annual Financial Report (CAFR). GRS did not prepare any of the schedules included in the CAFR, but we did provide the information used in the supporting schedules in the actuarial section and the Schedule of Funding Progress in the financial section, as well as the Employer Contributions – Computed and Actual Historical Comparison schedule in the financial section.

**Based upon the results of the September 30, 2017 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, 2017 was zero, instead of the actuarially computed $7,878,170. 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.

## Actuary's Certification (Continued)

Board of Trustees
Michigan Legislative Retirement System
December 19, 2018
Page 3

The actuarial valuation of the Michigan Legislative Retirement System as of September 30, 2017 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

80
CELEBRATING 80 YEARS OF EXCELLENCE
1938–2018

# 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-2000 Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projection scale BB. Adopted 2015.

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 |
|---|---|---|---|---|---|---|
| 2008 | 16 | $ 1,332,400 | $ 83,275 | 0.0% | 56.4 | 12.2 |
| 2009 | 14 | 1,151,100 | 82,221 | (1.3) | 58.6 | 13.6 |
| 2010 | 14 | 1,151,100 | 83,739 | 1.9 | 59.6 | 14.6 |
| 2011 | 1 | 71,685 | 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 |

### 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 |

# 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 |
|---|---|---|---|---|---|---|---|---|
| 2008 | 7 | $ 625,054 | 9 | $ 182,679 | 284 | $10,422,716 | 4.4% | $ 36,700 |
| 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 |

### 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 |

# 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) | | | | Portion of AAL Covered by Assets | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | | | | | |
| Valuation Date Sept. 30 | Active Member Contributions | Retirants and Beneficiaries | Active Members (Employer Financed Portion) | Valuation Assets | (1) | (2) | (3) | (4)[1] |
| 2008 | $ 1,660 | $ 145,110 | $ 22,626 | $ 169,986 | 100 % | 100 % | 103 % | 100 % |
| 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 | 82 |
| 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 |

[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] |
|---|---|---|---|---|---|---|---|---|
| 2008 | $ - | $ 75,777 | $ 56,850 | $ 14,319 | 0 % | 19 % | 0 % | 11 % |
| 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 |

[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, 2017**
**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. | 1,416,841 |
| 5. **Death After Retirement.** If retirants live longer than assumed, there is a loss. Of not as long, a gain. | (83,858) |
| 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. | 69,901 |
| 8. **Composite Gain (or Loss) During Year** | **$ 1,402,884** |

# 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.

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**Michigan Legislative Retirement System**

**Comprehensive Annual Financial Report**
**for the Fiscal Year Ended September 30, 2018**

# 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 |
|---|---|---|---|---|---|---|
| 2009 | $156,385 | $3,424,100 | $160,758 | $1,148,198 | $6,414,695 | $11,304,136 |
| 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 |

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

| Fiscal Year Ended | Benefits* | Refunds and Transfers | Administrative Expenses | Total |
|---|---|---|---|---|
| 2009 | $16,405,441 | $108,461 | $370,185 | $16,884,087 |
| 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 |

* 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 |
|---|---|---|---|---|---|
| 2009 | $10,793,318 | $457,500 | $394,566 | $4,760,057 | $16,405,441 |
| 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 |

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

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **Additions** | | | | | | | | | | |
| Member contributions | $ 11,581 | $ 11,044 | $ 10,343 | $ 7,635 | $ 6,527 | $ 5,662 | $ 3,226 | $ 3,648 | $ 3,895 | $ 998 |
| Employer contributions | | | | | | | | | | |
| Other Gov't contributions | | | | | | | | | | |
| Court fees | 269,944 | | | | | | | | | |
| Net Investment income | 5,564,681 | 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 |
| Other income | | | 1 | | | | | | 6,649 | |
| Total additions | 5,846,206 | 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 |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 11,250,818 | 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 |
| Refunds | 14,638 | 17,506 | 11,496 | 15,672 | 11,700 | 20,911 | 13,285 | 72,715 | 35,618 | 33,623 |
| Qualified rollovers | 93,823 | 287,969 | | | | | 711,067 | | | |
| Administrative expenses | 335,644 | 354,649 | 396,358 | 411,128 | 372,703 | 430,200 | 362,431 | 405,381 | 391,937 | 398,871 |
| Total deductions | 11,694,923 | 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 |
| **Changes in Net position** | $ (5,848,717) | $ 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) |

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

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **Additions** | | | | | | | | | | |
| Member contributions | $ 144,804 | $ 153,367 | $ 104,320 | $ 91,687 | $ 107,257 | $ 118,129 | $ 123,064 | $ 132,090 | $ 6,452 | $ 6,452 |
| Employer contributions | 3,424,100 | 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 |
| Other Gov't contributions | 160,758 | 150,113 | 880,159 | 255,590 | 153,256 | 167,078 | 180,690 | 207,065 | 204,042 | 270,673 |
| Court fees | 878,254 | 1,090,565 | 999,609 | 952,922 | 940,187 | 871,481 | 866,174 | 804,133 | 763,436 | 772,640 |
| Net Investment income | 541,287 | 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 |
| Other income | 308,727 | 252,403 | | | | 200,690 | 633,325 | 626,101 | 439,939 | 683,254 |
| Total additions | 5,457,930 | 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 |
| **Deductions** | | | | | | | | | | |
| Benefit payments | 5,154,623 | 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 |
| Refunds | | | | | | | | | | |
| Qualified rollovers | | | | | | | | | | |
| Administrative expenses | 34,540 | 36,496 | 114,500 | 47,574 | 67,088 | 63,683 | 65,337 | 66,289 | 68,871 | 74,201 |
| Total deductions | 5,189,163 | 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 |
| **Changes in Net position** | $ 268,767 | $ 1,298,296 | $ (707,275) | $ 5,645,911 | $ 1,981,654 | $ 818,664 | $ (1,785,155) | $ 1,102,259 | $ 1,564,943 | $ 421,490 |

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

| | Fiscal Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **Type of Benefit** | | | | | | | | | | |
| Age and service benefits: | | | | | | | | | | |
| Retirees | $ 9,219,700 | $ 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 |
| Survivors | 1,573,618 | 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 |
| Death in service benefits | 457,500 | 333,172 | 140,000 | 325,796 | 134,000 | 381,500 | 376,678 | 395,000 | 607,000 | 632,500 |
| Total benefits | $11,250,818 | $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 |
| **Type of refund** | | | | | | | | | | |
| Death | $ 14,638 | $ 17,506 | $ 11,098 | $ 15,672 | $ 11,700 | $ 20,911 | $ 13,284 | $ 61,780 | $ 35,618 | $ 33,623 |
| Separation | | | | | | | | | | |
| Other | 93,823 | 287,969 | 398 | | | | 711,067 | 10,935 | | |
| Total Refunds | $ 108,461 | $ 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 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **Type of Benefit** | | | | | | | | | | |
| Heathcare benefits: | | | | | | | | | | |
| Health benefits | $ 4,760,057 | $ 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 |
| Dental benefits | 394,566 | 426,560 | 448,263 | 417,299 | 417,115 | 417,313 | 409,246 | 404,929 | 390,630 | 380,005 |
| Total benefits | $ 5,154,623 | $ 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 |

## Schedule of Retired Members by Type of Benefit - Pension Plan
## As of September 30, 2018

| Amount of Monthly Benefit | Number of Retired Members | Type of Retirement* 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Deferred | 6 | 3 | 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 | 26 | 6 | 8 | 12 | 0 | 0 |
| 2,001 - 2,500 | 26 | 23 | 0 | 3 | 0 | 0 |
| 2,501 - 3,000 | 20 | 14 | 0 | 6 | 0 | 0 |
| 3,001 - 3,500 | 27 | 19 | 0 | 8 | 0 | 0 |
| 3,501 - 4,000 | 16 | 7 | 4 | 5 | 0 | 0 |
| 4,001 - 4,500 | 17 | 10 | 0 | 7 | 0 | 0 |
| 4,501 - 5,000 | 17 | 12 | 0 | 5 | 0 | 0 |
| Over 5,000 | 97 | 87 | 0 | 10 | 0 | 0 |
| Total | 268 | 189 | 17 | 60 | 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, 2018

| 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 | 127 | 99 | 102 | 103 |
| Deferred | 2 | 2 | 2 | 2 |
| $ 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 | 24 | 23 | 24 | 24 |
| 2,001 - 2,500 | 26 | 26 | 26 | 26 |
| 2,501 - 3,000 | 18 | 17 | 18 | 18 |
| 3,001 - 3,500 | 27 | 27 | 27 | 27 |
| 3,501 - 4,000 | 16 | 16 | 16 | 16 |
| 4,001 - 4,500 | 17 | 17 | 17 | 17 |
| 4,501 - 5,000 | 17 | 17 | 17 | 17 |
| Over 5,000 | 97 | 95 | 96 | 96 |
| Total | 380 | 348 | 354 | 355 |

*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) | Coverd Payroll[1] (c) | UAAL as a % of Coverd Payroll[2] ((b-a)/c) |
|---|---|---|---|---|---|---|
| 2008 | $ 169,986 | $ 169,396 | (590) | 100 | $ 1,332 | N/A |
| 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 | 82 | 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 |

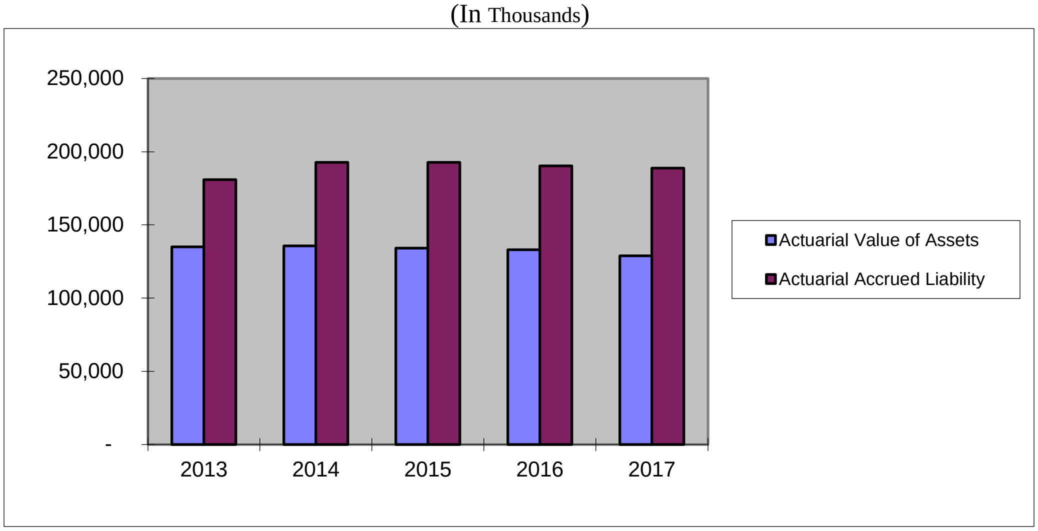
[1] October based payrolls

[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) | Coverd Payroll[1] (c) | UAAL as a % of Coverd Payroll[2] ((b-a)/c) |
|---|---|---|---|---|---|---|
| 2008 | $ 14,319 | $ 132,628 | $ 118,309 | 11 % | $ 11,859 | 998 % |
| 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 |

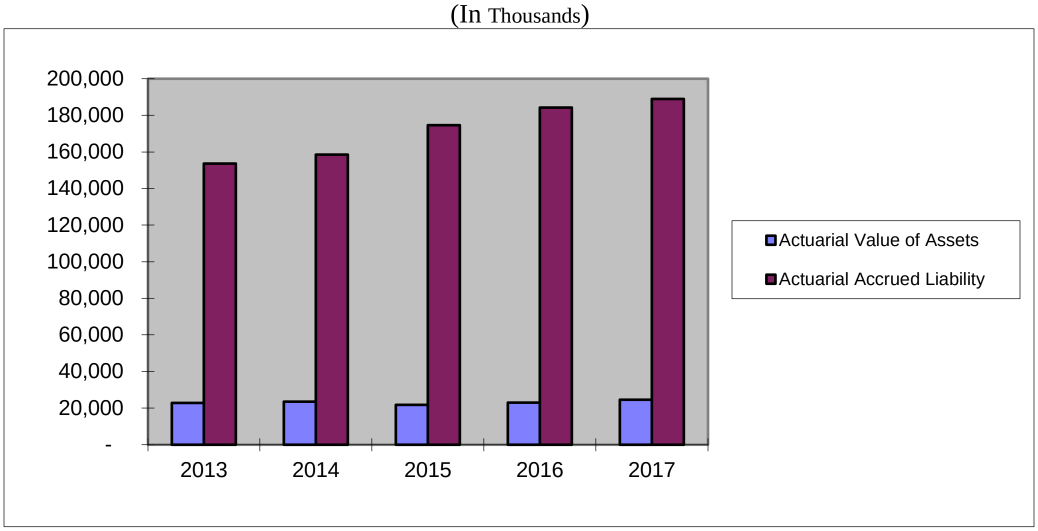
(1) October based payrolls

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

## Actuarial Value of OPEB Plan 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 10/1/08 to 9/30/09 | | | | | | | |
| Average monthly benefit | $1,748 | $2,971 | $4,026 | $4,788 | $5,199 | $4,712 | |
| Average final average salary | $47,331 | $38,992 | $43,356 | $58,891 | $65,297 | $49,120 | |
| Number of retired members | 81 | 100 | 63 | 26 | 10 | 8 | |
| 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 | |

## 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 10/1/08 to 9/30/09 | | | | | | | |
| Average monthly benefit | | $1,278 | $1,100 | $1,059 | $1,176 | $1,197 | $1,015 |
| Average final average salary | | $56,717 | $39,986 | $43,928 | $56,725 | $64,197 | $50,920 |
| Number of retired members | | 132 | 103 | 64 | 31 | 11 | 7 |
| 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 |