Michigan Judges' Retirement System

A Pension and Other Employee Benefit Trust Fund of the State of Michigan

Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2017

MJRS

Prepared by:
Financial Services
for
Office of Retirement Services
P.O. Box 30171
Lansing, Michigan 48909-7671
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INTRODUCTORY SECTION

Certificate of Achievement

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Michigan Judges' Retirement System

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

September 30, 2016

Christopher P. Morrill

Executive Director/CEO

Public Pension Standards Award

PPCC

Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
2017

Presented to

Michigan Office of Retirement Services

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

Presented by the Public Pension Coordinating Council, a confederation of

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

Alan H. Winkle

Alan H. Winkle
Program Administrator

INTRODUCTORY SECTION

Letter of Transmittal

Michigan Judges'
Retirement System
P.O. Box 30171
Lansing, Michigan 48909-7671
Telephone 517- 322-5103
Outside Lansing 1-800-381-5111

STATE OF MICHIGAN

RICK SNYDER, Governor

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET

December 29, 2017

The Honorable Rick Snyder
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 financial report of the Michigan Judges' Retirement System (System) for fiscal year 2017.

INTRODUCTION TO REPORT

The System was established by legislation under Public Act 234 of 1992 which consolidated the Judges and former Probate Judges retirement systems. The System is administered by the Office of Retirement Services (ORS). The number of active and retired members and beneficiaries of the System is presented in Note 1 of the financial statements in the Financial Section of this report. The purpose of the System is to provide benefits for all judges. The services performed by ORS staff provide benefits to members, retirees, and beneficiaries.

Responsibility

Responsibility for both the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with the leadership team of the 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.

Internal Control Structure

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

Letter of Transmittal (continued)

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management. This internal control structure includes maintaining written policies and procedures. Discussion and analysis of fiduciary net position and related additions and deductions are presented in the Management Discussion and Analysis which can be found immediately following the Independent Auditor's Report.

Independent Auditors and Actuary

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

Statute requires that an annual actuarial valuation be conducted. The purpose of the valuation is to evaluate the mortality, service, compensation, and other financial experience of the System and to recommend employer-funding rates for the subsequent year. The annual actuarial valuation was completed by Gabriel Roeder Smith & Company for the fiscal year ended September 30, 2016. Actuarial certification and supporting statistics are included in the Actuarial Section of this report.

Management's Discussion and Analysis (MD&A)

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

PROFILE OF THE GOVERNMENT

Public Act 234 of 1992 authorized the merger of the Probate Judges Retirement Fund into the Judges Retirement Fund by requiring the consolidation of all assets, rights, and obligations under the former Judges and Probate Judges Retirement Funds. Executive Order 2015-13 created a State of Michigan Retirement Board responsible for the functions, duties, and responsibilities of the State Employees' Retirement System, the Judges Retirement System, and the Military Retirement Provisions. This Board, with the director of the Office of Retirement Services, administers the consolidated fund. Financing comes from member contributions, court filing fees as provided under law, investment earnings, and legislative appropriations.

Public Act 523 of 1996, effective March 31, 1997, closed the plan to new entrants. Judges or state officials newly appointed or elected on or after March 31, 1997, become members of the State's defined contribution (DC) plan.

ECONOMIC CONDITIONS AND OUTLOOK

Despite challenging economic times, the System continues to show steady performance over the long-term.

Investments

The State Treasurer is the investment fiduciary and custodian of all investments of the System pursuant to State law. The primary investment objective is to maximize the rate of return on the total investment portfolio, consistent with a high degree of prudence and sufficient diversity to eliminate inordinate risks and to meet the actuarial assumption for the investment rate of return. The investment activity for the year produced a total rate of return on the portfolio of 13.9 percent for the Pension Plan and 12.8 percent for the Other Postemployment Benefits (OPEB) Plan. For the last five years, the System has experienced an annualized rate of return of 10.1 percent for the Pension Plan and 9.6 percent for the OPEB Plan. A summary of asset allocation and rates of return can be found in the Investment Section of this report.

Accounting System

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

Funding

Funds are derived from the excess of additions to plan net position over deductions from plan net position. Funds are accumulated by the System to meet future benefit obligations to retirees and beneficiaries. The percentage computed by dividing the actuarial value of assets by the actuarial accrued liability is referred to as the “funded ratio.” This ratio provides an indication of the funding status of the System and generally, the greater this percentage, the stronger the System.

Pension - As of September 30, 2016, the actuarial value of the assets and actuarial accrued liability for pension benefits were $254.1 million and $251.3 million, respectively, resulting in a funded ratio of 101.1 percent. A historical perspective of funding levels for the Pension Plan is presented on the Schedule of Funding Progress in the Statistical Section of this report.

Other Postemployment Benefits - An actuarial valuation is completed annually to determine the actuarial accrued liability if the postemployment benefits were to be pre-funded. As of September 30, 2016, the actuarial accrued liability for postemployment benefits based on pay as you go is $9.9 million. If these benefits were pre-funded the actuarial accrued liability as of September 30, 2016, would be approximately $6.7 million. A historical perspective of funding levels for the OPEB Plan is presented on the Schedule of Funding Progress in the Statistical Section of this report.

MAJOR GOALS ACCOMPLISHED

Assumed Rate of Return Reduction – The Department of Technology, Management and Budget (DTMB) director and the retirement board recently approved lowering the assumed rate of return (AROR) on investments from 8 percent to 7.5 percent beginning with the September 30, 2017, actuarial valuations. By adopting a lower AROR, the administration is protecting the long-term security of pensions. This also follows industry best practices. National Association of State Retirement Administrators data shows the median AROR nationwide has been trending downward and is currently 7.5 percent.

In addition to lowering the AROR to 7.5 percent, the retirement board and the DTMB director adopted a dedicated gains policy which applies investment returns in excess of the current AROR to permanently reduce the future AROR below 7.5 percent while largely off-setting increases in required contributions.

Prefunding of Judges Retiree Healthcare – In 2017, the administration approved prefunding of Judges retiree health benefits beginning in 2018. Prefunding takes advantage of investment earnings to reduce long-term costs to the State, and is a best-practice employed by all other State of Michigan retiree pension and health plans. Prefunded retiree health contributions are projected to cover normal cost each year and amortize the unfunded actuarially accrued liability over a period not to exceed 30 years.

Small Steps Campaign – ORS and Voya Financial launched the Small Steps campaign in December 2016. DC Plan participants who were contributing less than 10 percent to their State of Michigan 401(k) and 457 Plans saw a 1 percent increase in their contribution rate as of January 1, 2017. Less than 3 percent of participants chose to opt out of the automatic increase. Participants could also choose to contribute even more to their retirement plans.

Treasury and ORS Team Up to Save $1.4 Million in Fees – State of Michigan 401(k) and 457 plan participants have seen a 48 percent reduction in the investment management fees for the index funds in their DC retirement plan, thanks to a review of the plans by the Michigan Department of Treasury and ORS. Recommended changes to the investment fund lineup will save participants collectively more than $1.4 million in annual investment management fees.

Project SIGMA Changes Go Live – ORS deployed changes to the line of business application, Clarety, as part of the State of Michigan's Project SIGMA. The interface between Clarety and SIGMA handles a variety of important business, but none more critical than monthly pension payroll. Each month, nearly $450 million dollars are paid to 289,000 pension recipients who rely on that income for financial security. Test plans were executed over the past year involving collaboration across state agencies to coordinate downstream validation

Letter of Transmittal (continued)

and upstream data setup needs. Successful delivery of the project ensures payments to retirees continue to be delivered accurately and on time.

HONORS

Public Pension Standards Award – ORS was awarded the 2017 Standards Award from the Public Pension Coordinating Councils Standards Program (PPCC) for both funding and administration. ORS has received these awards every year since 2004. The PPCC Standards reflect expectations for public retirement system management and administration, and serve as a benchmark for all defined benefit public plans to be measured.

Government Finance Officers Association Award – The Government Finance Officers Association (GFOA) of the United States and Canada awarded the retirement system with the Certificate of Achievement for Excellence in Financial Reporting for our fiscal year 2016 Comprehensive Annual Financial Report (CAFR). This marks the 26th consecutive year ORS has received this prestigious award.

Two NAGDCA Leadership Awards – ORS received two 2017 Leadership Recognition Awards through the National Association of Government Defined Contribution Administrators (NAGDCA). These awards recognize DC plans for their outstanding achievements. The Road to Retirement campaign won the award for outstanding achievement in Technology & Social Media. The Small Steps campaign won the award for outstanding achievement in Plan Design. The 2017 Awards Committee reviewed all the submissions and chose the top projects in each category to receive a Leadership Recognition Award.

ACKNOWLEDGEMENTS

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

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

Sincerely,

David L. DeVries, Director
Department of Technology, Management & Budget

Kerrie Vanden Bosch, Director
Office of Retirement Services

Administrative Organization

RETIREMENT BOARD MEMBERS*

Judge Mark T. Boonstra
General Public
Term Expires Dec. 31, 2019

Anne Marie Storberg
Ex-officio Member Representing
State Treasurer

Matthew Fedorchuk
Active State Employee
Term Expires Dec. 31, 2018

John Gnodke
Ex-officio Member Representing
State Personnel Director

Laurie Hill, Chair
Retired State Employee
Term Expires Dec. 31, 2019

Molly Jason
Ex-officio Member Representing
Attorney General

Craig Murray
Ex-officio Member Representing
Auditor General

Judge David H. Sawyer
Active Judge
Term Expires Dec. 31, 2017

Lt. John Wojcki
Michigan National Guard
Term Expires Dec. 31, 2018

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

ADVISORS AND CONSULTANTS

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

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

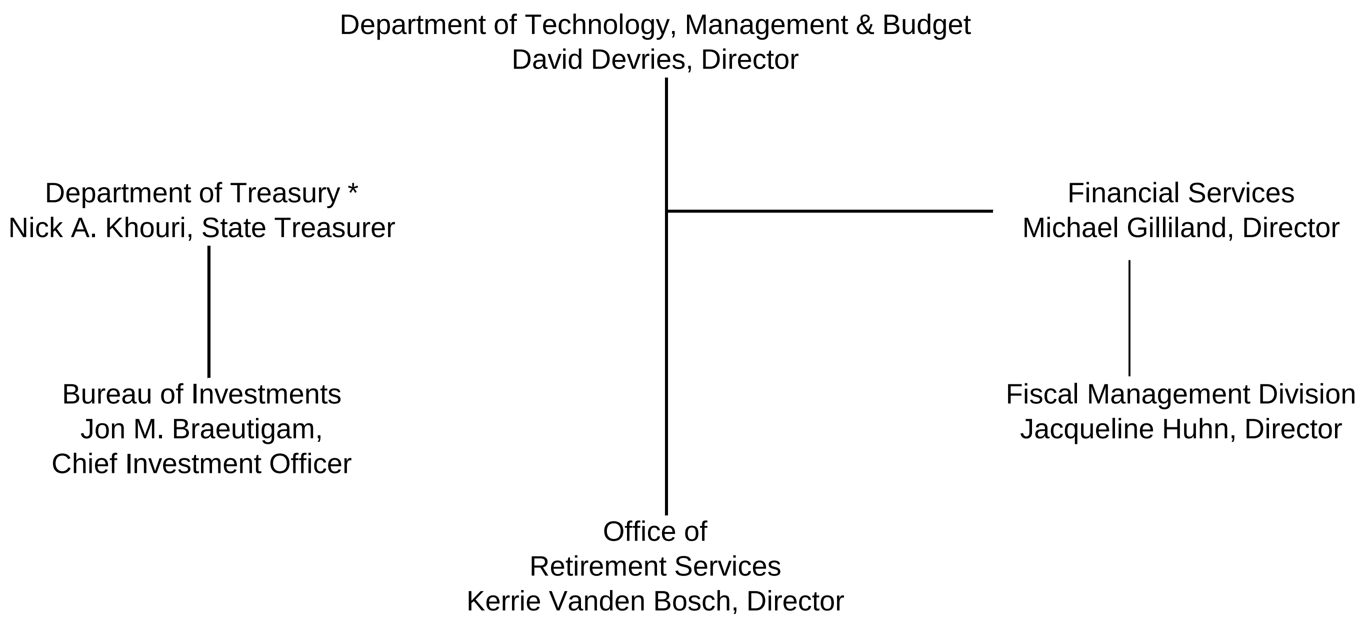
Investment Manager and Custodian
Nick A. Khouri
State Treasurer
State of Michigan

Legal Advisor
Bill Schuette
Attorney General
State of Michigan

Investment Performance Measurement
State Street Corporation
State Street Investment Analytics
Boston, MA

Administrative Organization (continued)

Organization Chart



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

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FINANCIAL SECTION

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

OAG
Office of the Auditor General
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*

Ms. Laurie Hill, Chair
State of Michigan Retirement Board
and
Mr. David L. DeVries, Director
Department of Technology, Management, and Budget
and
Ms. Kerrie L. Vanden Bosch, Director
Office of Retirement Services

Dear Ms. Hill, Mr. DeVries, and Ms. Vanden Bosch:

Report on the Financial Statements
We have audited the accompanying financial statements of the Michigan Judges' Retirement System as of and for the fiscal year ended September 30, 2017 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 Judges' Retirement System as of September 30, 2017 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.

Emphasis of Matter
As discussed in Note 7 to the financial statements, the System adopted Governmental Accounting Standards Board (GASB) Statements No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, No. 82, *Pension Issues - an amendment of GASB Statements No. 67, No. 68, and No. 73*, and No. 85, *Omnibus 2017,* for the fiscal year ended September 30, 2017. Our opinion is not modified with respect to this matter.

Doug A. Ringler, CPA, CIA
Auditor General

Ms. Laurie Hill, Chair
Mr. David L. DeVries, Director
Ms. Kerrie L. Vanden Bosch, 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 pension contributions, schedule of pension investment returns, schedule of changes in net OPEB liability, schedule of OPEB contributions, schedule of OPEB 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 GASB who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

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

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

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

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

Sincerely,

Doug Ringler

Doug Ringler
Auditor General
December 29, 2017

FINANCIAL SECTION

Management's Discussion and Analysis

Our discussion and analysis of the Michigan Judges' Retirement System's (System) financial performance provides an overview of the System's financial activities for the fiscal year ended September 30, 2017. Please read it in conjunction with the transmittal letter in the Introductory Section on page 6 and the basic financial statements, which follow this discussion.

FINANCIAL HIGHLIGHTS

- System assets exceeded liabilities at the close of fiscal year 2017 by $265.8 million (reported as *net position*). Net position is restricted for pension and other postemployment benefits (OPEB) to meet future benefit payments.
- Additions for the year were $34.4 million, which are comprised primarily of member contributions of $1.0 million, employer contributions of $1.1 million, and investment gains of $32.3 million.
- Deductions increased over the prior year from $24.2 million to $24.5 million or 1.4%. This increase can be mostly attributed to an increase in pension benefits paid.

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

This Comprehensive Annual Financial Report (CAFR) consists of two financial statements; *The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 19) and *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 20). 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 fiduciary net position. Over time, increases and decreases in fiduciary net position measure whether the System's financial position is improving or deteriorating. *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* presents how the System's fiduciary net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Schedule of Changes in Net Pension Liability (page 48), Schedule of Changes in Net OPEB Liability (page 50), and Schedules of Contributions (pages 49 and 51) to determine whether the System is becoming financially stronger or weaker.

FINANCIAL ANALYSIS

System total assets as of September 30, 2017, were $283.1 million and were mostly comprised of cash and investments. Total assets increased $8.8 million or 3.2% between fiscal years 2016 and 2017 due primarily to net investment gains.

Total liabilities as of September 30, 2017, were $17.2 million and were comprised of accounts payable, amounts due to other funds, and obligations under securities lending. Total liabilities decreased $1.1 million or 5.9% between fiscal years 2016 and 2017 due primarily to decreased obligations under securities lending.

System assets exceeded its liabilities at the close of fiscal year 2017 by $265.8 million. Total net position restricted for pension and OPEB increased $9.9 million or 3.9% between fiscal years 2016 and 2017 due primarily to an increase in investment income.

Management's Discussion and Analysis (Continued)

Plan Fiduciary Net Position
(in thousands)

	2017	2016	Increase (Decrease)
Assets			
Equity in common cash	$ 1,679	$ 2,034	(17.4) %
Receivables	300	190	57.8
Investments	264,022	253,737	4.1
Securities lending collateral	17,051	18,270	(6.7)
Total Assets	283,053	274,230	3.2
Liabilities			
Accounts payable and other accrued liabilities	56	46	21.9
Amounts due to other funds	112		100.0
Obligations under securities lending	17,042	18,244	(6.6)
Total Liabilities	17,210	18,290	(5.9)
Net Position Restricted for Pension Benefits and OPEB	$ 265,843	$ 255,940	3.9 %

ADDITIONS TO PLAN FIDUCIARY NET POSITION

The reserves needed to finance pension and other postemployment benefits are accumulated through the collection of member contributions, employer contributions, earnings on investments, and court fees. Contributions, net investment income, and court fees for fiscal year 2017 totaled $34.4 million.

Total additions for fiscal year 2017 increased $12.2 million or 55.3% from those of fiscal year 2016 due primarily to an increase in investment income. Investment income increased primarily due to an increase of the fair value of investments. Employer contributions and court fees totaled $1.2 million in fiscal year 2017 as compared to $2.3 million in fiscal year 2016. The decrease in employer contributions was due to a decrease of the Actuarially Determined Contribution (ADC) for the pension plan. The Investment Section of this report reviews the results of investment activity for fiscal year 2017.

DEDUCTIONS FROM PLAN FIDUCIARY NET POSITION

The primary deductions of the System include the payment of pension benefits to members and beneficiaries, payment for health, dental and vision benefits, and the cost of administering the System. Total deductions for fiscal year 2017 were $24.5 million, an increase of 1.4% from fiscal year 2016 deductions.

Payments for health care benefits for members and beneficiaries decreased during the year by $158 thousand or 34.3% from $459 thousand to $302 thousand due primarily to a GASB Statement No. 74 accounting change. The payment of pension benefits increased by $422 thousand or 1.8% between fiscal years 2016 and 2017. In fiscal year 2017, the increase in pension benefit expense resulted from new retirees earning higher pensions. Administrative and other expenses increased by $62 thousand or 14.8% from $419 thousand to $481 thousand between fiscal years 2016 and 2017.

Changes in Plan Fiduciary Net Position
(in thousands)

	2017	2016	Increase (Decrease)
Additions			
Member contributions	$ 814	$ 1,238	(34.2) %
Employer contributions	1,135	2,292	(50.5)
Other governmental contributions	74	93	(20.9)
Net investment income (loss)	32,337	18,481	75.0
Court fees, transfers, and miscellaneous	51	57	(10.4)
Total additions	34,410	22,162	55.3
Deductions			
Pension benefits	23,724	23,302	1.8
Health care benefits	302	459	(34.3)
Administrative and other expenses	481	419	14.8
Total deductions	24,507	24,180	1.4
Net Increase (Decrease) in Net Position	9,903	(2,018)	590.6
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	255,940	257,958	(0.8)
End of Year	$ 265,843	$ 255,940	3.9 %

RETIREMENT SYSTEM AS A WHOLE

The System's overall Fiduciary Net Position experienced an increase in fiscal year 2017 by $9.9 million. The System's rate of return on investment increased an overall 6.3% from a 7.6% return in fiscal year 2016 to a 13.9% return for the Pension Plan and increased an overall 5.3% from a 7.5% return in fiscal year 2016 to a 12.8% return for the OPEB Plan during fiscal year 2017. Management believes that the System remains financially sound and positioned to meet its ongoing benefit obligations due, in part, to a prudent investment program, cost controls, and strategic planning.

CONTACTING SYSTEM FINANCIAL MANAGEMENT

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

Basic Financial Statements

STATEMENT OF PENSION PLAN AND OTHER POSTEMPLOYMENT BENEFIT PLAN FIDUCIARY NET POSITION
As of September 30, 2017 (in thousands)

	Pension Plan	OPEB Plan	Total
Assets:			
Equity in common cash	$ 1,679		$ 1,679
Receivables:			
Amounts due from members	9		9
Amounts due from employers	44	$ 5	49
Amounts due from federal agencies		38	38
Amounts due from other funds	112		112
Amounts due from other		68	68
Interest and dividends	25		25
Total receivables	189	111	300
Investments:			
Short term investment pools	8,992	98	9,090
Fixed income pools	32,750	126	32,876
Domestic equity pools	65,747	264	66,011
Real estate and infrastructure pools	25,718	96	25,814
Private equity pools	41,587	162	41,749
International equity pools	48,482	192	48,674
Absolute return pools	39,664	143	39,807
Total investments	262,940	1,081	264,022
Securities lending collateral	16,973	79	17,051
Total assets	281,782	1,271	283,053
Liabilities:			
Accounts payable and other accrued liabilities	1	55	56
Amounts due to other funds		112	112
Obligations under securities lending	16,963	79	17,042
Total liabilities	16,964	245	17,210
Net Position Restricted for Pension Benefits and OPEB:	$ 264,817	$ 1,026	$ 265,843

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, 2017 (in thousands)

	Pension Plan	OPEB Plan	Total
Additions:			
Contributions:			
Member contributions	$ 697	$ 117	$ 814
Employer contributions	1,020	115	1,135
Other governmental contributions		74	74
Total contributions	1,717	305	2,023
Investment income (loss):			
Net increase (decrease) in fair value of investments	26,836	99	26,935
Interest, dividends, and other	6,099	23	6,122
Investment expenses:			
Real estate operating expenses	(4)		(4)
Other investment expenses	(1,043)	(4)	(1,047)
Securities lending activities:			
Securities lending income	476	2	478
Securities lending expenses	(146)	(1)	(147)
Net investment income (loss)	32,218	119	32,337
Court Fees	41		41
Miscellaneous income	10		11
Total additions	33,986	425	34,410
Deductions:			
Benefits paid to plan members and beneficiaries:			
- Retirement benefits	23,724		23,724
- Health benefits		295	295
- Dental/vision benefits		7	7
Administrative and other expenses	354	127	481
Total deductions	24,078	429	24,507
Net Increase (Decrease) in Net Position	9,907	(4)	9,903
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	254,910	1,030	255,940
End of Year	$ 264,817	$ 1,026	$ 265,843

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

NOTES TO BASIC FINANCIAL STATEMENTS

September 30, 2017

NOTE 1- PLAN DESCRIPTION

ORGANIZATION

The Michigan Judges' Retirement System (System) is a cost-sharing, multiple employer, state-wide, defined benefit public employee retirement plan governed by the State of Michigan (State), created under Public Act 234 of 1992, which consolidated the former Judges' and Probate Judges' Retirement Systems into one retirement system. Section 204 of this Act establishes the board's authority to promulgate or amend the provisions of the System. Executive Order 2015-13 signed by the Governor on October 27, 2015 established the State of Michigan Retirement Board. The executive order establishes the board's authority to promulgate or amend the provision of the System. The board consists of nine members:

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

The System's pension plan was established to provide retirement, survivor and disability benefits to judges in the judicial branch of state government. In addition, the System's OPEB plan provides all retirees with the option of receiving health, dental, and vision coverage under the Michigan Judges' Retirement Act. There are 57 participating employers. The System also includes the Governor of the State of Michigan, Lieutenant Governor, Secretary of State, Attorney General, Legislative Auditor General, and the Constitutional Court Administrator if elected prior to March 31, 1997. (Those officials elected on or after March 31, 1997, are part of the Defined Contribution Retirement Plan). The System is a qualified pension trust fund under section 401(a) of the Internal Revenue Code.

The System's financial statements are included as a pension and other employee benefit trust fund in the State of Michigan Comprehensive Annual Financial Report.

The System is administered by the Office of Retirement Services within the Michigan Department of Technology, Management & Budget (DTMB). The Department Director appoints the Office Director, with whom the general oversight of the System resides. The State Treasurer serves as the investment officer and custodian for the System.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

MEMBERSHIP

At September 30, 2017, the System's membership consisted of the following:

Inactive plan members or their beneficiaries currently receiving benefits:	
Regular benefits	375
Survivor benefits	170
Disability benefits	6
Total	551
Inactive plan members entitled to but not yet receiving benefits:	1
Active plan members:	
Vested	100
Non-vested	0
Total	100
Total plan members	652

Plan 1 or 2 members (Supreme Court Justice, Court of Appeals, or elected officials) may enroll in the State Health Plan when they retire and their premium rate is subsidized. All other members may enroll in the State Health Plan if they wish to, but they must pay the entire premium cost. At September 30, 2017, there were a total of 54 members with a subsidized premium rate. The number of participants with a subsidized premium rate is as follows:

Health, Dental and Vision Plan

Eligible participants	
Retirees and Survivors	54
Inactive vested members	6
Active members	38
Participants receiving subsidized benefits:	
Health	39
Dental	37
Vision	34

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

BENEFIT PROVISIONS – PENSION

Introduction

Benefit provisions of the defined benefit pension plan are established by State statute, which may be amended. Public Act 234 of 1992, Michigan Judges' Retirement Act, as amended, establishes eligibility and benefit provisions for the defined benefit pension plan. Retirement benefits are determined by final compensation and years of service. Members are eligible to receive a monthly benefit when they meet certain age and service requirements. The System also provides disability and survivor benefits.

A member who leaves judicial service may request a refund of his or her member contribution account. A refund cancels a former member's rights to future benefits. Returning members who previously received a refund of their contributions may reinstate their service credit through repayment of the refund upon satisfaction of certain requirements. For salary, contribution and calculation of retirement benefit, the membership of the System is categorized into seven plans. The categories are based on the position to which the member was elected or appointed. Public Act 523 of 1996, effective March 31, 1997, closed the plan to new entrants. Judges or State officials newly appointed or elected on or after March 31, 1997, become members of the defined contribution plan.

Regular Retirement

The retirement benefit or allowance is calculated in accordance with the formula of the plan, which applies to the member. The formula is based on a member's years of credited service (employment) and final compensation. The normal retirement benefit is payable monthly over the lifetime of a member.

A member may retire and receive a monthly benefit after attaining:

- age 60 with 8 or more years of credited service; or
- age 55 with 18 or more years of credited service (the last 6 years continuous); or
- 25 or more years of service, the last 6 years continuous; no age requirement; or
- age 60 with service of two full terms in the office of Governor, Lieutenant Governor, Secretary of State, or Attorney General, or one full term in the office of Legislative Auditor General.

Early Retirement

A member may retire early with a permanently reduced pension:

- after completing at least 12 but less than 18 years of service, of which the last 6 years are continuous; and
- after attaining age 55.

The early pension is computed in the same manner as a regular pension but is permanently reduced 0.5% for each full and partial month between the pension effective date and the date the member will attain age 60.

Deferred Retirement

A member with 8 or more years of credited service who terminates judicial service before meeting the age requirements to receive a retirement allowance and who does not withdraw his or her contributions, is entitled to receive a monthly allowance upon reaching age 60 or age 55 with 18 years of service, the last 6 of which were continuous.

Disability Benefit

A member with 8 or more years of credited service who is totally disabled from physically or mentally performing his or her duties is eligible for a disability pension. The disability benefit is computed in the same manner as an age and service allowance based upon service and final salary at the time of disability.

Pension Payment Options

A pension is payable monthly for the lifetime of a System retiree and equals 3% of final salary times years of service for up to 12 years of service; or 50% of salary with 12 years, increased 2.5% for each additional year up to a maximum of 60% of salary. A former retiree of the Probate Judges' Retirement System receives 3% of salary times years of service, to a maximum of the greater of 40% of salary or $15,000 but not to exceed 66 2/3% of final salary when added to a county pension; or 3.5% of salary times years of service with a maximum of two thirds of final salary, if elected.

Straight Life – This option provides the highest monthly retirement allowance. Surviving spouse receives a 50% survivor's benefit.

Option A - Under this option, after the retiree's death, the beneficiary will receive 100% of the pension for the remainder of the beneficiary's lifetime. If this option is elected, the normal retirement benefit is reduced by a factor based upon the ages of the retiree and of the beneficiary.

Option B - Under this option, after the retiree's death, the beneficiary will receive 50% of the pension for the remainder of the beneficiary's lifetime. If this option is elected, the normal retirement benefit is reduced by a factor based upon the ages of the retiree and of the beneficiary. The reduction factor is smaller than the factor used in Option A above.

Survivor Benefit

A survivor benefit may be paid if 1) a member who has 8 or more years of credited service dies while in office, 2) a vested former member dies before retirement, or 3) a retiree dies following retirement.

Contributions

Member Contributions – Members currently participate on a contributory basis. For contribution purposes, the membership of the System is categorized in seven plans, which are based on the position to which the member was elected or appointed.

Under certain circumstances, members may contribute to the System for the purchase of creditable service, such as military service or other public service. If a member terminates covered employment before a retirement benefit is payable, the member's contribution and interest on deposit may be refunded. If the member dies before being vested, the member's contribution and interest are refunded to the designated beneficiaries.

Publicly Financed Contributions – There are two public sources which fund retirement benefits: Court fees and State appropriations. The State contributes annually the greater of 3.5% of the aggregate annual compensation of State-paid base salaries, or the difference between the total actuarial requirement of current service and unfunded accrued liabilities minus the revenues from court filing fees and member contributions. If the court fees deposited in the reserve for employer contributions equal the amount needed in addition to other publicly financed contributions to sustain the required level of publicly financed contributions, Section 304(4) of Judges' Retirement Act requires court fees be deposited in the court fee fund. A chart showing the publicly financed contribution rates is included in Note 3.

Public Act 95 of 2002 authorizes the State Treasurer, if funds remain in the court fee fund after transfers, to transmit a portion of the money in the court fee fund and any earnings on those amounts to the reserve for health benefits. The purpose of this transfer is to pay expected health care costs for the subsequent fiscal year that are not covered as a result of employee contributions. For fiscal year 2017, this amount was $115,000.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

BENEFIT PROVISIONS – OTHER POSTEMPLOYMENT

Benefit provisions of the postemployment benefit plan are established by State statute, which may be amended. Public Act 234 of 1992, as amended, establishes eligibility and benefit provisions for the OPEB plan. Members are eligible to receive health, prescription drug, dental and vision coverage on the first day they start receiving pension benefits. There is no provision for ad hoc or automatic increases. The Judges' Retirement Act requires joint authorization by DTMB and the Civil Service Commission to make changes to retiree medical benefit plans.

Under the Michigan Judges' Retirement Act, Plan 1 or 2 members may enroll in the State Health Plan when they retire. Twenty percent of the health insurance premium is deducted from the monthly pension check until age 65, at which time Medicare provides primary health insurance coverage. All other members may enroll in the State Health Plan during an open enrollment period. The total premium is deducted from the monthly pension check. The active employee payroll contribution rate to fund health benefits for the Plan 1 or 2 members was 2.0% for fiscal year 2017. There are no required employer contributions to fund health benefits.

All retirees may enroll in the state dental and/or vision plan during an open enrollment period. The total premium is deducted from the monthly pension check.

Retirees of Plan 1 and 2 are provided with life insurance coverage equal to 25% of the active life insurance coverage and $1,000 for each dependent. Premiums are fully paid by the State for Plan 1 and 2 members. All others must pay the full premium.

The number of participants with a subsidized premium rate and other relevant financial information are as follows:

	2017
Health, Dental and Vision Plan	
Eligible participants	
Retirees and Survivors	54
Inactive vested members	6
Active members	38
Participants receiving subsidized benefits:	
Health	39
Dental	37
Vision	34
Expenses for the year (in thousands)	$ 429
Employer payroll contribution rates	0%

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting and Presentation

The System's financial statements are prepared using the accrual basis of accounting. Court filing fees are recognized as revenue in the period received since amount of court fee revenue is unknown. Contributions from the State are recognized as revenue when due and payable. Benefits and refunds are recognized when due and payable in accordance with the terms of the System.

Governmental Accounting Standards Board (GASB) Statement No. 67, and Statement No. 74 which were adopted during the year ended September 30, 2014 and 2017, addresses accounting and financial reporting requirements for pension and other postemployment benefit plans, respectively. The requirements for both GASB Statement No. 67 and 74 require changes in presentation of the financial statements, notes to the financial statements, and required supplementary information. Significant changes include an actuarial calculation of total, net pension and other postemployment benefit liability. It also includes comprehensive note disclosures regarding the pension and other postemployment benefit liability, the sensitivity of the net pension and other postemployment benefit liability to the discount rate, and increased investment activity disclosures. The implementation of GASB Statement No. 67 and 74 did not significantly impact the accounting for accounts receivable and investment balances. The total pension and other postemployment benefit liability, determined in accordance with GASB Statement No. 67 and 74, is presented in Note 4, Note 5 and in the Required Supplementary Information beginning on page 48.

As of September 30, 2016, the Retirement System applies GASB Statement No. 72, *Fair Value Measurement and Application*. GASB Statement No. 72 provides guidance for determining a fair value measurement for reporting purposes and applying fair value to certain investments and disclosures related to all fair value measurements.

Reserves

Public Act 234 of 1992, as amended, created several reserves. The reserves are described below and details are provided in the supporting schedules.

Reserve for Employee Contributions – This reserve represents active member contributions, payments for the purchase of service credit, repayment of previously refunded contributions and interest less amounts transferred to the Reserve for Retirement Benefit Payments for regular and disability retirement, amounts refunded to terminated members, and transferring inactive reserves. At September 30, 2017, the balance in this reserve was $41.4 million.

Reserve for Employer Contributions – This reserve represents court fees, late fees, interest payments, employer contributions, and State appropriations. Amounts are transferred annually from this reserve to the Reserve for Retired Benefit Payments to fund that reserve. At September 30, 2017, the balance in this reserve was $(40.1) million.

Reserve for Retired Benefit Payments – This reserve represents the reserves for payment of future retirement benefits to current retirees. At retirement, a member's accumulated contributions plus interest are transferred into this reserve from the Reserve for Employee Contributions and the Reserve for Employer Contributions. Monthly benefits, which are paid to the retiree, reduce the reserve. At the end of each fiscal year, an amount is transferred from the Reserve for Employer Contributions to bring the reserve into balance with the actuarial present value of retirement allowances. At September 30, 2017, the balance in this reserve was $193.2 million.

Reserve for Undistributed Investment Income – This reserve is credited with all investment earnings, changes in fair value, gifts to the System, and forfeited contributions. All administrative expenses are paid from this reserve and interest is transferred annually to the other reserves. At September 30, 2017, the balance in this reserve was $70.3 million.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Reserve for Health (OPEB) Related Benefits – This reserve is credited with member contributions for retirees' health, dental, and vision benefits. The required contribution is based on pay-as-you-go funding and represents a level of funding that, if paid on an ongoing bases, is projected to cover normal cost each year and amortize any unfunded actuarial liability (or funding excess) over a period not to exceed thirty years. The actual annual contributions have been less than the actuarially determined contribution (ADC). In addition, in fiscal year 2017, this reserve includes revenue from the federal government for the Employee Group Waiver Plan (EGWP). Premiums for health, dental and vision benefits are paid from this reserve. At September 30, 2017, the balance in this reserve was $1.0 million.

Reporting Entity

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

Benefit Protection

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

Investments

Generally, investments are reported at fair value, consistent with the provisions of GASB Statement No. 72, *Fair Value Measurement and Application*. Short-term, highly liquid debt instruments including commercial paper are reported at amortized cost. Additional disclosures describing investments are provided in Note 6.

Investment Income

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

Costs of Administering the System

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

Property and Equipment

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

Related Party Transactions

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

	2017
Building Rentals	$ 1,267
Technological Support	16,870
Attorney General	11,246
Investment Services	75,940
Personnel Services	262,559

Cash – At September 30, 2017, the System had $1.7 million in a common cash investment pool maintained for various State operating funds. The participating funds in the common cash pool earn interest at various rates depending upon prevailing short-term interest rates. Earnings (Losses) from these activities amounted to $5,683 for the year ended September 30, 2017.

Excess Benefits

Internal Revenue Service (IRS) Code Section 415 requires that, for individuals who receive retirement benefits in excess of established limits, these benefits are recorded and reported outside of the pension plan in order to keep the qualified status of the plan. This includes coordination of benefit issues whereby a retiree participates in more than one qualified plan. In fiscal year 2017, the System provided excess benefits to one retiree.

NOTE 3 – CONTRIBUTIONS AND FUNDED STATUS

Contributions

Members' contributions range from 3.5% to 7% of their salary depending on the plan (described in statute). Contributions are tax deferred under Section 414(h)(2) of the Internal Revenue Code, except for probate judges whose contributions are tax deferred only if the local unit of government has adopted a resolution to do so. Contribution provisions are specified by State statute and may be amended only by action of the State Legislature.

The State contributes annually the greater of 3.5% of the aggregate annual compensation of State paid base salaries, or the difference between the total actuarial requirement of current service and unfunded actuarial liabilities minus the revenues from court filing fees and member contributions. Although contributions are expressed as a percentage of payroll, because the system is a closed plan, the actuarial valuation calculates a level dollar amount for funding purposes. For fiscal year 2017, an employer contribution in the amount of $1.1 million was paid from the court fee fund. If the court fees deposited in the reserve for employer contributions equal the amount needed in addition to other publicly financed contributions to sustain the required level of publicly financed contributions, Section 304(4) requires court fees to be deposited in the court fee fund in the State Treasury. The State Treasurer transmits the money in the court fee fund, not exceeding $2.2 million in any fiscal year, to the court equity fund for operational expenses of trial courts.

Employer contributions to the System are determined on an actuarial basis using the entry age normal actuarial cost method. Under this method, the actuarial present value of the projected benefits of each individual included in the actuarial valuation is allocated on a level basis over the service of the individual between entry age and assumed exit age. The portion of this cost allocated to the current valuation year is called the normal cost. The remainder is called the actuarial accrued liability. Normal cost is funded on a current basis. For retirement and OPEB benefits, the unfunded (overfunded) actuarial accrued liability as of the September 30,

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

2017 valuation will be amortized over a 20 year period for the 2017 fiscal year. The schedule below summarizes pension and OPEB contribution rates in effect for fiscal year 2017.

Pension Contribution Rates

Benefit Structure	Member	Employer*
Supreme Court	5.0 %	0 %
Court of Appeals	5.0	0
Elected Officals	5.0	0
Circuit Court	3.5 - 7.0	0
District Court	3.5 - 7.0	0
Probate Court	3.5 - 7.0	0

* Employer Contributions are paid through court fees.

OPEB Contribution Rates

Benefit Structure	Member	Employer*
Supreme Court	2.0 %	0 %
Court of Appeals	2.0	0
Elected Officals	2.0	0
Circuit Court	0.0	0
District Court	0.0	0
Probate Court	0.0	0

* Employer Contributions are paid through court fees.

The system is required to reconcile with actuarial requirements annually. Any funding excess or deficiency for pension benefits is smoothed over 5 years. One fifth (20%) of the funding excess or deficiency is included in each of the subsequent years' contribution, and is not recognized as a payable or receivable in the accounting records.

NOTE 4 – NET PENSION LIABILITY

Measurement of the Net Pension Liability

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

Net Pension Liability

Total Pension Liability	$	249,939,751
Plan Fiduciary Net Position		264,817,433
Net Pension Liability	$	(14,877,682)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		105.95%
Net Pension Liability as a percentage of Covered Payroll		-108.97%
Total Covered Payroll	$	12,684,596

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan 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, 2017, are summarized in the following table:

Asset Allocation

Asset Class	**Target Allocation**	**Long-Term Expected Real Rate of Return***
Domestic Equity Pools	28.0 %	5.6 %
Private Equity Pools	18.0	8.7
International Equity Pools	16.0	7.2
Fixed Income Pools	10.5	(0.1)
Real Estate and Infrastructure Pools	10.0	4.2
Absolute Return Pools	15.5	5.0
Short-Term Investment Pools	2.0	(0.9)
TOTAL	**100.0 %**	

* Long-term rates of return are net of administrative expenses and 2.3% inflation.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Rate of Return

For the fiscal year ended September 30, 2017, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was 13.15%. The money weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Discount Rate

A discount rate of 8.0% was used to measure the total pension liability. This discount rate was based on the long term expected rate of return on pension plan investments of 8.0%. The projection of cash flows used to determine this 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 contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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

As required by GASB Statement No. 67, the following presents the plan's net pension liability, calculated using a single discount rate of 8.0%, 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	Current Discount Rate Assumption	1% Increase
7.0%	8.0%	9.0%
$2,302,388	($14,877,682)	($29,599,187)

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, 2017, is based on the results of an actuarial valuation date of September 30, 2016, and rolled-forward using generally accepted actuarial procedures.

Actuarial Valuations and Assumptions

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

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

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

Valuation Date	September 30, 2016
Actuarial Cost Method	Entry Age, Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	20 years
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Inflation	2.5%
Wage Inflation Rate	3.5%
Investment Rate of Return	8.0%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Healthy Life Mortality Table, adjusted for mortality improvements to 2020 using projection scale BB.
Notes:	Assumption changes as a result of an experience study for the periods 2007 through 2012 have been adopted by the System for use in the annual pension valuations beginning with the September 30, 2014 valuation.

NOTE 5 – NET OPEB 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 fair value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Net OPEB Liability

Total OPEB Liability	$	7,007,393
Plan Fiduciary Net Position		1,025,537
Net OPEB Liability	$	5,981,856
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability		14.64%

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Long-Term Expected Return on 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 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 OPEB plan's target asset allocation as of September 30, 2017, are summarized in the following table:

Asset Allocation

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return*
Domestic Equity Pools	28.0 %	5.6 %
Private Equity Pools	18.0	8.7
International Equity Pools	16.0	7.2
Fixed Income Pools	10.5	(0.1)
Real Estate and Infrastructure Pools	10.0	4.2
Absolute Return Pools	15.5	5.0
Short-Term Investment Pools	2.0	(0.9)
TOTAL	**100.0 %**	

* Long-term rates of return are net of administrative expenses and 2.3% inflation.

Rate of Return

For the fiscal year ended September 30, 2017, the annual money-weighted rate of return on OPEB plan investment, net of OPEB plan investment expense, was 11.48%. The money weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Discount Rate

A discount rate of 8.0% was used to measure the total OPEB liability. This discount rate was based on the long term expected rate of return on OPEB plan investments of 8.0%. The projection of cash flows used to determine this 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 contribution rates and the member rate. Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

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 8.0%, 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 7.0%	Current Discount Rate Assumption 8.0%	1% Increase 9.0%
$6,640,828	$5,981,856	$5,408,561

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate Assumption

As required by GASB Statement No. 74, 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 1-percentage-point lower or 1-percentage-point higher:

1% Decrease	Current Healthcare Cost Trend Rate Assumption	1% Increase
$5,377,196	$5,981,856	$6,654,005

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, 2017, is based on the results of an actuarial valuation date of September 30, 2016, and rolled-forward using generally accepted actuarial procedures.

Actuarial Valuations and Assumptions

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

The Schedules of Contributions in Required Supplementary Information present trend information about the amounts contributed to the plan by employers in comparison to the ADC, an amount that is actuarially determined in accordance with the parameters of GASB Statement No. 74 for OPEB contributions.

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

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

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

Valuation Date	September 30, 2016
Actuarial Cost Method	Entry Age, Normal
Amortization Method	Level Percent of Payroll, Closed
Remaining Amortization Period	20 years
Asset Valuation Method	Fair Value
Actuarial Assumptions:	
Price Inflation	2.5%
Wage Inflation Rate	3.5%
Investment Rate of Return	8.0%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	The RP-2000 Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projection scale BB.
Health Care Trend Rates	9.00% trend, gradually decreasing to 3.50% in year 10.
Aging factors	Based on the 2013 SOA Study "Health Care Costs - From Birth to Death"

Notes: Assumption changes as a result of an experience study for the periods 2007 through 2012 have been adopted by the System for use in the annual pension valuations beginning with the September 30, 2014 valuation.

NOTE 6 – INVESTMENTS

Investment Authority

Under Public Act 380 of 1965, as amended, the authority for the purchase and the sale of investments resides with the State Treasurer. Investments are made subject to the Public Employee Retirement System Investment Act, Public Act 314 of 1965, as amended. The Public Employee Retirement System Investment Act authorizes, with certain restrictions, the investment of pension fund assets in stocks, corporate and government bonds and notes, mortgages, real estate, and certain short-term and private equity investments. Investments must be made for the exclusive purposes of providing benefits to active members, retired members and beneficiaries, and for defraying the expenses of investing the assets.

Derivatives

The State Treasurer employs the use of derivatives in the investment of the pension and other employee benefit trust funds (the trust funds).

Derivatives are used in managing the trust fund portfolios, but uses do not include speculation or leverage of investments. Less than 12% of the total trust funds' portfolio has been invested from time to time in future contracts, swap agreements, structured notes, option and forward contracts. State investment statutes limit total derivative exposure to 15% of a fund's total asset value, and restrict uses to replication of returns and hedging of assets. Swap agreements represent the largest category of derivative investments subject to this limitation. Option and Future contracts traded daily on an exchange and settling in cash daily or having a limited and fully defined risk profile at an identified, fixed cost are not subject to the derivative exposure limitation.

The derivative fair values are reported on the Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position as of September 30, 2017, in their respective investment pool's fair value. Derivative net increase and decrease are reported on the Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position for fiscal year ended September 30, 2017, under "Investment income gain / (loss)", in "Net increase (decrease) in fair value of investments". Bond interest, swap payments, and dividends are reported under "Investment Income", in "Interest, Dividends, and other".

Derivative Investment Table as of September 30, 2017 (In Thousands):

Investment and Investment Type	Percentage of Fair Value	Notional Value	Investments At Fair Value	Net Increase (Decrease) in Fair Value	Investment Income	Fair Value Subject to Credit Risk
U.S. Treasury Bond Future Contracts						
Fixed Income Investments	0.0%	$ 89.0	$ (0.4)	$ 1.3		
Option Contracts						
Equity Investments	0.1	89,293.1	331.6	73.9		
Swap Agreements						
International Equity Investments	3.1	8,196.7	8,290.2	721.3	$ 18.1	$ 1,022.5
Swap Agreements						
Equity Investments	0.0	1,349.7	62.4	(46.6)	70.6	66.1

To diversify the trust funds' portfolio, the State Treasurer has entered into international swap agreements with investment grade counterparties, which are tied to foreign stock market indices in approximately forty-six foreign countries. Generally, one quarter or less of the notional amount tied to foreign stock market indices is usually hedged against foreign currency fluctuations. The swap agreements provide that the System will pay quarterly over the term of the swap agreements, interest indexed to the three month London Inter-Bank Offer Rate (LIBOR), adjusted for an interest rate spread, on the notional amount stated in the agreements. International equity swap agreement maturity dates range from October 2017 to June 2018. The U.S. Domestic LIBOR based floating rate notes and other investments are held to correspond with the notional amount of the international swap agreements. The value of the international synthetic equity structures is a combination of the value of the swap agreements and the value of the notes and other investments. The book value represents the cost of the notes and other investments. The current value represents the current value of the notes and other investments and the change in the value of the underlying indices from the inception of the swap agreements. The current value is used as a representation of the fair value based on the intention to hold all swap agreements until maturity. At the maturity of the swap agreements, the trust funds will either receive the increase in the value of the equity indices from the level at the inception of the agreements, or pay the decrease in the value of the indices. The combined swap structure generally realizes gains and losses on a rolling basis.

Domestic equity swap agreements provide that the System will pay interest monthly, quarterly or annually over the term of the swap agreements, interest indexed to the LIBOR, adjusted for an interest rate spread, on the notional amount stated in the agreements. Domestic equity swap agreement maturity dates range from October 2017 to December 2017. Domestic equity swaps value is a combination of the value of the swap agreements and the value of short-term investments. Book value represents the cost of short-term and equity

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

investments. Current value represents the fair value of the short-term investments and the change in the value of the underlying indices from the inception of the swap agreements. Domestic equity swaps' increase (decrease) primarily reflects the net changes in the domestic indices and short-term investments.

Counterparty credit risk is the maximum loss amount that would be incurred if the counterparties to the derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security, or netting arrangement.

The State Treasurer traded U. S. Treasury bond future contracts to manage duration and yield curve exposure.

To enhance returns while limiting downside risk, the State Treasurer traded equity options in single securities and on indices in the Large Cap Core, Large Cap Growth, Tactical Allocation, and Real Return Opportunistic Investment pools. Domestic equity options were used for the purpose of stock replacement, in conjunction with dividend stocks to drive excess returns over the S&P 500, and to provide added exposure to strong equity markets while limiting principal at risk. Put options are used to protect against large negative moves in market indices. The Real Opportunistic Investment Pool also used call options to achieve current income on single equity securities that were trading near their intrinsic value.

Securities Lending

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

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

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

During the Fiscal Year, the System and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of September 30, 2017, such investment pool had an average duration of 339 days and an average weighted final maturity of 323 days for USD. Because the loans were terminable at will their duration did not generally match the duration of the investments made with cash collateral. On September 30, 2017 the System had no credit risk exposure to borrowers. The fair value of collateral held and the fair value (USD) of securities on loan for the client as of September 30, 2017 was $17,051,387 and $16,761,635 respectively.

Risk

In accordance with GASB Statement No. 40, investments require certain disclosures regarding policies and practices and the risks associated with them. The credit risk, (including custodial credit risk and concentration of credit risk), the interest rate risk, and the foreign currency risk are discussed in the following paragraphs. Amounts represent the pro rata share of the underlying investments as required by GASB Statement No. 40. These investments are held in internal investment pools and reported as such in the financial statements.

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

- Short-Term Fixed Income Investments – Prime commercial paper investments must be rated A-1 or P-1 at the time of purchase as rated by two national rating services as specified in Public Act 314 of 1965 as amended. Borrowers must have at least $400.0 million in commercial paper outstanding, and the State Treasurer may not invest in more than 10% of the borrower's outstanding debt. The investments are further limited to $200.0 million in any borrower, unless the borrower has an A-1+ rating in which case the investment is not to exceed $300.0 million.

- Long-Term Fixed Income Investments – Investment grade and noninvestment grade securities may be acquired in compliance with the parameters set forth in Public Act 314 of 1965, as amended, and the State Treasurer’s Investment Policy Statement for the System. Public Act 314 defines investment grade as investments in the top four major grades, rated by two national rating services. At September 30, 2017, the System was in compliance with Public Act 314 and the Investment Policy Statement in all material aspects.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Rated Debt Investments
(in thousands)
As of September 30, 2017

Investment Type	Fair Value	S&P	Fair Value	Moody's
Short Term	$ 10,610	A-1	$ 10,610	P-1
Government Securities				
U.S. Agencies - Sponsored	2	AAA	1,671	Aaa
	1,669	AA	-	Aa
Corporate Bonds & Notes				
	924	AAA	1,484	Aaa
	1,153	AA	1,451	Aa
	2,773	A	3,574	A
	7,080	BBB	6,564	Baa
	1,384	BB	1,438	Ba
	1,099	B	1,420	B
	481	CCC	372	Caa
	12	CC	149	Ca
	-	C	10	C
	115	D	-	D
	4,481	NR	3,040	NR
International *				
	294	AAA	315	Aaa
	546	AA	546	Aa
	485	A	1,254	A
	2,722	BBB	1,953	Baa
	515	NR	494	NR
Securities Lending Collateral				
Short Term				
	1,945	A-1	1,945	P-1
	526	AA	-	Aa
	999	NR	999	NR
Corporate	-	AA	899	Aa
	1,612	A	1,239	A
		BB	11,970	Ba
	11,970	NR		NR
Mutual Funds	582	NR	582	NR
Total	$ 53,978		$ 53,978	

NR - not rated

* International Investment types consist of domestic floating rate note used as part of a Swap strategy.

Custodial Credit Risk – Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the State will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party.

Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the government and are held by either the counterparty or the counterparty's trust department or agent, but not in the government name.

The State Treasurer does not have a policy for custodial credit risk. However, the State's custodial bank had a credit rating of A at September 30, 2017. As of September 30, 2017, no securities were exposed to custodial credit risk.

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

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

At September 30, 2017, there were no investments in any single issuer that accounted for more than 5% of the System's assets.

Interest Rate Risk – Fixed Income Investments – Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment.

The State Treasurer's policy states that cash equivalents are invested in short-term fixed income securities with an average weighted maturity of less than one year to provide liquidity and safety of principal from capital market and default risk. At September 30, 2017, the fair value of the System's prime commercial paper was $10.6 million with the weighted average maturity of 26 days.

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

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

Debt Securities
(in thousands)
As of September 30, 2017

	Fair Value	Effective Duration in Years
Government		
U. S. Treasury	$ 8,247	4.9
U. S. Agencies - Backed	2,915	4.8
U. S. Agencies - Sponsored	1,671	3.8
Corporate	20,085	4.0
International*		
U.S. Treasury	2,280	3.8
Corporate	4,561	0.5
Total	$ 39,760	

Debt securities are exclusive of securities lending collateral.

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

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

The System invests in various securities denominated in foreign currencies. Authorized global securities include equities, fixed income, mutual funds, real estate, and limited partnerships. These investments are limited to 30% of the total assets of the System with additional limits of not more than 5% of the outstanding global securities of any one issuer and no more than 5% of the System's assets in the global securities of any one issuer. In addition to these limits, the State Treasurer cannot acquire securities with companies that have active business operations in the state sponsors of terror as identified by the United States Secretary of State. At September 30, 2017, the total amount of foreign investment subject to foreign currency risk was $53.6 million, which amounted to 20.2% of total investments (exclusive of securities lending collateral) of the System.

Foreign Currency Risk
(in thousands)
As of September 30, 2017

Region	Country	Currency	Equity Fair Value in U.S. $	Fixed Income Fair Value in U.S. $	International* & Absolute Return Fair Value in U.S. $	Private Equity, Real Estate, & Infrastructure Fair Value in U.S. $
AMERICA						
	Brazil	Real		$ 10		$ 152
	Canada	Dollar	$ 4	24	$ 386	132
	Mexico	Peso		62	29	1,231
	Peru	Sol		6		
	Uruguay	Peso		1		
PACIFIC						
	Australia	Dollar	3	43	237	
	Hong Kong	Dollar			339	
	India	Rupee		2		535
	Indonesia	Rupiah		14		
	Japan	Yen	26	42	876	
	Malaysia	Ringgit		19		
	Taiwan	Dollar			35	
	New Zealand	Dollar			16	
	China	Renminbi	125			572
	Singapore	Dollar		10	127	
	South Korea	Won			23	
	Thailand	Baht		15		
EUROPE						
	Denmark	Krone		9	86	
	European Union	Euro	281	173	1,475	3,159
	Norway	Krone			58	
	Poland	Ztoty		10		
	U.K.	Sterling	300	41	1,892	244
	Romania	Leu		8		
	Sweden	Krona	4	18		
	Switzerland	Franc	68		507	
	Turkey	Lira		29		
AFRICA						
	South Africa	Rand	4	25		
	Egypt	Pound		7		
	Zambia	Kwacha		2		
	Liberia	Dollar	28			
MIDDLE EAST						
	Israel	New Shekel		15	68	
OTHER						
	Various				33,172	6,671
	Total		$ 845	$ 584	$ 39,326	$ 12,696

*International includes derivatives whose fair value exposure to foreign currency risk is the next amount of unrealized gains and unrealized losses. Maturity dates on these investments range from October 2017 throught September 2018, with an average maturity of 0.2 years.

NOTES TO BASIC FINANCIAL STATEMENTS (CONTINUED)

FAIR VALUE MEASUREMENTS

The Retirement System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Not all investments held by the Retirement System 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, 2017. 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 on the following page.

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 Retirement System's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability.

		Fair Value Measurement Using		
Investments by fair value level:	Balance at September 30, 2017	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Total cash and cash Equivalents	$ 83,343	$ 83,343		
Equity				
Depository Receipts	444,080	444,080		
Warrants	70,782	70,600		$ 182
Common Stocks	61,505,865	61,497,022		8,843
Preferred Stocks	10,458	10,458		
Commingled Funds, ETF's, and PTP's	37,064,754	37,064,754		
Options on Equity	287,576	287,576		
Real Estate Investment Trusts	3,244,080	3,244,080		
Options on Index	44,006	44,006		
Equity Swaps	974,732		$ 826,266	148,466
Total Equity	103,646,333	102,662,576	826,266	157,491
Fixed Income				
Asset Backed	3,636,094		3,636,094	
Corporate Bonds	16,831,602		16,706,863	124,739
Commercial mortgage-backed	5,701,922		5,701,922	
Government Issues	11,311,801	10,527,558	754,435	29,809
US Agency Issues	1,625,669		1,625,669	
Commingled Funds, ETF's, and PTP's	439,892	439,892		
Futures on Fixed Income	89,008	89,008		
Total Fixed Income	39,635,988	11,056,458	28,424,983	154,547
Total investments by fair value level	**$ 143,365,664**	**$ 113,802,376**	**$ 29,251,250**	**$ 312,038**
Investments measured at the net asset value (NAV)				
Private Equity	39,941,308			
Real Estate & Infrastructure	25,094,322			
Absolute Return	15,867,691			
Real Return & Opportunistic	23,600,944			
Other Limited Partnerships	4,432,665			
Total investments measured at the NAV	**108,936,930**			
Total investments measured at fair value	**$ 252,302,594**			

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

Private Equity funds

Total investments measured at the NAV	$ 39,941,308
Unfunded commitments	23,586,838

Private Equity funds. This types of investment includes investments in approximately *233* partnerships that invest in leveraged buyouts, venture capital, mezzanine debt, distressed debt, secondary funds and other investments. These type of investments can never be redeemed with the funds, but distributions are received through the liquidation of the underlying assets of the fund. It's expected that the underlying assets of the fund are liquidated over a period of five to eight years. However, as of September 30, 2017, it is probable that all of the investments in this group will be sold at an amount different from the NAV per share (or its equivalent). Therefore, the fair values of the investments in this type have been determined using recent observable transaction information for similar investments and nonbinding bids received from potential buyers of the investments. As of September 30, 2017, a buyer for these investments has not been identified.

Real Estate and Infrastructure

Total investments measured at the NAV	$ 25,094,322
Unfunded commitments	6,061,814

Real Estate and Infrastructure funds include approximately 108 accounts (limited partnerships, limited liability companies, etc.) that invest in real estate or infrastructure related assets. The fair value of the Real Estate and Infrastructure funds have been determined in accordance with generally accepted accounting principles using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These types of investments cannot be redeemed with the funds. Distributions from these funds will be received as the underlying investments are sold and liquidated over time. It is expected that the underlying assets will be sold over the next 5 – 15 years. However, buyers have not been determined so the fair value has been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital.

Absolute Return Portfolio

Total investments measured at the NAV	$ 15,867,691
Unfunded commitments	569,527

This type invests in hedge funds and hedge fund of funds that pursue multiple strategies to diversify risks and reduce volatility. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the investments. For 93.9% of the investments, investors may redeem at various dates between January 1st 2018 and April 1, 2020. The remaining 6.10% is not redeemable on demand.

Real Return & Opportunistic Portfolio

Total investments measured at the NAV	$ 23,600,944
Unfunded commitments	13,820,445

This type includes 72 funds that invest in private credit, tangible and intangible real assets, or other real return and opportunistic strategies. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. These investments can never be redeemed with the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 5 to 10 years. This type also includes one fund that offers quarterly redemptions with 65 day notice.

All Other Investments

Total investments measured at the NAV	$ 4,432,665
Unfunded commitments	204,897

The balance of plan assets reported at fair value includes:

- A limited partnership (LP) that invests in the equity of Japanese companies. This LP permits partners to withdraw funds quarterly with 180 days of advanced notice.
- LPs that invest in senior secured debt financing of a third party investment fund. This investment cannot be redeemed by limited partners. The debt has a 10 year maturity, with partnership distributions to include principal as the loan collateral matures four years after the initial investment.
- A limited partnership permitting partners to redeem its debt securities quarterly with 60 days of advanced notice.

NOTE 7 – ACCOUNTING CHANGES

The Governmental Accounting Standards Board (GASB) issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The objective of this Statement is to improve the usefulness of information about postemployment benefits other than pensions (other postemployment benefits or OPEB) included in the general purpose external financial reports of state and local governmental OPEB plans for making decisions and assessing accountability. This Statement replaces Statements No. 43, *Financial Reporting for Postemployment Benefit Plans other than Pension Plans*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. It also includes requirements for defined contribution OPEB plans that replace the requirements for those OPEB plans in Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, as amended, Statement 43, and Statement No. 50, *Pension Disclosures*. This statement was implemented in fiscal year 2017.

GASB issued Statement No. 82, *Pension Issues—an amendment of GASB Statements No. 67, No. 68 and No. 73*. This statement addresses issues regarding: 1) the presentation of payroll-related measures in required supplementary information; 2) the selection of assumptions and the treatment of deviations from the guidance in an actuarial standard of practice for financial reporting purposes; and 3) the classification of payments made by employers to satisfy employee (member) contribution requirements. This statement was implemented in fiscal year 2017.

GASB issued Statement No. 85, *Omnibus 2017*. The 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 topic including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits. The provisions of this Statement are effective for participating employers for the fiscal years beginning after June 15, 2017. This Statement was implemented in fiscal year 2017.

NOTE 8 – NEW ACCOUNTING PRONOUNCEMENTS

GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The objective of this Statement is to address accounting and financial reporting for OPEB that is provided to the employees of state and local governmental employers. This Statement establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expense/expenditures. For defined benefit OPEB, this Statement identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information requirements about defined benefit OPEB also are addressed. This Statement is effective for participating employers for the fiscal years beginning after June 15, 2017.

NOTE 9 – COMMITMENTS AND CONTINGENCIES

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

Schedule of Changes in Net Pension Liability

	Fiscal Year 2017	2016	2015	2014
Total Pension Liability				
Service Cost	$ 1,861,855	$ 2,036,413	$ 2,438,599	$ 2,746,531
Interest	19,688,411	19,743,433	19,770,594	19,569,102
Changes of benefit terms				
Differences between expected and actual experience	(4,922,695)	(1,290,275)	923,898	
Changes of assumptions		2,422,763		3,245,892
Benefit payments, including refunds of member contributions	(23,724,056)	(23,301,601)	(23,241,431)	(22,536,376)
Net Change in Total Pension Liability	(7,096,485)	(389,267)	(108,340)	3,025,149
Total Pension Liability - Beginning	257,036,236	257,425,503	257,533,843	254,508,694
Total Pension Liability - Ending (a)	$ 249,939,751	$ 257,036,236	$ 257,425,503	$ 257,533,843
Plan Fiduciary Net Position				
Contributions - Employer	$ 1,019,814	$ 2,179,641	$ 2,633,795	$ 3,163,800
Contributions - Member	697,444	805,452	902,078	1,025,074
Net Investment Income	32,258,137	18,425,274	5,840,415	37,165,561
Benefit payments, including refunds of member contributions	(23,724,056)	(23,301,601)	(23,241,431)	(22,536,376)
Administrative and Other Expenses	(343,883)	(320,152)	(309,377)	(288,390)
Net Change in Plan Fiduciary Net Position	9,907,456	(2,211,386)	(14,174,520)	18,529,669
Plan Fiduciary Net Position - Beginning	254,909,977	257,121,363	271,295,883	252,766,214
Plan Fiduciary Net Position - Ending (b)	$ 264,817,433	$ 254,909,977	$ 257,121,363	$ 271,295,883
Net Pension Liability - Ending (a) - (b)	$ (14,877,682)	$ 2,126,259	$ 304,140	$ (13,762,040)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	105.95%	99.17%	99.88%	105.34%
Covered Payroll	$ 12,684,596	$ 14,757,461	$ 17,517,763	$ 18,802,548
Net Pension Liability as a Percentage of Covered Payroll	(117.29) %	14.41 %	1.74 %	(73.19) %

REQUIRED SUPPLEMENTARY INFORMATION (CONTINUED)

Schedule of Pension Contributions

Fiscal Year Ended Sept. 30	Actuarially Determined Contribution (ADC)	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2008		$ 44,406	$ (44,406)	$ 29,475,726	0.2 %
2009		43,108	(43,108)	27,027,185	0.2
2010		43,181	(43,181)	25,504,058	0.2
2011		43,185	(43,185)	23,565,252	0.2
2012	$ 1,068,484	1,111,026	(42,542)	22,922,327	4.8
2013	2,751,359	2,793,257	(41,898)	18,939,497	14.7
2014	3,122,545	3,163,800	(41,255)	18,802,548	16.8
2015	2,592,536	2,633,795	(41,259)	17,517,763	15.0
2016	2,138,379	2,179,641	(41,262)	14,757,461	14.8
2017	1,019,814	1,019,814		12,684,596	8.0

Schedule of Pension Investment Returns

Fiscal Year	Annual Return[1]
2014	9.14 %
2015	-1.85
2016	3.48
2017	13.15

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

Schedule of Changes in Net OPEB Liability

	Fiscal Year 2017
Total OPEB Liability	
Service Cost	$ 176,818
Interest	527,213
Changes of benefit terms	
Differences between expected and actual experience	(31,515)
Changes of assumptions	
Benefit payments, including refunds of member contributions	(333,748)
Net Change in Total OPEB Liability	338,768
Total OPEB Liability - Beginning	6,668,625
Total OPEB Liability - Ending (a)	$ 7,007,393
Plan Fiduciary Net Position	
Contributions - Employer	$ 188,819
Contributions - Member	116,511
Net Investment Income	119,138
Benefit payments, including refunds of member contributions	(333,748)
Administrative and Other Expenses	(94,852)
Net Change in Plan Fiduciary Net Position	(4,132)
Plan Fiduciary Net Position - Beginning	1,029,669
Plan Fiduciary Net Position - Ending (b)	$ 1,025,537
Net OPEB Liability - Ending (a) - (b)	$ 5,981,856
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	14.64%

REQUIRED SUPPLEMENTARY INFORMATION (CONTINUED)

Schedule of OPEB Contributions

Fiscal Year Ended Sept. 30	Actuarially Determined Contribution (ADC)	Actual Employer Contributions	Other Governmental Contributions	Contribution Deficiency (Excess)
2008	$ 481,673	$ 115,000		$ 366,673
2009	514,850	335,000		179,850
2010	490,129	712,000		(221,871)
2011	605,112	310,000	$ 1,617	293,495
2012	596,965	100,000		496,965
2013	699,075		54,834	644,241
2014	659,488		68,819	590,669
2015	663,321	210,000	64,986	388,335
2016	712,016	154,000	93,339	464,677
2017	486,906	115,000	73,819	298,087

Schedule of OPEB Investment Returns

Fiscal Year	Annual Return[1]
2014	9.14 %
2015	-1.85
2016	3.48
2017	13.15

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

NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

NOTE A – DESCRIPTION

Ten year historical trend information designed to provide information about the System's progress made 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 reader to assess the progress made by the System in accumulating sufficient assets to pay pension and other postemployment benefits as they become due.

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

The Schedules of Contributions are reported as historical trend information and to show the responsibility of the Employer in meeting the actuarial requirements to maintain the System on a sound financial basis.

The Schedule of Changes in Net Pension and OPEB Liability, Schedule of Contributions, and Schedule of Investment Returns are schedules that are required in implementing GASB Statement No. 67 for pension and No. 74 for OPEB. 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 and OPEB Liability represents in actuarial terms, the accrued liability less the fair value of assets. The Schedule of Contributions is a comparison of the employer's contributions to the actuarially determined contributions. The Schedule of Investment Returns represents a money-weighted rate of return that expresses investment performance, net of pension and OPEB plan investment expense, adjusted for the changing amounts actually invested.

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

REQUIRED SUPPLEMENTARY INFORMATION (CONTINUED)

Summary of Actuarial Assumptions

Valuation Date	September 30, 2016
Actuarial Cost Method	Entry Age, Normal
Amortization Method - Pension	Level Dollar, Closed
Amortization Method - OPEB	Level Percent of Payroll, Closed
Remaining Amortization Period	20 years
Asset Valuation Method - Pension	5-Year Smoothed Fair Value
Asset Valuation Method - OPEB	Fair Value
Actuarial Assumptions:	
Wage Inflation Rate	3.5%
Investment Rate of Return - Pension	8.0%
Investment Rate of Return - OPEB	4.0%
Projected Salary Increases	4.0%
Cost-of-Living Pension Adjustments	Assumed 4% Compounded for those eligible
Healthcare Cost Trend Rate	9.0% Year 1 graded to 3.5% Year 10
Other Assumptions OPEB only:	
Opt Out Assumption	0% of eligible participants are assumed to opt out of the retiree health plan
Survivor Coverage	100% of male retirees and 100% of female retirees are assumed to have coverage continuing after the retiree's death when 2 person coverage was assumed to be elected
Coverage Election at Retirement	75% of male and 60% of female future retirees are assumed to elect coverage for 1 or more dependents

Supporting Schedules

Summary Schedule of Pension Plan Administrative and Other Expenses
For Fiscal Year Ended September 30, 2017

Personnel Services:	
Staff Salaries	$ 167,272
Retirement and Social Security	6,715
Other Fringe Benefits	2,460
Total	176,447
Professional Services:	
Accounting	2,424
Actuarial	85,151
Attorney General	11,246
Audit	60,794
Consulting	1,104
Total	160,719
Building and Equipment:	
Building Rentals	1,267
Equipment Purchase, Maintenance, and Rentals	64
Total	1,330
Miscellaneous:	
Travel and Board Meetings	38
Office Supplies	44
Postage, Telephone, and Other	(1,915)
Printing	461
Technological Support	16,870
Total	15,498
Total Administrative and Other Expenses	$ 353,994

Summary Schedule of
OPEB Plan Administrative and Other Expenses
For Fiscal Year Ended September 30, 2017

Staff Salaries	$ 95,287
Health Fees	28,101
Dental Fees	3,457
Vision Fees	634
Total Administrative and Other Expenses	$ 127,479

Supporting Schedules (continued)

Schedule of Investment Expenses
For Fiscal Year Ended September 30, 2017

Real Estate Operating Expenses	$	4,194
Securities Lending Expenses		146,984
Other Investment Expenses[1]		
ORS-Investment Expenses[2]		75,940
Custody Fees		6,396
Management Fees		947,105
Research Fees		17,735
Total Investment Expenses	$	1,198,354

[1] Refer to the Investment Section for fees paid to investment professionals

[2] Does not exclude Treasury Civil Service fees recorded as a pass through in the Schedule of Investment Fees - State Treasurer. As of September 30, 2017, fees totaled $1,080.

Schedule of Payments for Professional Services
For Fiscal Year Ended September 30, 2017

Accounting	$	2,424
Actuary		85,151
Attorney General		11,246
Independent Auditors		60,794
Consulting		1,104
Total Payments	$	160,719

Detail of Changes in Plan Fiduciary Net Position (Pension and Other Postemployment Benefits)
For the Fiscal Year Ended September 30, 2017 (in thousands)

	Employee Contributions	Employer Contributions
Additions:		
Contributions:		
Member contributions	$ 697	
Employer contributions:		$ 1,020
Other governmental contributions		
Total contributions	697	1,020
Investment income (loss):		
Net increase (decrease) in fair value of investments		
Interest, dividends, and other		
Investment expenses:		
Real estate operating expenses		
Other investment expenses		
Securities lending activities:		
Securities lending income		
Securities lending expenses		
Net investment income (loss)		
Court Fees		
Miscellaneous income		
Total additions	697	1,020
Deductions:		
Benefits paid to plan members and beneficiaries:		
Retirement benefits		
Health benefits		
Dental/vision benefits		
Refund of contributions		
Transfers to other systems		
Administrative and other expenses		
Total deductions		
Net Increase (Decrease) before other changes	697	1,020
Other Changes in Net Position:		
Interest allocation	3,543	
Transfers upon retirement	(9,647)	
Transfers of employer shares		(11,445)
Total other changes in net position	(6,104)	(11,445)
Net Increase (Decrease) in Net Position	(5,406)	(10,426)
Net Position Restricted for Pension Benefits and OPEB:		
Beginning of Year	46,832	(29,675)
End of Year	$ 41,425	$ (40,101)

Supporting Schedules (continued)

Retired Benefit Payments	Undistributed Investment Income	OPEB	Total
		$ 117	$ 814
		115	1,135
		74	74
		305	2,023
	$ 26,836	99	26,935
	6,099	23	6,122
	(4)		(4)
	(1,043)	(4)	(1,047)
	476	2	478
	(146)	(1)	(147)
	32,218	119	32,337
$ 41			41
10			11
51	32,218	425	34,410
23,724			23,724
		295	295
		7	7
	354	127	481
23,724	354	429	24,507
(23,673)	31,864	(4)	9,903
13,826	(17,369)		
9,647			
11,445			
34,919	(17,369)		
11,245	14,494	(4)	9,903
181,923	55,831	1,030	255,940
$ 193,168	$ 70,325	$ 1,026	$ 265,843

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INVESTMENT SECTION

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

INVESTMENT SECTION

Report on Investment Activity

INTRODUCTION

The State Treasurer reports investment activity quarterly to the Investment Advisory Committee (Committee), which reviews the investments, goals, and objectives of the retirement funds and may submit recommendations regarding them to the State Treasurer. The Investment Advisory Committee may also, by a majority vote, direct the State Treasurer to dispose of any holdings that, in the Committee's judgment, are not suitable for the funds involved, and may, by unanimous vote, direct the State Treasurer to make specific investments.

The Investment Advisory Committee was created by Act 380 of the Public Acts of 1965. The three public members of the five-member committee are appointed by the Governor with the advice and consent of the Senate for three-year terms. The Director of the Department of Licensing and Regulatory Affairs and the Director of the Department of Technology, Management and Budget are ex-officio members. As of September 30, 2017, members of the Committee were as follows: James B. Nicholson (public member), L. Erik Lundberg, CFA (public member), Reginald G. Sanders, CFA, CAIA (public member), Shelly Edgerton (ex-officio member), and David L. DeVries (ex-officio member). The public members serve without pay, but may be paid actual and necessary travel and other expenses.

INVESTMENT POLICY & GOALS

Investment policy states that the fiduciary will operate within standard investment practices of the prudent person and in accordance with Public Employee Retirement System Investment Act 314 of 1965. The fiduciary is authorized to invest in government obligations, corporate obligations, various short-term obligations, corporate (domestic and international) stocks, private equity interests, mutual funds, real estate interests, and other investments subject to specific parameters. Above all, trust fund assets are to be invested for the exclusive benefit of the members of the System, in a fiduciary capacity.

The System's Proxy Voting Policy sets forth directives on various issues including: Boards of Directors, corporate governance, social issues, corporate restructurings and defenses. All proxies are reviewed and voted in accordance with the System's policy.

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

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

The strategy for achieving these goals is carried out by investing the assets of the System according to a five year asset allocation model. The System currently invests in seven different asset classes, which provides for a well-diversified portfolio.

Report on Investment Activity (Continued)

Asset Allocation

(Excludes Collateral on Loaned Securities)

Investment Category	As of 9/30/17 Actual %	Five-Year Target %
Domestic Equity Pools	24.8 %	28.0 %
International Equity Pools	18.3	16.0
Private Equity Pools	15.7	18.0
Real Estate and Infrastructure Pools	9.7	10.0
Fixed Income Pools	12.4	10.5
Absolute Return Pools	15.0	15.5
Short-Term Investment Pools	4.1	2.0
TOTAL	**100.0 %**	**100.0 %**

INVESTMENT AUTHORITY

Pursuant to State Law (Section 91 of Act No. 380 of the Public Acts of 1965, as amended, and Section 12c of Act No. 314 of 1965, as amended), the State Treasurer, State of Michigan, is the investment fiduciary for the following four State sponsored retirement systems: Michigan Public School Employees' Retirement System, Michigan State Employees' Retirement System, Michigan State Police Retirement System, and Michigan Judges' Retirement System.

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

INVESTMENT RESULTS

Total Portfolio Results

For the fiscal year ended September 30, 2017, the total System's rate of return was 13.9% for the Pension Plan and 12.8% for the OPEB Plan as compiled by State Street Investment Analytics. Annualized rates of return for the Pension Plan for the three, five, and ten year periods ending September 30, 2017 were: 7.9%, 10.1%, and 5.6% respectively.

In November 2016, Donald Trump was elected as president of the United States. Despite conventional industry thinking leading up to the elections, risk markets immediately rallied as prospects for fiscal stimulus, tax cuts, and regulatory reforms leading to higher growth and inflation started to be fully considered. Likely just as important to the rally in risk assets, fundamentals globally were showing great improvements, and a realization that a true globally synchronized economic expansion was beginning to be realized.

On the back of the strength of the global economy, central banks began to lay out plans to reign in, albeit slowly, the unconventional accommodative policies adopted since the global financial crisis hit almost a decade prior. In the U.S., the Federal Reserve increased the benchmark rate three times by 25 basis points each. At the end of September 2017, the rate was between 1.0% and 1.25% which is nearly a full percent below inflation rate measured by the Consumer Price Index. Policies still have a long ways to go before they are at historical levels.

As of September 2017, the fiscal year ended on a high-note. The U.S. benchmark equity S&P 500 Index was at an all-time high. The international equity counterpart MSCI ACWI ex USA Index is at a nine year high. In the U.S., job vacancies are at the highest level since the year 2000. In Japan, there are the most jobs per applicant since 1974. In the U.K., the unemployment rate is the lowest since 1975.

Although the global economic fundamentals are good, there are geopolitical concerns. Tensions between the United States and North Korea have escalated. Despite warnings, North Korea continues its quest to develop and conduct tests on a nuclear arsenal. Russia and its involvement in U.S. politics, including the presidential election, is a source of concern as well.

Looking ahead, the strength of the global economy is likely to continue well into the next year. As of September 2017, most economists are projecting continued global growth. However, many of the simulative policies hoped for at the end of 2016 have yet to materialize, or have been rejected outright. Although the strong returns for risk assets in 2017 were welcomed, there are concerns that these high prices could lead to below average future returns.

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

Domestic Equity Pools

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

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

For index, or passive return strategies, the objective is to return within 20 basis points of the S&P 500 Index, 50 basis points for the S&P 400 mid-cap, and 60 basis points for the S&P 600 small-cap over one, three, and five-year periods and a market cycle.

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

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

The following summarizes the weightings of the pools as of September 30, 2017:

Active	54.5 %
Passive	45.5
Total	**100.0 %**

Large-Cap	64.5 %
Multi-Cap	26.9
Mid-Cap	7.1
Small-Cap	1.5
Total	**100.0 %**

Report on Investment Activity (Continued)

The System's Domestic Equity pools total rate of return was 19.9% for the Pension Plan and 19.9% for the OPEB Plan for fiscal year 2017. This compared with 18.6% for the S&P 1500 Index.

At the close of fiscal year 2017, the Domestic Equity pools represented 24.8% of total investments. The following summarizes the System's 0.4% ownership share of the Domestic Equity pools at September 30, 2017:

Domestic Equity Pools
(in thousands)

Short-Term Pooled Investments	$	1,182
Equities		64,901
Fair Value of Equity Contracts		(32)
Settlement Principal Payable		(107)
Settlement Proceeds Receivable		3
Accrued Dividends		64
Total	**$**	**66,011**

International Equity Pools

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

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

For index, or passive return strategies, the objective is to return within 250 basis points of the S&P/Citigroup BMI-EPAC Index with 25% of the currency hedged for one, three, and five-year periods and a market cycle. Return within 400 basis points of the MSCI Emerging Markets Index, for one, three, and five-year periods and a market cycle.

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

Passive exposure to international equity returns is achieved primarily by investing in a combination of fixed income LIBOR notes, short-term fixed income investments, and equity swap agreements on foreign stock indices in developed markets. Interest on the dedicated notes and short-term fixed income investments is exchanged for international stock returns, and the total notional amount of the swap agreements is invested in the approximate proportions of the S&P Broad Market Index (BMI) Europe and Pacific Composite (EPAC) country weightings in related indices. Use of swap agreements for a core position began in 1993, an American Depository Receipts (ADR) and index-related security portfolio was added in June of 1999 to increase portfolio management flexibility, and a multiple country fund portfolio with smaller capitalization stocks was added in September of 2002 to improve exposure to the smallest companies in the BMI index. Use of futures as an investment to hedge cash flows and balances began in December of 2008, and this use is expected to continue in the future. The combined Swap agreements, notes and short-term investments together continue to perform like a stock index fund that realizes all gains and losses on a rolling three year basis.

The pools diversify their investments by allocating their equity strategies with consideration of the economic development status weightings of the S&P/Citigroup BMI -World ex-US Index.

Report on Investment Activity (Continued)

The following summarizes the weightings of the pool as of September 30, 2017:

Active	48.9 %
Passive	51.1
Total	**100.0 %**

Developed	86.9 %
Emerging	13.1
Total	**100.0 %**

The System's International Equity pools total rate of return was 21.1% for the Pension Plan and 21.0% for the OPEB Plan for fiscal year 2017. This compared with 19.6% for the MSCI ACWI Ex US Net.

At the close of fiscal year 2017, the International Equity pools represented 18.3% of total investments. The following summarizes the System's 0.4% ownership share of the International Equity Pools at September 30, 2017:

International Equity Pools
(in thousands)

Short-Term Pooled Investments	$	393
Equities		40,365
Fixed Income Securities		6,842
Settlement Proceeds Receivable		38
Fair Value of Equity Contracts		1,009
Accrued Dividends and Interest		27
Total	**$**	**48,674**

Private Equity Pools

The Private Equity pools objective is to meet or exceed the benchmark for all private equity investments over long time periods. The benchmark is a blend of the S&P 500 Index plus 300 basis points and the 10 Year Yield plus 300 basis points using ending weights of equity and fixed income holdings within the portfolio.

Private Equity Investments are investments in the private equity market, primarily through limited partnerships. The following summarizes the weightings of the pools as of September 30, 2017:

Buyout Funds	47.2 %
Special Situation Funds	16.8
Liquidation Portfolio	12.5
Venture Capital Funds	10.4
Fund of Funds	11.1
Mezzanine Funds	2.0
Total	**100.0 %**

The Private Equity pools had a return of 16.3% for the Pension and OPEB Plans for the fiscal year ended September 30, 2017, versus the benchmark of 21.3%.

Report on Investment Activity (Continued)

At the close of fiscal year 2017, the Private Equity pools represented 15.7% of total investments. The following summarizes the System's 0.5% ownership share of the Private Equity pools at September 30, 2017:

Private Equity Pools
(in thousands)

Short-Term Pooled Investments	$	1,787
Equities		39,881
Long Term Obligations		70
Settlement Proceeds Receivable		8
Accrued Interest		3
Total	**$**	**41,749**

Real Estate and Infrastructure Pools

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

The Real Estate and Infrastructure pools diversify its holdings by:

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

Multi-family apartments	32.0	%
Hotel	12.2	
Commercial office buildings	17.3	
Infrastructure	11.8	
Industrial warehouse buildings	8.2	
Retail shopping centers	4.8	
For Rent Homes	5.1	
For Sale Homes	5.7	
Land	1.6	
Short Term Investments	1.3	
Total	**100.0**	**%**

The Real Estate and Infrastructure pools generated a return of 8.0% for the Pension Plan and 8.1% for the OPEB Plan for fiscal year 2017. The two benchmark returns from the National Council of Real Estate Investment Fiduciaries: the National Property Blended Index (less 130 basis points) was 5.5% and the Open-End Diversified Core Equity Index was 6.7%.

At the close of fiscal year 2017, the Real Estate and Infrastructure pools represented 9.7% of total investments. The following summarizes the System's 0.4% ownership share of the Real Estate and Infrastructure pools at September 30, 2017:

Report on Investment Activity (Continued)

Real Estate and Infrastructure Pools
(in thousands)

Short-Term Pooled Investments	$	344
Real Estate Equities		22,402
Infrastructure Equities		3,068
Total	**$**	**25,814**

Fixed Income Pools

The objective for investments made in the Fixed Income pools is to meet or exceed the Barclays Aggregate Bond Index over one, three, and five-year periods and market cycles. Rank above median in a nationally recognized universe of managers possessing a similar style.

For fixed income sub-strategies, the objective return is to meet or exceed the most relevant Barclays benchmark index.

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

The pools invest in fixed income and related securities in a diversified portfolio of investment grade corporate issues, treasuries, agencies, government sponsored enterprises and government guaranteed mortgages. The pools diversify its investments by allocating its strategies with consideration of credit risk.

The System’s Fixed Income pools total rate of return was 2.8% for the Pension and OPEB Plans for fiscal year 2017. This compared with 0.1% for the Barclays Aggregate Bond Index.

At the close of fiscal year 2017, the Fixed Income pools represented 12.4% of total investments. The following summarizes the System's 0.3% ownership share of the Fixed Income pools at September 30, 2017:

Fixed Income Pools
(in thousands)

Short-Term Pooled Investments	$	82
Fixed Income Securities		32,688
Accrued interest		106
Total	**$**	**32,876**

Report on Investment Activity (Continued)

Absolute Return Pools

The Absolute Return pools consist of Absolute Return Strategies pool and the Real Return and Opportunistic Investment pools.

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

The Absolute Return Strategies pool rate of return for the fiscal year was 7.8% for the Pension and OPEB Plans versus the benchmark's 4.6%.

The primary investment objective of the Real Return and Opportunistic Pools is to generate a rate of return that meets or exceeds the increase in the CPI by at least five percent (5%) annually net of fees over one, three, and five-year periods and a market cycle. If a peer universe is available, rank above median in a nationally recognized universe of managers possessing a similar style.

For sub-strategies targeting a commodities index, the objective is to generate a rate of return that meets or exceeds the Dow Jones-AIG Total Return Commodities Index over one, three, and five year periods and a market cycle. Rank above median in a nationally recognized universe of managers possessing a similar style.

The Real Return and Opportunistic Investments pools rate of return for the fiscal year was 12.3% for the Pension and OPEB Plans versus the benchmark's 7.7%.

At the close of fiscal year 2017, the Absolute Return pools represented 15.0% of total investments. The following summarizes the System's 0.4% ownership share of the Absolute Return pools at September 30, 2017:

Absolute Return Pools
(in thousands)

Short-Term Pooled Investments	$	339
Equities		39,468
Total	**$**	**39,807**

Report on Investment Activity (Continued)

Short-Term Investment Pools

The objective of the Short Term Investment pools is to closely match the return performance of its benchmark, the 30 day Treasury bill. The Short Term Investment pools return for the fiscal year was 1.0% for the Pension Plan and 1.0% for the OPEB Plan versus the benchmark's 0.6%.

Potential areas of investment are:

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

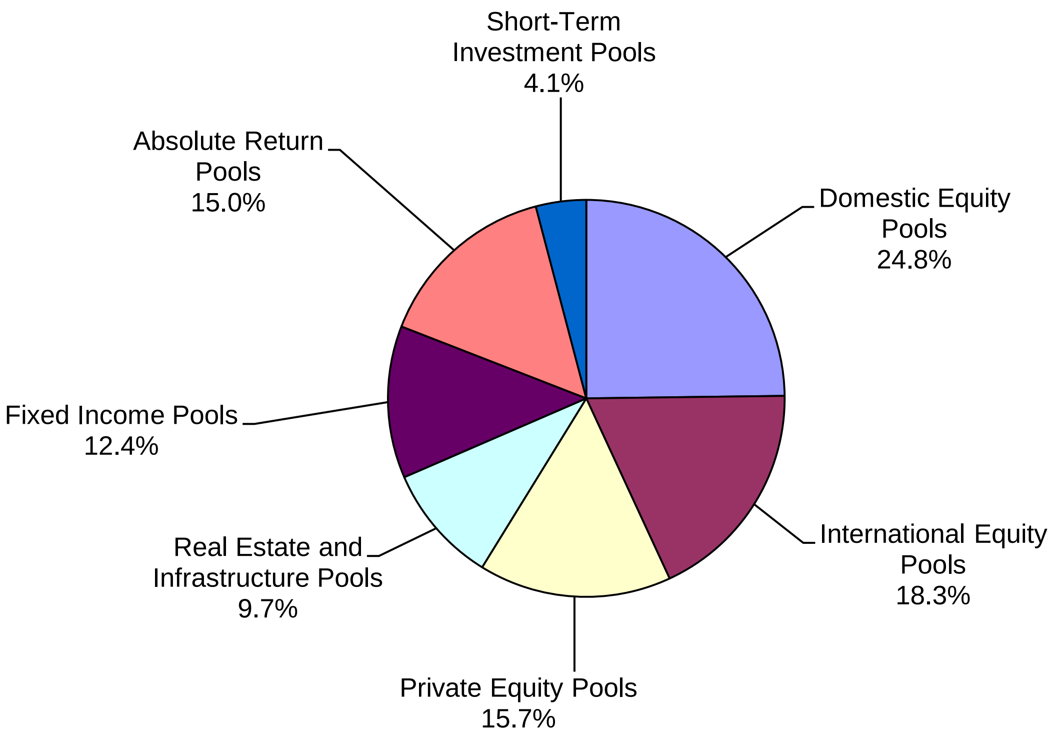
At the close of fiscal year 2017, the Short Term Investment pools represented 4.1% of total investments. The following summarizes the System's 0.8% ownership share of the Short Term Investment pools at September 30, 2017:

Short-Term Investment Pools
(in thousands)

Short-Term Pooled Investments	$	6,134
Fixed Income Securities		4,634
Accrued interest		2
Total	**$**	**10,770**

Report on Investment Activity (Continued)

ASSET ALLOCATION – SECURITY TYPE ONLY



Report on Investment Activity (Continued)

Pension Plan Investment Results for the Period Ending September 30, 2017

		Annualized Rate of Return[1]		
Investment Category	**Current Year**	**3 Years**	**5 Years**	**10 Years**
Total Portfolio	13.9 %	7.9 %	10.1 %	5.6 %
Domestic Equity Pools	19.9	10.1	14.3	7.5
S&P 1500 Index	18.6	11.0	14.3	7.6
International Equity Pools	21.1	6.6	8.3	1.9
International Blended Benchmark [2]	19.6	4.7	7.1	1.0
Private Equity Pools	16.3	10.4	14.1	9.9
Private Equity Blended Benchmark [3]	21.3	12.8	17.8	11.4
Real Estate and Infrastructure Pools	8.0	10.1	11.6	4.1
NCREIF Property Blended Index [4]	5.5	8.4	8.9	4.9
Fixed Income Pools	2.8	4.4	3.5	5.5
Barclays Aggregate Bond	0.1	2.7	2.1	4.3
Absolute Return Pools				
Total Absolute Return	7.8	2.8	5.5	
HFRI Fund of Funds Cons 1 month lag	4.6	1.7	3.5	
Total Real Return and Opportunistic	12.3	8.3	11.0	
Real Return and Opportunistic Benchmark [5]	7.7	7.1	7.2	
Short-Term Investment Pools	1.0	0.7	0.6	0.4
30-Day Treasury Bill	0.6	0.3	0.2	0.3

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

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

[3] As of 1/1/07, index is blend of S&P 500 plus 300 bps and 10 year yield plus 300 bps based on ending weights. History prior to 1/1/07 is S&P500 plus 300 bps.

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

[5] Benchmark is 50% (CPI + 5%) and 50% (actuarial rate 8%).

Report on Investment Activity (Continued)

OPEB Investment Results for the Period Ending September 30, 2017

Investment Category	Current Year	Annualized Rate of Return[1] 3 Years	5 Years
Total Portfolio	12.8 %	7.5 %	9.6 %
Domestic Equity Pools	19.9	10.0	14.2
S&P 1500 Index	18.6	11.0	14.3
International Equity Pools	21.0	6.6	8.3
International Blended Benchmark [2]	19.6	4.7	7.1
Private Equity Pools	16.3	10.4	14.1
Private Equity Blended Benchmark [3]	21.3	12.8	17.8
Real Estate and Infrastructure Pools	8.1	10.1	11.6
NCREIF Property Blended Index [4]	5.5	8.4	8.9
Fixed Income Pools	2.8	4.4	3.5
Barclays Aggregate Bond	0.1	2.7	2.1
Absolute Return Pools			
Total Absolute Return	7.8	2.8	5.5
HFRI Fund of Funds Cons 1 month lag	4.6	1.7	3.5
Total Real Return and Opportunistic	12.3	8.3	11.0
Real Return and Opportunistic Benchmark [5]	7.7	7.1	7.2
Short-Term Investment Pools	1.0	0.6	0.5
30-Day Treasury Bill	0.6	0.3	0.2

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

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

[3] As of 1/1/07, index is blend of S&P 500 plus 300 bps and 10 year yield plus 300 bps based on ending weights. History prior to 1/1/07 is S&P500 plus 300 bps.

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

[5] Benchmark is 50% (CPI + 5%) and 50% (actuarial rate 8%).

Largest Assets Held[1]

Largest Stock Holdings (By Fair Value)
September 30, 2017

Rank	Shares	Stocks	Fair Value
1	12,548	Apple Inc.	$ 1,933,833
2	10,398	Berkshire Hathaway Inc. CL B	1,906,208
3	28,047	Verizon Communications Inc.	1,388,060
4	15,856	Microsoft Corp.	1,181,114
5	6,566	Facebook Inc.	1,121,933
6	10,391	JP Morgan Chase & Co.	992,460
7	17,693	Wells Fargo & Co.	975,758
8	1,000	Alphabet Inc. CL A	973,420
9	10,515	Procter & Gamble Co.	956,660
10	11,133	Aflac Inc.	906,147

Largest Bond Holdings (By Fair Value)[2]
September 30, 2017

Rank	Par Amount	Bonds & Notes	Fair Value
1	1,083,307	US Treasury N/B 2.25% Due 02/15/2027	$ 1,076,747
2	869,762	TSY INFL IX N/B .125% Due 07/15/2026	845,763
3	685,944	US Treasury N/B 1.5% Due 05/15/2020	684,577
4	592,208	US Treasury N/B 1.875% Due 07/31/2022	590,913
5	511,004	US Treasury N/B 2.125% Due 05/15/2025	507,690
6	532,295	US Treasury N/B 1.625% Due 02/15/2026	506,096
7	426,139	TSY INFL IX N/B 0.375% Due 07/15/2027	422,056
8	425,836	US Treasury N/B 1.5% Due 08/15/2026	398,739
9	381,215	Apple Inc. 2.444440% FRN Due 02/23/2021	392,903
10	381,215	Citigroup Inc. 2.712780% FRN Due 03/30/2021	390,557

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

[2] Largest Bond Holdings are exclusive of securities lending collateral.

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

Schedule of Investment Fees

The State Treasurer is the investment fiduciary and custodian of the System's funds pursuant to State law. Outside advisors are utilized to augment the State Treasurer's internal staff. 66.74% of the total investment portfolio is managed by fully discretionary outside advisors. The Michigan Department of Treasury's cost of operations applicable to the System for the fiscal year amounted to $83 thousand or nine and four tenths basis points (.094%) of the fair value of the Assets under Management of the State Treasurer.

Public Act 380 of 1965 created an Investment Advisory Committee (Committee) comprised of the directors of the Department of Licensing and Regulatory Affairs and the Department of Technology, Management & Budget, or their duly authorized representatives, and three public members appointed by the Governor with the advice and consent of the Senate. The public members serve without pay, but may be paid actual and necessary travel and other expenses. The Committee meets quarterly to review investments, goals and objectives and may submit recommendations to the State Treasurer. The Committee may also, by a majority vote, direct the State Treasurer to dispose of any holding which, in the Committee's judgment, is not suitable for the fund involved, and may by unanimous vote direct the State Treasurer to make specific investments.

Schedule of Investment Fees

Investment Managers' Fees:

	Assets under Management (in thousands)	Fees (in thousands)	Basis Points*
State Treasurer	$ 88,487	$ 83	9.4
Outside Advisors for			
Fixed Income	13,451	39	29.0
Absolute Return	39,539	153	38.7
International Equity	40,153	64	15.9
Domestic Equity	16,856	35	20.8
Private Equity	41,749	426	102.0
Real Estate and Infrastructure	25,814	231	89.5
Total	**$ 266,049**	**$ 1,031**	

Other Investment Services Fees:		
Assets in Custody	$ 264,022	$ 24
Securities on Loan	17,051	17

* Private Equity partnership agreements that define the management fees, the asset management fees range from 75 basis points on remaining assets under management to 250 basis points of the committed capital. For Real Estate/Infrastructure, the asset management fees range from 40 to 200 basis points. For Absolute Return, the asset management fees range from 0 to 200 basis points. These fees, in most cases, are netted against income.

Schedule of Investment Commissions

	Fiscal Year Ended September 30, 2017						
	Actual Commissions Paid [1]	Actual Number of Shares Traded [1]	Average Commission Per Share	Estimated Trade Costs Per Share	Estimated Research Costs Per Share	Estimated Trade Costs	Estimated Research Costs
Investment Brokerage Firms:							
Banc Of America Securities LLC	$ 639	21,815	$ 0.03	$ 0.01	$ 0.02	$ 219	$ 437
Barclays Capital Inc.	585	58,563	0.01	0.01	-	585	-
BNY Convergex Execution Solutions LLC	62	3,996	0.02	0.01	0.01	40	40
BTIG LLC	3,726	556,545	0.00	0.01	-	5,566	-
Capital Institutional Services Inc.	814	137,165	0.01	0.01	-	1,372	-
Citigroup Global Markets Inc.	14	1,442	0.02	0.01	0.01	14	-
Cow en & Company LLC	629	31,461	0.02	0.01	0.01	315	315
Credit Suisse Securities LLC	250	12,498	0.02	0.01	0.01	125	125
Deutsche Bank Securities Inc.	1	218	0.01		-	2	-
Drexel Hamilton	201	21,496	0.01	0.01	-	215	-
Goldman, Sachs & Co.	10	2,054	0.02	0.01	0.01	20	-
H. C. Wainw right & Co.	124	6,218	0.01	0.01	-	62	62
Jefferies & Company	5	504	0.01	0.01	-	5	-
J. P. Morgan Securities Inc.	2,223	513,119	0.01	0.01	-	5,131	-
MKM Partners	173	13,316	0.02	0.01	0.01	133	-
Mischler Financial Group Inc.	92	4,625	0.02	0.01	0.01	46	45
Morgan Stanley & Co. Inc.	416	18,020	0.02	0.01	0.01	181	181
OTA LLC	191	9,536	0.01	0.01	-	95	95
Raymond James and Associates Inc.	277	7,489	0.01	0.01	-	75	225
Stifel, Nicolaus & Co. Inc.	348	9,151	0.04	0.01	0.03	91	274
Total	**$ 10,780**	**1,429,231**	**$ 0.02** [2]	**$ 0.01**	**$ 0.01**	**$ 14,292**	**$ 1,799**

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

[2] The average commission per share for all brokerage firms.

Investment Summary

	Fair Value [1]	Percent of Market Value	Investment & Interest Income[2]	Percent of Total Investment & Interest Income
Fixed Income Pools	$ 32,875,983	12.4 %	$ 748,814	2.3 %
Domestic Equity Pools	66,010,909	24.8	12,090,279	36.6
Real Estate and Infrastructure Pools	25,814,410	9.7	2,059,547	6.2
Private Equity Pools	41,749,203	15.7	5,922,609	17.9
International Equity Pools	48,673,515	18.3	8,313,845	25.1
Absolute Return Pools	39,807,455	15.0	3,837,023	11.6
Short Term Investment Pools [3]	10,769,593	4.1	99,668	0.3
Total	$ 265,701,068	100.0 %	$ 33,071,785	100.0 %

[1] Fair value excludes $17,051,387 in securities lending collateral for fiscal year 2017.

[2] Total Investment & Interest Income excludes net security lending income of $331,467 and unrealized loss of $15,517 for securities lending collateral.

[3] Short term investment pools fair value includes $1,679,461 of equity in common cash.

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ACTUARIAL SECTION

Actuary's Certification

GRS Retirement Consulting

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

October 27, 2017

Mr. David Devries, Director
Department of Technology, Management and Budget
and
The Retirement Board
Michigan Judges' Retirement System
P.O. Box 30171
Lansing, Michigan 48909

Ladies and Gentlemen:

The basic financial objective of the Michigan Judges' Retirement System (JRS) is to establish and receive contributions which when combined with present assets and future investment returns will be sufficient to meet the financial obligations of the System to present and future benefit recipients. The progress towards meeting those financial objectives is illustrated in the Schedules of Funding Progress and the Schedules of Employer Contributions.

We performed actuarial valuations and issued actuarial valuation reports for JRS as of September 30, 2016. The purpose of the September 30, 2016 annual actuarial valuations was to determine the contribution requirements for the fiscal year ending September 30, 2017, to measure the System's funding progress and to provide information in connection with applicable Governmental Accounting Standards Board Statements. The valuations should not be relied upon for any other purpose. The valuation process develops employer contributions that are sufficient to fund the System's normal cost (i.e., the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund any unfunded accrued liabilities over a reasonable period. The valuation was completed based upon population data, asset data and plan provisions in effect on September 30, 2016.

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 and the Department after considering the advice of the actuary and other professionals. The assumptions and the methods comply with the disclosure requirements of the applicable GASB Statements. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution requirements as needed.

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

Actuary's Certification (continued)

Mr. David Devries
October 27, 2017
Page 2

Our firm provided the following supporting schedules for use in the Comprehensive Annual Financial Report:

Financial Section

- Note 1 - Table of System's Membership
- Summary of Actuarial Assumptions
- Schedules of Employer Contributions – Pension and OPEB Benefits
- Schedules of Changes in the Net Pension Liability (NPL) and the Net OPEB Liability and Related Ratios
- Schedules of Contributions Multiyear
- Sensitivity of the NPL to Changes in the Discount Rate
- Sensitivity of the Net OPEB Liability to Changes in the Discount Rate
- Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate Assumption

Actuarial Section

- Summary of Actuarial Assumptions and Methods
- Percent of Eligible Active Members Retiring Within Next Year
- Separation from Active Employment Before Age and Service Retirement and Individual Pay Increase Assumptions
- Schedule of Active Member Pension Valuation Data
- Schedule of Changes in the Retirement Rolls
- Prioritized Solvency Tests
- Analyses of System Experience
- Schedule of Active Member OPEB Valuation Data
- Schedule of Changes in the OPEB Rolls

Statistical Section

- Schedule of Retired Members by Type of Pension Benefit
- Schedule of Retired Members by Type of Health Benefit
- Schedules of Average Benefit Payments – Pension, Medical, Dental, and Vision
- Schedules of Funding Progress

Although our firm provided supporting schedules in connection with GASB Statement Nos. 43 and 45, we recommend consultation with legal counsel and the auditors to determine whether Statement No. 43 applies. Items included in the last five bullet points noted in the Financial Section above were provided in a separate communication and include information dating back to 2014.

The September 30, 2016 valuations were based upon assumptions that were recommended in connection with a study of System experience covering the period from October 1, 2007 through September 30, 2012. Future actuarial measurements may differ significantly from those presented in the annual valuations due to such factors as experience differing from that anticipated by actuarial assumptions, or changes in plan provisions, actuarial assumption/methods or applicable law. Due to the limited scope of the assignment, we did not perform an analysis of the potential range of future measurements.

GRS

Actuary's Certification (continued)

Mr. David Devries
October 27, 2017
Page 3

The signing actuaries are independent of the plan sponsor.

The actuarial valuations of JRS as of September 30, 2016 were performed by qualified actuaries in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with applicable State statutes. The assumptions and methods used for funding and financial reporting purposes are in conformity with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Mita Drazilov and Louise Gates are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the calculated employer contribution meets the financial objective of the Retirement System.

Respectfully submitted,

Mita Drazilov

Mita D. Drazilov, ASA, FCA, MAAA

Louise Gates

Louise M. Gates, ASA, MAAA

GRS

Summary of Actuarial Assumptions and Methods

1. The investment return rate used in the valuations was 8% per year net of expenses, 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 8% investment return rate translates to an assumed long-term real rate of return of 4.5%. Adopted 2004.

2. The healthy life mortality table used in evaluating allowances to be paid was 100% of the RP-2000 Male Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projection scale BB, and 100% of the RP-2000 Female Combined Healthy Mortality Table, adjusted for mortality improvements to 2020 using projection scale BB. Adopted 2014.

3. Sample probabilities of retirement with an age and service allowance are shown in Schedule 1 on the next page. Adopted 2014.

4. Sample probabilities of withdrawal from service and disability, together with individual pay increase assumptions, are shown in Schedule 2 on the next page. Adopted 2010.

5. The active member population is closed to new hires. This will result in a gradual reduction in the total active member payroll over time.

6. An individual entry age actuarial cost method of valuation was used in determining age and service and deferred retirement actuarial liabilities and normal cost. Unfunded actuarial accrued liabilities, including actuarial gains and losses, are financed over a declining 40-year period beginning October 1, 1996. Adopted 1996.

7. The Department of Technology, Management & Budget approved the use of fair value of assets as of September 30, 1997, for actuarial valuation purposes. For investment gains or losses that occur after that date, a 5-year smoothing technique will be used. Specifically, the excess (shortfall) of actual investment income (including interest, dividends, realized and unrealized gains or losses) over the imputed income at the valuation interest rate is considered the gain (loss), which is spread over five years. Adopted 1997.

8. The data about persons now covered and about present assets 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 System's Board and the Department of Technology, Management & Budget after consulting with the actuary.

10. A 5-year experience investigation, covering the period from October 1, 2007, through September 30, 2012, was completed in 2014. The purpose of the study was to analyze the actual experience of the System versus that anticipated by actuarial assumptions then in use.

11. Gabriel Roeder Smith and Co. was awarded the actuarial and consulting services contract beginning October 4, 2006.

Summary of Actuarial Assumptions and Methods (continued)

SCHEDULE 1

Percent of Eligible Active Members Retiring Within Next Year

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year
55-59	5%
60	8
61	6
62	8
63	6
64	6
65	15
66-68	6
69	10
70	20
71	25
72	30
73	30
74	30
75	100

SCHEDULE 2

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

Sample Ages	Percent of Active Members Withdrawing Within Next Year	Percent of Active Members Becoming Disabled Within Next Year	Percent Increase in Pay During Next Year
20		0.00 %	4.0%
25		0.00	4.0
30	2.25%	0.00	4.0
35	2.25	0.02	4.0
40	2.25	0.06	4.0
45	2.25	0.12	4.0
50	2.25	0.18	4.0
55	2.25	0.24	4.0
60	2.25	0.36	4.0

Actuarial Valuation Data

Schedule of Active Member Pension Valuation Data

Valuation Date Sept. 30	Inactive Number	Number	Reported Annual Payroll	Average Annual Pay	Increase (Decrease)	Average Age	Average Service
2007	16	260	$ 29,716,615	$ 114,295	0.6 %	58.4	16.5
2008	13	257	29,475,726	114,692	0.3	59.4	17.5
2009	9	234	27,027,185	115,501	0.7	59.9	18.3
2010	11	221	25,504,058	115,403	(0.1)	60.7	19.1
2011	11	205	23,565,252	114,952	(0.4)	61.5	20.1
2012	6	199	22,922,327	115,188	0.2	62.5	21.1
2013	9	164	18,939,467	115,485	0.3	62.9	22.0
2014	7	154	17,813,758	115,674	0.2	63.8	23.0
2015	6	128	14,948,393	116,784	1.0	63.9	23.9
2016	4	119	13,903,660	116,837	0.0	64.8	25.1

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	41	$ 6,189,628	$ 150,967		59.0	16.2
2013	41	6,202,758	151,287	0.2 %	59.7	16.7
2014	40	6,079,984	152,000	0.5	60.3	17.3
2015	39	5,926,177	151,953	0.0	59.8	16.8
2016	39	5,888,807	150,995	(0.6)	60.3	17.6

Actuarial Valuation Data (Continued)

Schedule of Changes in the 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
2007	38	$ 1,797,377	29	$ 657,528	542	$ 19,091,473	6.3 %	$ 35,224
2008	25	879,299	27	927,730	540	19,043,042	(0.3)	35,265
2009*	44	1,987,777	42	1,316,828	542	19,713,991	3.5	36,373
2010	23	1,104,282	24	722,169	541	20,096,104	1.9	37,146
2011	24	1,305,312	26	815,215	539	20,586,201	2.4	38,193
2012	27	1,043,822	25	970,308	541	20,659,715	0.4	38,188
2013	45	2,594,201	32	949,775	554	22,304,141	8.0	40,260
2014	29	1,236,656	29	1,113,996	554	22,426,801	0.5	40,482
2015	40	1,996,792	34	1,075,366	560	23,348,227	4.1	41,693
2016	22	951,076	35	1,263,957	547	23,035,359	(1.3)	42,112

* Restated based on more complete information.

Schedule of Changes in the OPEB 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					31	$ 218,743		
2012				$ 2,429	31	216,314	(1.1) %	$ 6,978
2013	2	18,054	3	22,675	30	211,693	(2.1)	7,056
2014	3	25,453	2	18,483	31	218,663	3.3	7,054
2015[1]	5	50,874	1	9,241	35	260,296	19.0	7,437
2016[1]	2	48,243	2	17,130	35	291,409	12.0	8,326

[1] excludes 4 individuals reported without premium information

Notes:
No. refers to number of retiree health contracts
Annual allowances added to rolls includes increases due to medical inflation and contract changes.
Annual allowances removed from rolls includes decreases due to contract changes.

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) active member contributions on deposit; (2) the liabilities for future benefits to present retired lives; and (3) the liabilities for service already rendered by active and inactive members. In a system that has been following the discipline of level percent of payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active members (liability 3) are normally partially covered by the remainder of present assets. Generally, if 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 by-product of level percent of payroll funding methods.

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

Pension Benefits
($ in thousands)

	Actuarial Accrued Liability (AAL)							
	(1)	(2)	(3)					
Valuation Date Sept. 30	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion)	Valuation Assets	Portion of AAL Covered by Assets (1)	(2)	(3)	(4)[1]
2007	$ 42,250	$ 151,691	$ 53,142	$ 301,047	100%	100%	201.5%	121.8%
2008	48,109	149,608	49,293	303,746	100	100	215.1	123.0
2009	46,561	154,758	43,879	295,625	100	100	214.9	120.6
2010	48,853	159,481	43,361	284,437	100	100	175.5	113.0
2011 [2]	50,099	163,522	38,071	266,804	100	100	139.7	106.0
2012 [2]	53,660	162,840	33,056	245,787	100	100	88.6	98.5
2013	47,579	177,873	26,950	240,146	100	100	54.5	95.1
2014	49,317	186,279	21,709	246,421	100	100	49.9	95.8
2015	44,691	196,275	16,281	249,333	100	100	51.4	96.9
2016	45,617	193,368	12,364	254,067	100	100	122.0	101.1

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

[2] Restated based on more complete information.

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 and Inactive Members (Employer Financed Portion)	Valuation Assets	Portion of AAL Covered by Assets (1)	(2)	(3)	(4)*
2007		$ 3,082	$ 3,633		0%	0%	0%	0%
2008		3,082	3,633		0	0	0	0
2009		2,974	3,619		0	0	0	0
2010		3,207	4,186		0	0	0	0
2011		2,799	5,068		0	0	0	0
2012		2,945	5,565		0	0	0	0
2013		2,801	4,855		0	0	0	0
2014		3,053	5,612		0	0	0	0
2015		4,384	4,742		0	0	0	0
2016		4,836	5,093	$ 1,030	0	21.3	0	10.4

* Percents funded on a total valuation asset and total actuarial accrued liability basis.

Analysis of System Experience - Pension

Gains/(Losses) in Accrued Liabilities During Year Ended September 30, 2016
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.	$ 290,886
2.	**Withdrawal 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.	64,486
3.	**Pay Increases.** If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	1,676,955
4.	**Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss.	5,916,724
5.	**Death After Retirement**. If retirants live longer than assumed, there is a loss. If not as long, a gain.	2,354,193
6.	**New Entrants/Rehires.** New entrants into the System will generally result in an actuarial loss.	-
7.	**Other.** Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	163,621
8.	**Composite Gain (or Loss) During Year**	$ 10,466,865

Analysis of System Experience - OPEB

Gains/(Losses) in Accrued Liabilities During Year Ended September 30, 2016
Resulting from Differences Between Assumed Experience & Actual Experience

	Type of Activity	Gain/(Loss)
1.	**Premiums.** Gains and losses resulting from actual premiums in valuation year versus that assumed from prior valuation.	$ 160,993
2.	**Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss.	-
3.	**Demographic and Other**. Gains and losses resulting from demographic experience, data adjustments, timing of financial transactions, etc.	(166,973)
4.	**Composite Gain (or Loss) During Year**	$ (5,980)

Summary of Plan Provisions

Our actuarial valuation of the System as of September 30, 2016, is based on the present provisions of the Judges' Retirement Act (Public Act No. 234 of 1992, as amended).

Regular Retirement

Eligibility - Age 60 with 8 years credited service; or age 55 with 18 years credited service, or 25 years with no age requirement.

Annual Amount - If less than 12 years of credited service, 3% of final annual compensation times years of credited service; for 12 or more years of credited service, 50% of final annual compensation plus 2.5% of such compensation for each year of credited service in excess of 12 years to a maximum of 60%. Former System members receive 3% of final annual compensation times years of credited service to a maximum of the greater of 40% of final annual compensation or $15,000, but not to exceed 66.67% of final annual compensation when added to a local retirement system benefit; or 3.5% of final annual compensation times years of credited service to a maximum of 66.67% of final annual compensation if elected.

Final Annual Compensation - Annual state salary at time of retirement plus state salary standardization, if any. For former Probate System members, final annual compensation is member's certified salary at time of retirement. For 36th District Court judges, final annual compensation is total state and district control unit salary at time of retirement. For Probate Court judges serving in a single county of less than 15,000 population, final annual compensation is total judicial salary at the time of retirement.

Early Retirement (age reduction factor used)

Eligibility - Age 55 with 12 but less than 18 years credited service.

Annual Amount - Regular retirement benefit, reduced by 0.5% for each month by which the commencement age is less than 60.

Deferred Retirement (vested benefit)

Eligibility - 8 years of credited service.

Annual Amount - Regular retirement benefit. If less than 12 years of credited service, payable at age 60; if 18 or more years of credited service payable at age 55; if more than 12 but less than 18 years of credited service reduced amount payable at age 55.

Disability Retirement

Eligibility - 8 years of credited service.

Annual Amount - Regular retirement benefit, based upon member's credited service and final salary at time of disability.

Death Before or After Retirement (Spouse or Dependent Children)

Eligibility - 8 years of credited service.

Annual Amount - 50% of the member's accrued pension.

Post Retirement Cost-of-Living Adjustments

None, except that judges who were active judges prior to September 8, 1961, (and their survivors) have their benefits adjusted as active judges' salaries change.

Member Contributions

Non-Trial Judges - 5% of salary (2% for health benefits).

Trial Judges with Full Standardization - 7% of salary.

Trial Judges without Full Standardization - 3.5% of salary.

Probate Judges under 3% Formula - 7% of salary to maximum of $980.

Probate Judges under 3.5% Formula - 7% of salary (no maximum).

District Court Judges of the Thirty-sixth District - 3.5% of salary.

Defined Contribution Legislation - (Public Act 523 of 1996)

New employees hired on or after March 31, 1997, become participants in Tier 2 (i.e. a defined contribution plan) rather than Tier 1 (i.e., the above described defined benefit plan).

Active members on March 30, 1997, had an opportunity to irrevocably elect to terminate membership in Tier 1 and become participants in Tier 2. Elections were in writing and submitted between January 2, 1998, and April 30, 1998. Such members became Tier 2 participants on June 1, 1998, and had the actuarial present value of their Tier 1 accrued benefit transferred into Tier 2 by September 30, 1998.

STATISTICAL SECTION

STATISTICAL SECTION

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

Contents

Financial Trends

These schedules contain trend information to help the reader understand how the System's financial performance and fiscal health has changed over time. The schedules are presented for the last ten fiscal years. Schedules included are:

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

Operating Information

These schedules contain contextual information to assist the reader's understanding of how the System's financial information relates to the combination of participating members and the benefits it provides. Schedules are presented for the last ten fiscal years, except where noted. Schedules included are:

- Schedule of Retired Members by Type of Pension Benefit
- Schedule of Retired Members by Type of Other Postemployment Benefit
- Schedule of Funding Progress – Pension Plan
- Schedule of Funding Progress – OPEB
- Schedule of Other Postemployment Benefits
- Schedule of Average Benefit Payments - Pension
- Schedule of Average Benefit Payments - OPEB
- Schedule of Principal Participating Employers
- Ten Year History of Membership
- Schedule of Participating Employers

Schedules of Additions by Source

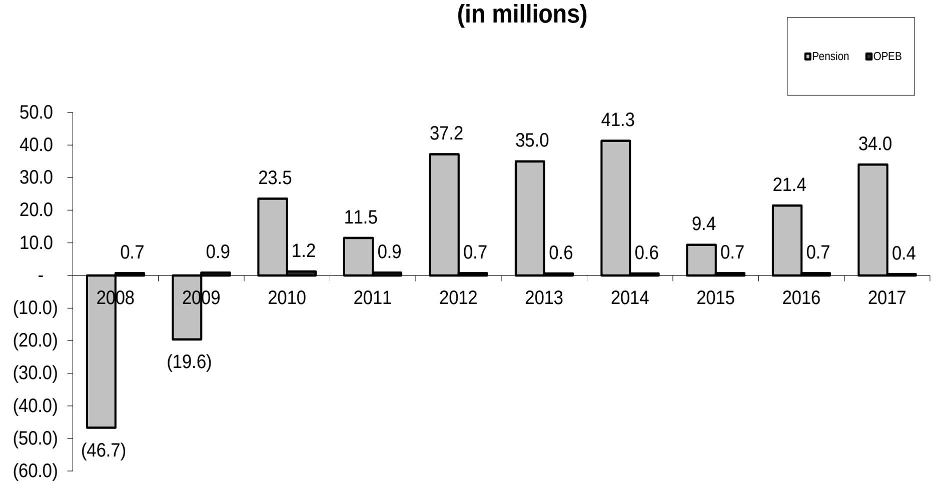
Schedule of Pension Plan Additions by Source
Last Ten Years

Fiscal Year Ended Sept. 30	Member Contributions	Employer Contributions	Net Investment & Other Income	Total
2008	$ 1,738,459		$ (48,472,838)	$ (46,734,379)
2009	1,644,585		(21,294,298)	(19,649,713)
2010	1,539,822		21,966,046	23,505,868
2011	1,468,068		10,024,331	11,492,399
2012	1,353,949		35,823,251	37,177,201
2013	1,142,496		33,807,819	34,950,315
2014	1,025,074		40,329,360	41,354,434
2015	902,078	$ 2,592,536	5,884,697	9,379,312
2016	805,452	2,138,379	18,481,767	21,425,599
2017	697,444	1,019,814	32,268,247	33,985,506

Schedule of OPEB Plan Additions by Source
Last Ten Years

Fiscal Year Ended Sept. 30	Member Contributions	Employer Contributions	Net Investment & Other Income	Total
2008	$ 539,440		$ 145,130	$ 684,570
2009	528,402		336,280	864,682
2010	520,707		726,109	1,246,816
2011	551,783		348,517	900,300
2012	522,042		194,045	716,087
2013	499,254		144,529	643,783
2014	447,033		186,724	633,757
2015	434,377	$ 210,000	82,806	727,182
2016	432,494	154,000	149,635	736,128
2017	116,511	115,000	193,392	424,903

Total Additions
Year Ended September 30
(in millions)



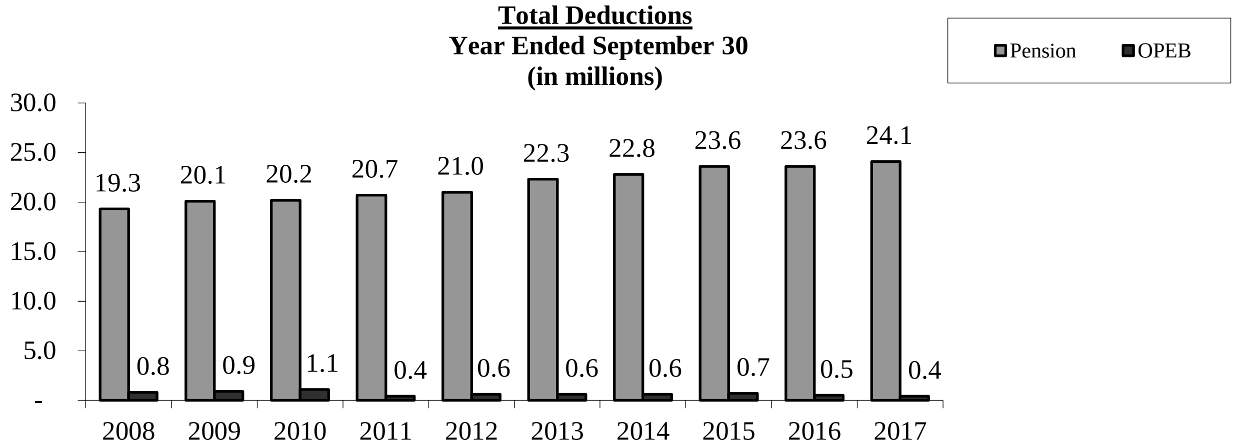
Schedules of Deductions by Type

Schedule of Pension Plan Deductions by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Benefit Payments	Refunds and Transfers	Administrative and Other Expenses	Total
2008	$ 19,180,381		$ 144,188	$ 19,324,569
2009	19,897,368		158,909	20,056,277
2010	20,079,292		143,470	20,222,762
2011	20,580,971		141,155	20,722,126
2012	20,792,225		207,439	20,999,664
2013	21,969,650		359,028	22,328,678
2014	22,536,376		288,390	22,824,766
2015	23,241,431		312,400	23,553,832
2016	23,301,601		335,384	23,636,985
2017	23,724,056		353,994	24,078,050

Schedule of OPEB Plan Deductions by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Benefit Payments	Refunds and Transfers	Administrative and Other Expenses	Total
2008	$ 789,975		$ 41,978	$ 831,953
2009	820,694		45,133	865,827
2010	1,078,915		35,212	1,114,127
2011	401,027		35,539	436,566
2012	544,349	$ 90	34,959	579,399
2013	523,943	10	75,180	599,133
2014	530,183	175	59,085	589,443
2015	600,781	348	112,910	714,039
2016	459,119	50	84,032	543,200
2017	301,555	-	127,479	429,034



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Schedules of Changes in Fiduciary Net Position

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION – PENSION PLAN

Last Ten Years (in thousands)

	Fiscal Year			
	2008	**2009**	**2010**	**2011**
Member contributions	$ 1,738	$ 1,645	$ 1,540	$ 1,468
Employer contributions				
Net investment income	(48,525)	(21,344)	21,918	9,972
Court Fees	44	43	43	43
Miscellaneous income	8	7	5	9
Total Additions	(46,735)	(19,649)	23,506	11,491
Pension benefits	19,180	19,897	20,079	20,581
Refunds of contributions				
Administrative and Other Expenses	144	159	143	141
Total Deductions	19,324	20,056	20,222	20,722
Changes in net position	$ (66,059)	$ (39,706)	$ 3,285	$ (9,230)

SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION – OPEB PLAN

Last Ten Years (in thousands)

	Fiscal Year			
	2008	**2009**	**2010**	**2011**
Member contributions	$ 539	$ 528	$ 521	$ 552
Employer contributions				
Other governmental contributions				1
Net investment income	8	1	13	37
Court fees	115	335	712	310
Transfer from other systems	15			
Miscellaneous income	7	1	1	
Total Additions	684	865	1,247	900
Health care benefits	790	821	1,079	401
Refunds of contributions				
Administrative and Other Expenses	42	45	35	36
Total Deductions	832	866	1,114	437
Changes in net position	$ (148)	$ (1)	$ 133	$ 464

Schedules of Changes in Fiduciary Net Position (continued)

Fiscal Year (continued)

2012	2013	2014	2015	2016	2017
$ 1,354	$ 1,143	$ 1,025	$ 902	$ 805	$ 697
			2,593	2,138	1,020
34,711	31,003	37,148	5,840	18,425	32,218
1,111	2,793	3,164	41	41	41
1	11	18	3	15	10
37,176	34,950	41,355	9,379	21,426	33,986
20,792	21,970	22,536	23,241	23,302	23,724
207	359	288	312	335	354
20,999	22,329	22,824	23,552	23,637	24,078
$ 16,178	$ 12,621	$ 18,530	$ (14,175)	$ (2,211)	$ 9,907

Fiscal Year (continued)

2012	2013	2014	2015	2016	2017
$ 522	$ 499	$ 447	$ 434	$ 432	$ 117
			210	154	115
	55	69	65	93	74
94	90	116	18	56	119
100					
		1		1	
716	644	633	727	736	425
544	524	530	601	459	302
35	75	59	113	84	127
579	599	589	714	543	429
$ 137	$ 45	$ 44	$ 13	$ 193	$ (4)

Schedules of Benefits and Refunds by Type

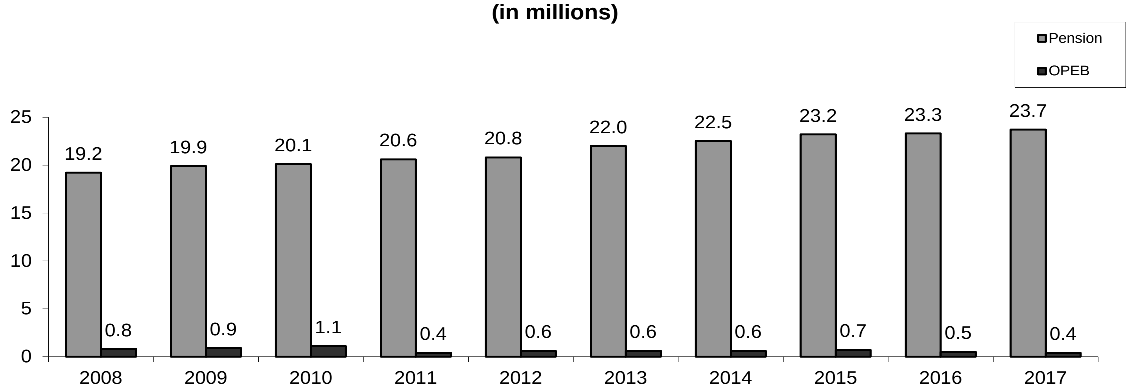
Schedule of Pension Benefits and Refunds by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Regular Benefits	Disability Benefits	Survivor Benefits	Refunds: Employee Contribution	Refunds: Retired Benefits	Total
2008	$ 15,231,453	$ 233,700	$ 3,715,228			$ 19,180,381
2009	15,741,513	211,077	3,944,778			19,897,368
2010	15,694,797	211,078	4,173,417			20,079,292
2011	16,134,758	211,078	4,235,135			20,580,971
2012	16,209,640	210,948	4,371,637			20,792,225
2013	17,426,985	211,078	4,331,588			21,969,650
2014	17,815,602	210,676	4,510,098			22,536,376
2015	18,517,601	211,479	4,512,352			23,241,432
2016	18,731,864	211,078	4,358,660			23,301,601
2017	19,290,587	212,964	4,220,505			23,724,056

Schedule of OPEB Benefits and Refunds by Type
Last Ten Years

Fiscal Year Ended Sept. 30	Health Benefits	Dental Benefits	Vision Benefits	Health Refunds	Administrative Expenses	Total
2008	$ 720,335	$ 62,770	$ 6,870		$ 41,978	$ 831,953
2009	747,808	65,013	7,873		45,133	865,827
2010	859,602	167,845	51,468		35,212	1,114,127
2011	265,202	136,341	(516)		35,539	436,566
2012	425,647	118,185	517	$ 90	34,959	579,398
2013	379,741	113,137	31,065	10	75,180	599,132
2014	410,344	117,771	2,068	175	59,085	589,443
2015	480,792	114,263	5,726	348	112,910	714,039
2016	346,436	108,303	4,380	50	84,032	543,200
2017	294,635	6,921			127,479	429,034

Total Benefit Deductions
Year Ended September 30
(in millions)



Schedules of Retired Members by Type of Benefit

SCHEDULE OF RETIRED MEMBERS BY TYPE OF PENSION BENEFITS

September 30, 2016

Amount of Monthly Pension	Number of Retirees	Type of Retirement *					Selected Option**		
		1	2	3	4	5	Opt. 1	Opt. 2	Opt. 3
$ 1 - 400	1		1				1		
401 - 800	28	9	17	2			23	5	
801 - 1,200	35	17	14	2	2		29	5	1
1,201 - 1,600	33	11	17	5			26	6	1
1,601 - 2,000	64	18	42	3	1		56	8	
2,001 - 2,400	37	16	18	2	1		28	9	
2,401 - 2,800	30	15	14			1	23	7	
2,801 - 3,200	24	16	6			2	16	8	
3,201 - 3,600	26	16	9	1			14	12	
3,601 - 4,000	44	35	5	3		1	30	13	1
Over 4,000	225	217	2	3	2	1	199	25	1
Totals	547	370	145	21	6	5	445	98	4

* Type of Retirement

1 - Normal retirement for age and service
2 - Survivor payment – normal retirement
3 - Survivor payment - death in service
4 - Nonduty disability retirement (including survivors)
5 - Survivor payment – disability retirement

**Selected Option

Opt. 1 – Straight life allowance
Opt. 2 – 100% survivor option
Opt. 3 – 50% survivor option

SCHEDULE OF RETIRED MEMBERS BY TYPE OF OTHER POSTEMPLOYMENT BENEFITS

September 30, 2016

Amount of Monthly Pension	Number of Retirees	Type of Other Postemployment Benefits		
		Health	Dental	Vision
$ 1 – 400	1			
401 – 800	28	2	4	4
801 – 1,200	35	6	11	8
1,201 – 1,600	33		3	2
1,601 – 2,000	64	6	7	4
2,001 - 2,400	37	6	9	7
2,401 - 2,800	30	4	10	6
2,801 - 3,200	24	2	2	1
3,201 - 3,600	26	3	6	4
3,601 - 4,000	44	8	15	13
Over 4,000	225	27	40	44
Totals	547	64	107	93

Source: Gabriel Roeder Smith & Co.

Schedules of Funding Progress
Last Ten Years

Pension Benefits ($ in millions)

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 (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
2007	$ 301.0	$ 247.1	$ (53.9)	121.8 %	$ 29.7	(181.5) %
2008	303.7	247.0	(56.7)	123.0	29.5	(192.2)
2009	295.6	245.2	(50.4)	120.6	27.0	(186.6)
2010	284.4	251.7	(32.7)	113.0	25.5	(128.4)
2011	266.8	251.7	(15.1)	106.0	23.6	(64.1)
2012[1]	245.8	249.6	3.8	98.5	22.9	16.4
2013	240.1	252.4	12.3	95.1	18.9	64.7
2014	246.4	257.3	10.9	95.8	17.8	61.1
2015	249.3	257.2	7.9	96.9	14.9	52.9
2016	254.1	251.3	(2.7)	101.1	13.9	(19.5)

[1] Restated based on more complete information.

Source: Gabriel Roeder Smith & Co.

Other Postemployment Benefits ($ in millions)

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 (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
2007		$ 6.6	$ 6.6		$ 6.1	107.5 %
2008		6.7	6.7		5.9	113.0
2009		6.6	6.6		6.1	108.2
2010		7.4	7.4		5.9	124.5
2011		7.9	7.9		5.4	145.3
2012		8.5	8.5		6.2	137.5
2013		7.7	7.7		6.2	123.4
2014		8.7	8.7		6.1	142.5
2015		9.1	9.1		5.9	154.0
2016	$ 1.0	9.9	8.9	10.4 %	5.9	151.1

Source: Gabriel Roeder Smith & Co.

Schedule of Other Postemployment Benefits

For Year Ended September 30, 2017

Claims		
Health insurance	$	274,198
Vision insurance		(300)
Dental insurance		5,278
Total Claims		279,176
Estimated Claims Liability		
Health insurance		20,437
Vision insurance		300
Dental insurance		1,643
Total Estimated Claims Liability		22,379
Administrative Fees		
Staff Salaries		95,287
Health insurance		28,101
Vision insurance		634
Dental insurance		3,457
Total Administrative Fees		127,479
Grand Total	$	429,034

Schedules of Average Benefit Payments

Schedule of Average Benefit Payments - Pension
Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 +	Total
Period 10/1/06 to 9/30/07:								
Average Monthly Benefit	$ 888	$ 1,467	$ 2,126	$ 3,228	$ 3,440	$ 3,064	$ 3,569	$ 2,935
Average Final Average Salary	3,900	70,222	63,067	72,137	80,455	81,286	93,887	73,280
Number of Active Retirants	5	31	109	202	124	45	26	542
Period 10/1/07 to 9/30/08:								
Average Monthly Benefit	$ 888	$ 1,467	$ 2,164	$ 3,265	$ 3,323	$ 3,074	$ 3,704	$ 2,939
Average Final Average Salary	3,900	70,222	64,589	72,403	81,027	80,861	97,424	73,861
Number of Active Retirants	5	31	107	206	123	44	24	540
Period 10/1/08 to 9/30/09:								
Average Monthly Benefit	$ 888	$ 1,421	$ 2,303	$ 3,377	$ 3,401	$ 3,211	$ 3,793	$ 3,031
Average Final Average Salary	37,149	74,389	67,177	78,416	83,236	81,197	90,472	77,308
Number of Active Retirants	5	32	109	210	126	40	20	542
Period 10/1/09 to 9/30/10:								
Average Monthly Benefit	$ 888	$ 1,421	$ 2,389	$ 3,459	$ 3,429	$ 3,257	$ 4,004	$ 3,096
Average Final Average Salary	37,149	74,389	69,084	79,411	84,463	82,687	94,002	78,630
Number of Active Retirants	5	32	110	204	127	42	21	541
Period 10/1/10 to 9/30/11:								
Average Monthly Benefit	$ 888	$ 1,398	$ 2,423	$ 3,597	$ 3,449	$ 3,539	$ 3,879	$ 3,183
Average Final Average Salary	37,149	74,389	70,443	81,961	84,631	86,761	94,002	80,306
Number of Active Retirants	5	32	106	207	124	44	21	539
Period 10/1/11 to 9/30/12:								
Average Monthly Benefit	$ 1,094	$ 1,356	$ 2,454	$ 3,617	$ 3,420	$ 3,520	$ 3,914	$ 3,182
Average Final Average Salary	30,958	74,718	71,197	81,578	85,701	88,202	93,952	80,555
Number of Active Retirants	6	34	103	208	126	45	19	541
Period 10/1/12 to 9/30/13:								
Average Monthly Benefit	$ 1,115	$ 1,335	$ 2,519	$ 3,791	$ 3,628	$ 3,693	$ 3,972	$ 3,355
Average Final Average Salary	52,361	76,646	74,667	88,864	89,648	90,100	92,991	85,735
Number of Active Retirants	5	33	99	217	130	46	24	554
Period 10/1/13 to 9/30/14:								
Average Monthly Benefit	$ 1,159	$ 1,391	$ 2,496	$ 3,772	$ 3,743	$ 3,719	$ 3,876	$ 3,373
Average Final Average Salary	43,634	76,195	74,592	90,417	93,965	91,634	97,007	87,534
Number of Active Retirants	6	32	98	214	134	46	24	554
Period 10/1/14 to 9/30/15:								
Average Monthly Benefit	$ 1,511	$ 1,391	$ 2,503	$ 3,793	$ 3,887	$ 3,996	$ 4,042	$ 3,474
Average Final Average Salary	59,132	81,204	76,126	91,310	95,344	96,935	97,792	89,602
Number of Active Retirants	6	29	96	217	143	43	26	560
Period 10/1/15 to 9/30/16:								
Average Monthly Benefit	$ 1,511	$ 1,337	$ 2,523	$ 3,866	$ 3,882	$ 4,027	$ 4,076	$ 3,509
Average Final Average Salary	59,132	80,925	77,284	92,681	95,740	98,622	101,248	90,780
Number of Active Retirants	6	29	91	213	139	43	26	547

Source: Gabriel Roeder Smith & Co.

Schedule of Average Benefit Payments - Health *
Last Ten Years

Payment Periods	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 +	Total
	Credited Service (Years) as of September 30							
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,235	$ 3,544	$ 3,791	$ 4,426	$ 5,859	$ 3,351
Average Final Average Salary	19,500	84,638	63,913	79,862	88,876	105,084	131,721	81,436
Number of Active Retirants	1	3	20	33	19	9	2	87
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,264	$ 3,456	$ 3,488	$ 4,648	$ 5,859	$ 3,287
Average Final Average Salary	19,500	84,638	66,144	78,843	88,876	105,720	131,721	81,745
Number of Active Retirants	1	3	18	32	19	8	2	83
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,264	$ 3,699	$ 3,337	$ 5,392	$ 5,859	$ 3,361
Average Final Average Salary	19,500	84,638	66,144	85,685	89,254	125,557	131,721	85,455
Number of Active Retirants	1	3	18	30	20	6	2	80
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,264	$ 3,804	$ 3,367	$ 5,392	$ 5,859	$ 3,378
Average Final Average Salary	19,500	84,638	65,338	79,121	90,360	125,557	131,721	82,664
Number of Active Retirants	1	3	20	32	21	6	2	85
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,146	$ 3,864	$ 3,418	$ 5,798	$ 5,859	$ 3,465
Average Final Average Salary	19,500	84,638	63,592	84,583	92,892	131,136	131,721	85,891
Number of Active Retirants	1	3	19	31	18	7	2	81
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,139	$ 3,796	$ 3,418	$ 5,781	$ 5,859	$ 3,482
Average Final Average Salary	19,500	84,638	66,599	83,460	92,892	131,136	131,721	86,964
Number of Active Retirants	1	3	16	30	18	7	2	77
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,332	$ 3,882	$ 3,386	$ 5,483	$ 5,859	$ 3,522
Average Final Average Salary	19,500	84,638	72,845	89,450	96,066	127,752	131,721	91,047
Number of Active Retirants	1	3	14	29	18	6	2	73
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	$ 17	$ 2,102	$ 2,293	$ 3,732	$ 3,646	$ 5,081	$ 5,859	$ 3,502
Average Final Average Salary	19,500	84,638	72,072	87,984	100,088	127,752	131,721	91,744
Number of Active Retirants	1	3	13	28	19	6	2	72
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	-	$ 1,728	$ 2,425	$ 4,050	$ 4,187	$ 5,081	$ 5,859	$ 3,852
Average Final Average Salary	-	84,638	75,582	93,677	109,512	127,752	131,721	98,425
Number of Active Retirants	-	3	12	29	19	6	2	71
Period 10/1/15 to 9/30/16								
Average Monthly Benefit	-	$ 1,523	$ 2,631	$ 4,357	$ 4,263	$ 4,542	$ 5,859	$ 4,038
Average Final Average Salary	-	94,507	84,721	98,068	108,486	127,752	131,721	102,473
Number of Active Retirants	-	2	10	27	17	6	2	64

* Average monthly benefits shown are pension benefits
Source: Gabriel Roeder Smith & Co.

Schedule of Average Benefit Payments - Dental *
Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 +	Total
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	-	$ 1,923	$ 2,408	$ 3,471	$ 3,599	$ 4,088	$ 4,017	$ 3,349
Average Final Average Salary	-	84,070	65,954	76,790	79,234	95,142	88,821	78,270
Number of Active Retirants	-	5	28	55	38	17	7	150
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	-	$ 1,923	$ 2,510	$ 3,447	$ 3,513	$ 4,178	$ 3,990	$ 3,354
Average Final Average Salary	-	84,070	68,761	77,730	81,887	94,839	88,958	79,829
Number of Active Retirants	-	5	25	56	38	16	6	146
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	-	$ 1,923	$ 2,616	$ 3,510	$ 3,505	$ 4,429	$ 4,054	$ 3,394
Average Final Average Salary	-	84,070	70,379	81,063	83,005	101,786	99,613	82,293
Number of Active Retirants	-	5	26	55	37	14	4	141
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	-	$ 1,923	$ 2,631	$ 3,639	$ 3,503	$ 4,447	$ 4,054	$ 3,456
Average Final Average Salary	-	84,070	72,415	78,988	84,063	102,499	99,613	82,374
Number of Active Retirants	-	5	26	55	39	15	4	144
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	-	$ 1,923	$ 2,658	$ 3,769	$ 3,526	$ 4,250	$ 4,054	$ 3,541
Average Final Average Salary	-	84,070	73,097	83,097	83,661	106,381	99,613	84,703
Number of Active Retirants	-	5	24	53	38	16	4	140
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	-	$ 1,923	$ 2,647	$ 3,731	$ 3,447	$ 4,309	$ 4,054	$ 3,481
Average Final Average Salary	-	84,070	75,085	82,627	84,757	103,377	99,613	84,860
Number of Active Retirants	-	5	22	51	38	15	4	135
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	-	$ 1,923	$ 2,740	$ 3,783	$ 3,424	$ 4,309	$ 4,054	$ 3,514
Average Final Average Salary	-	84,070	77,339	88,393	89,718	103,377	99,613	88,885
Number of Active Retirants	-	5	21	50	37	15	4	132
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	-	$ 1,923	$ 2,758	$ 3,790	$ 3,592	$ 4,148	$ 3,476	$ 3,517
Average Final Average Salary	-	84,070	78,748	90,107	93,759	103,377	99,613	90,883
Number of Active Retirants	-	5	21	44	35	15	4	124
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	-	$ 1,699	$ 2,741	$ 3,863	$ 3,631	$ 4,184	$ 3,476	$ 3,552
Average Final Average Salary	-	84,070	81,188	89,897	94,432	108,597	99,613	91,921
Number of Active Retirants	-	5	20	46	33	14	4	122
Period 10/1/15 to 9/30/16								
Average Monthly Benefit	-	$ 1,589	$ 2,982	$ 4,073	$ 3,716	$ 3,977	$ 3,476	$ 3,686
Average Final Average Salary	-	88,862	87,229	94,191	94,351	111,362	99,613	95,283
Number of Active Retirants	-	4	16	41	29	13	4	107

* Average monthly benefits shown are pension benefits

Source: Gabriel Roeder Smith & Co.

Schedule of Average Benefit Payments - Vision *
Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 +	Total
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,526	$ 3,795	$ 4,003	$ 4,377	$ 4,065	$ 3,651
Average Final Average Salary	19,500	96,442	67,760	80,314	86,286	102,028	99,110	83,177
Number of Active Retirants	1	3	20	42	35	14	5	120
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,588	$ 3,801	$ 3,775	$ 4,510	$ 4,038	$ 3,618
Average Final Average Salary	19,500	96,442	70,418	81,753	86,286	102,184	101,887	84,189
Number of Active Retirants	1	3	18	42	35	13	4	116
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,728	$ 3,916	$ 3,719	$ 4,624	$ 4,317	$ 3,667
Average Final Average Salary	19,500	96,442	72,545	85,688	87,123	106,348	111,045	86,469
Number of Active Retirants	1	3	19	43	35	12	3	116
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,749	$ 3,955	$ 3,753	$ 4,624	$ 5,372	$ 3,707
Average Final Average Salary	19,500	96,442	75,332	83,630	88,016	106,348	137,252	86,723
Number of Active Retirants	1	3	19	42	37	12	2	116
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,706	$ 4,052	$ 3,785	$ 4,700	$ 5,372	$ 3,773
Average Final Average Salary	19,500	96,442	74,044	88,977	87,701	110,830	137,252	89,139
Number of Active Retirants	1	3	18	43	36	13	2	116
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,647	$ 4,088	$ 3,666	$ 4,452	$ 5,372	$ 3,682
Average Final Average Salary	19,500	96,442	76,442	88,175	88,146	107,446	137,252	88,147
Number of Active Retirants	1	3	17	42	36	12	2	113
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,647	$ 4,133	$ 3,669	$ 4,452	$ 5,372	$ 3,729
Average Final Average Salary	19,500	96,442	76,442	95,575	92,812	107,446	137,252	93,164
Number of Active Retirants	1	3	17	42	36	12	2	113
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	$ 17	$ 2,186	$ 2,635	$ 4,117	$ 3,858	$ 4,251	$ 4,685	$ 3,755
Average Final Average Salary	19,500	96,442	76,039	95,551	97,154	107,446	128,996	94,736
Number of Active Retirants	1	3	16	39	34	12	3	108
Period 10/1/14 to 9/30/15								
Average Monthly Benefit	-	$ 1,813	$ 2,763	$ 4,178	$ 4,001	$ 4,381	$ 4,685	$ 3,895
Average Final Average Salary	-	96,442	79,112	94,711	99,476	111,122	128,996	96,819
Number of Active Retirants	-	3	15	41	32	12	3	106
Period 10/1/15 to 9/30/16								
Average Monthly Benefit	-	$ 1,649	$ 2,942	$ 4,369	$ 4,141	$ 4,155	$ 4,685	$ 4,043
Average Final Average Salary	-	112,213	88,092	98,758	100,113	114,619	128,996	100,931
Number of Active Retirants	-	2	12	37	28	11	3	93

* Average monthly benefits shown are pension benefits
Source: Gabriel Roeder Smith & Co.

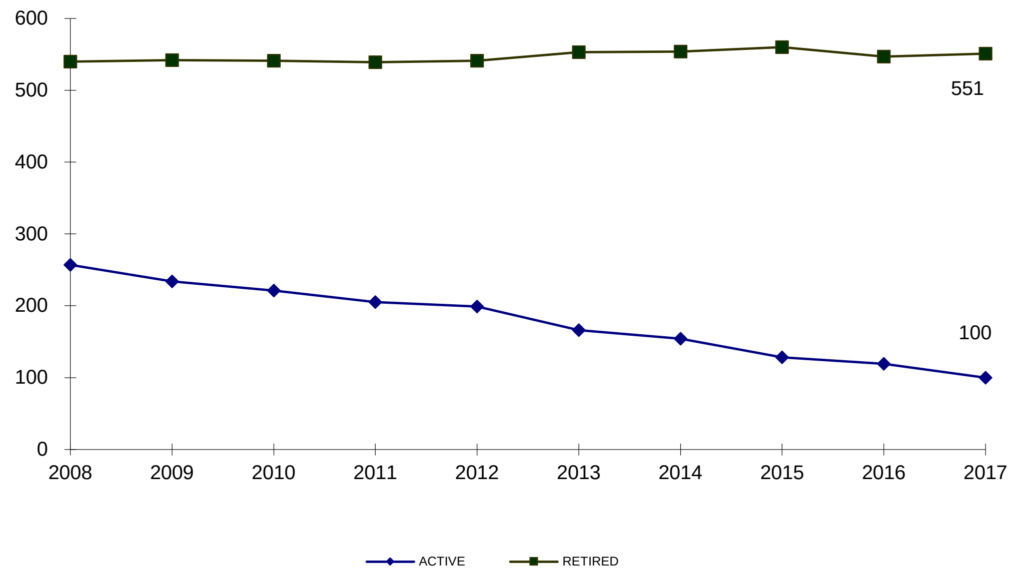
Schedule of Principal Participating Employers

For Fiscal Years Ending September 30, 2017 and 2007

	2017		2007	
Participating Employer	**Employees**	**Percentage of Total System**	**Employees**	**Percentage of Total System**
Court of Appeals	12	12.0 %	16	6.2 %
03rd Circuit	9	9.0	19	7.3
36th District	6	6.0	13	5.0
06th Circuit	5	5.0	7	2.7
07th Circuit	4	4.0	4	1.5
All other	64	64.0	201	77.3
Total	**100**	**100.0 %**	**260**	**100.0 %**

Ten Year History of Membership

Fiscal Year Ended September 30



Source: Gabriel Roeder Smith & Co.

Schedule of Participating Employers at 9/30/17

Court Of Appeals
Recorders Court
State of Michigan
Supreme Court
03rd Circuit Court
06th Circuit Court
07th Circuit Court
10th Circuit Court
13th Circuit Court
14th Circuit Court
16th Circuit Court
17th Circuit Court
21st Circuit Court
22nd Circuit Court
24th Circuit Court
40th Circuit Court
41st Circuit Court
57th Circuit Court
05th District Court
08th District Court
10th District Court
14th District Court
15th District Court
16th District Court
17th District Court
21st District Court
28th District Court
33rd District Court
36th District Court
39th District Court
40A District Court
41B District Court
48th District Court
52nd District Court
58th District Court
61st District Court
63rd District Court
64th District Court
66th District Court
67th District Court
68th District Court
70th District Court
71st District Court
78th District Court
82nd District Court
95th District Court
Cass County Probate Court
Gogebic County Probate Court
Huron County Probate Court
Iron County Probate Court
Isabella County Probate Court
Kent County Probate Court
Lake County Probate Court
Oscoda County Probate Court
Ottawa County Probate Court
Wayne County Probate Court
Wexford County Probate Court

ACKNOWLEDGMENTS

The *Michigan Judges' Retirement System Comprehensive Annual Financial Report* is prepared by Financial Services, Fiscal Management Division. Staff of the division for the fiscal year 2017 report included:

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