

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

**Comprehensive Annual Financial Report
for the Fiscal Year Ended 2015**



M S P R S

**Prepared by:
Financial Services
for
Office of Retirement Services
P.O. Box 30171
Lansing, Michigan 48909-7671
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1-800-381-5111**

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INTRODUCTORY SECTION

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

INTRODUCTORY SECTION

Certificate of Achievement



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Michigan State Police Retirement System

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

September 30, 2014

A handwritten signature in black ink, reading "Jeffrey R. Emer".

Executive Director/CEO

Public Pension Standards Award



Public Pension Coordinating Council

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

2015

Presented to

Michigan Office of Retirement Services

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

Presented by the Public Pension Coordinating Council, a confederation of

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

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

Alan H. Winkle
Program Administrator

INTRODUCTORY SECTION

Letter of Transmittal

State Police 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 30, 2015

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 State Police Retirement System (System) for fiscal year 2015.

INTRODUCTION TO REPORT

The System was established by legislation under Public Act 251 of 1935. It now operates under the provisions of Public Act 182 of 1986, as amended, and is administrated 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 State Police officers. The services performed by the ORS staff provide benefits to members.

Responsibility

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

INTRODUCTORY SECTION

Letter of Transmittal (continued)

analysis of 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 2014. 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) requires 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

The State Police Retirement System was created by Public Act 251 of 1935 and later superseded by Public Act 182 of 1986. A nine-member board, under the direction of a chairperson elected from the membership, administers the System to provide retirement benefits for State Police officers. Employee contributions, employer contributions, investment earnings, and an annual legislative appropriation provide financing for the System. All individuals hired on or after June 10, 2012 are members of the Pension Plus Plan with a combined Defined Benefit and Defined Contribution benefit structure.

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 return rate. The investment activity for the year produced a total rate of return on the portfolio of 2.5% for Pension and 2.5% for the Other Post-Employment Benefits (OPEB) Plans. For the last five years, the System has experienced an annualized rate of return of 10.0% for pension 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. Additions are recorded when earned and deductions are recorded when incurred. Participants' benefits are recorded when payable by law. We believe 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.

INTRODUCTORY SECTION

Letter of Transmittal (continued)

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. Consistent with this approach, the most recent actuarial valuation was performed as of September 30, 2014.

Pension - The actuarial value of the assets and actuarial accrued liability of the System were \$1.1 billion and \$1.8 billion, respectively, resulting in a funded ratio of 63.0% at September 30, 2014. 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.

Postemployment Benefits – Prefunding for postemployment benefits began in fiscal year 2013. The actuarial value of the assets and actuarial accrued liability were \$77.7 million and \$637.4 million respectively resulting in a funded ratio of 12.2% at September 30, 2014. GASB Statement No. 43 (implemented in fiscal year 2007) does not require retroactive application of the reporting changes. Therefore, only nine valuation years are presented on the Schedule of Funding Progress in the Required Supplementary Information (RSI) of the Financial Section of this report.

MAJOR GOALS ACCOMPLISHED

We Moved! - During June and July, ORS relocated from the General Office Building to the newly renovated Stevens T. Mason Building in the Capitol Complex, downtown Lansing. Staff, vendors and the DTMB Move Team coordinated to make the move efficient, low-stress, and with minimal interruption of service for our customers.

ORS Launches Twitter and YouTube Channel - The next steps in the social media plan for ORS included the launch of the @MichiganORS Twitter account and the ORS YouTube channel. @MichiganORS has now passed 1,000 followers and the YouTube channel now hosts seven videos with over 5,000 views.

Business Process Reengineering (BPR) Deployed - The Business Process Reengineering (BPR) project went live on Monday, September 14. BPR deployed enhancements to the Employer Reporting website, which is how reporting units submit their retirement reports to ORS. The enhancements will save hours of work for DTMB Financial Services and ORS staff, reporting units and our members. The enhancements include a Defined Contribution (DC) component that brings DC records into our retirement database and transfers member’s contributions to Voya Financial® sooner. In addition to the DC components, reporting units have an automated notification system and tools to help them report and make accurate and on-time payments.

miAccount Surpasses 400,000 Registered Users - ORS recently surpassed the milestone of 400,000 registered miAccount users. miAccount is our online portal that connects members with their retirement account information and also allows members to update their personal information.

Address Processes Upgraded - Upgrades were made to systems to allow up to three addresses for members (instead of one). The physical address will be where the member permanently resides including the county that the member resides in based on the member’s zip code. The mailing address will be where the member wants their mail sent to, which includes a PO Box, or their “snowbird” address for the winter months. The legal address will store the address of a member’s power of attorney (POA), guardian, or conservator.

Insurance Billing Auto-Allocation Implemented - An automated batch process was implemented in January 2015 to automatically allocate insurance bills to the appropriate receivable. This eliminates ORS’s need for manual processing of all insurance payments deposited by Financial Services. Instead, ORS now only works those payments identified on an exception report. On the first run, over 1,400 payments were automatically allocated.

INTRODUCTORY SECTION

Letter of Transmittal (continued)

HONORS

Public Pension Standards Award - ORS has recently been awarded the 2015 Public Pension Coordinating Council Standards Award from the Public Pension Coordinating Councils Standards Program (PPCC) for both funding and administration. ORS has received this award 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 its fiscal year 2014 Comprehensive Annual Financial Report. This marks the 24th consecutive year ORS has received this prestigious award.

Acknowledgements

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

Sincerely,



David B. Behen, Director
Department of Technology, Management & Budget



Kerrie Vanden Bosch, Director
Office of Retirement Services

INTRODUCTORY SECTION

Administrative Organization

Retirement Board Members *

Colonel Kriste Etue
Director, Dept. of State Police
Statutory Member

Molly Jason
Representing Attorney General
Statutory Member

Detective Sergeant Mitchell Stevens
Representing Sergeants and Below
Term Expires December 31, 2015

Bernard Kent
General Public
Term Expires December 31, 2015

Cheryl Schmittiel
Representing Director, Office of State
Employer
Statutory Member

Craig Murray
Representing Deputy Auditor General
Statutory Member

Robert L. Brackenbury
Representing State Treasurer
Statutory Member

Captain Kevin P. McGaffigan,
Vice Chair
Representing Lieutenants and Above
Term Expires December 31, 2016

Retired First Lieutenant Diane Garrison
Chair
Retiree Member
Term Expires December 31, 2017

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

Administrative Organization

Department of Technology, Management & Budget

**Office of Retirement Services
P.O. Box 30171
Lansing, Michigan 48909-7671
517-322-5103
1-800-381-5111**

Advisors and Consultants

Actuaries

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

Independent Auditors

Doug 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

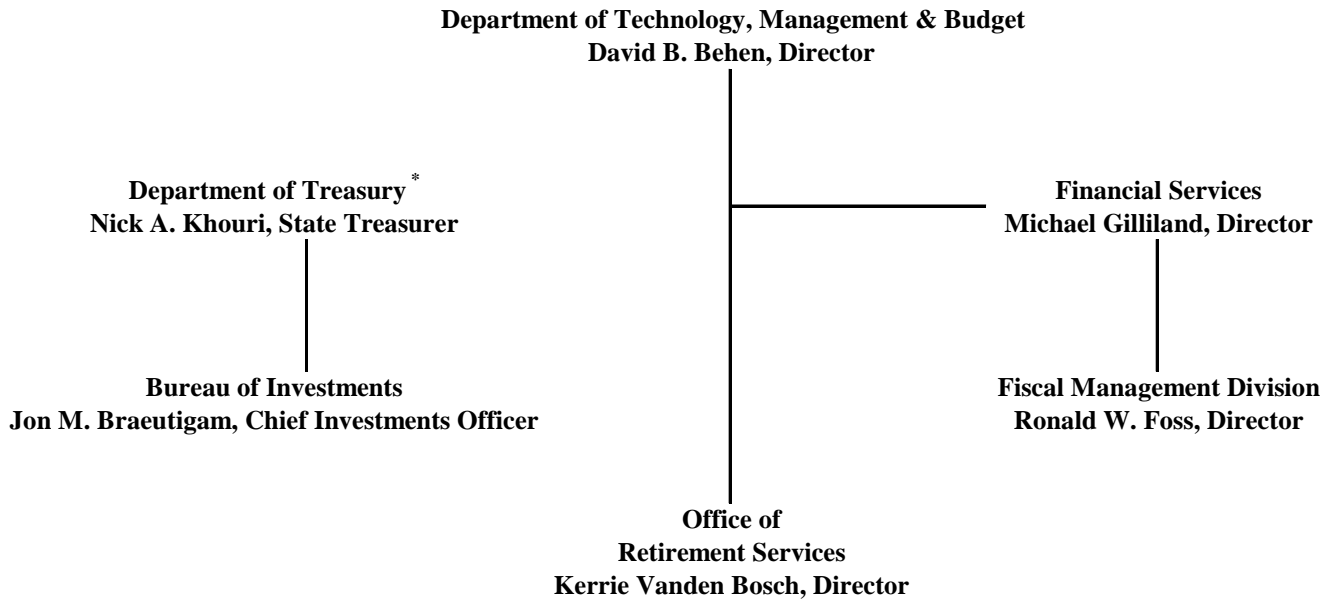
Investment Performance Measurement

State Street Corporation
State Street Investment Analytics
Boston, MA

INTRODUCTORY SECTION

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

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

Doug A. Ringler, CPA, CIA
Auditor General

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

Ms. Diane Garrison, Chair
Michigan State Police Retirement System Board
and
Mr. David B. Behen, Director
Department of Technology, Management, and Budget
and
Ms. Kerrie L. Vanden Bosch, Director
Office of Retirement Services

Dear Ms. Garrison, Mr. Behen, and Ms. Vanden Bosch:

Report on the Financial Statements

We have audited the accompanying financial statements of the Michigan State Police Retirement System as of and for the fiscal year ended September 30, 2015 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 State Police Retirement System as of September 30, 2015 and the changes in fiduciary net position for the fiscal year then ended in accordance with accounting principles generally accepted in the United States of America.



OAG

Office of the Auditor General

Doug A. Ringler, CPA, CIA
Auditor General

Ms. Diane Garrison, Chair
Mr. David B. Behen, Director
Ms. Kerrie 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 on pages 16 through 20 and the schedule of funding progress - other postemployment benefit plan, schedule of changes in net pension liability, schedule of net pension liability, schedules of contributions, schedule of investment returns, and related note on pages 41 through 45 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

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

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

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

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we will also issue a report on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is 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 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,

A handwritten signature in black ink that reads "Doug Ringler". The signature is written in a cursive, flowing style.

Doug Ringler
Auditor General
December 30, 2015

FINANCIAL SECTION

Management's Discussion and Analysis

Our discussion and analysis of the Michigan State Police Retirement System's (System) financial performance provides an overview of the System's financial activities for the fiscal year ended September 30, 2015. 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 its liabilities at the close of fiscal year 2015 by \$1.3 billion (reported as *net position restricted*). Fiduciary net position is restricted to meet future benefit payments.
- Additions for the year were \$149.5 million, which are comprised primarily of contributions of \$121.9 million and investment gains of \$27.6 million.
- Deductions increased over the prior year from \$144.0 million to \$149.1 million or 3.6%. This is largely due to increased aggregate retirement benefit payments and insurance benefit costs. The number of retirees also increased compared to last year.

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 21) and *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* (page 22). 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 additions and deductions are taken into account regardless of when cash is received or paid.

The Statement of Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position presents all of the System's assets and liabilities, with the difference between the two reported as net position. Over time, increases and decreases in net position measure whether the System's financial position is improving or deteriorating. *The Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position* presents how the System's net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Schedule of Changes in Net Pension Liability (page 42), Schedule of Funding Progress – Other Postemployment Benefit Plan (page 41), and Schedules of Contributions (page 43), to determine whether the System is becoming financially stronger or weaker.

FINANCIAL SECTION

Management's Discussion and Analysis (continued)

FINANCIAL ANALYSIS

System total assets as of September 30, 2015, were \$1.4 billion and were mostly comprised of cash, investments, and contributions due from employers. Total assets decreased \$12.6 million or 0.89% between fiscal years 2014 and 2015 due primarily to a decrease in investment income.

Total liabilities as of September 30, 2015, were \$80.5 million and were comprised of warrants outstanding, accounts payable and other accrued liabilities, and obligations under securities lending. Total liabilities decreased \$13.1 million or 14.0% between fiscal years 2014 and 2015 due primarily to a decrease in obligations under securities lending.

System assets exceeded its liabilities at the close of fiscal year 2015 by \$1.3 billion. Total net position restricted for pension and OPEB increased \$344 thousand or 0.0% between fiscal years 2014 and 2015 due primarily to modest investment income and increased employer contributions.

Plan Fiduciary Net Position (in thousands)

	2015	2014	Increase (Decrease)
Assets			
Equity in common cash	\$ 4,666	\$ 14,125	(67.0) %
Receivables	7,710	7,155	7.8
Investments	1,317,815	1,311,794	0.5
Securities lending collateral	78,493	88,398	(11.2)
Total Assets	1,408,683	1,421,472	(0.9)
Liabilities			
Warrants outstanding	4	25	(84.0)
Accounts payable and other accrued liabilities	2,023	2,134	(5.2)
Obligations under securities lending	78,481	91,481	(14.2)
Total Liabilities	80,508	93,640	(14.0)
Net Position Restricted for Pension Benefits and OPEB	\$ 1,328,176	\$ 1,327,832	0.0 %

FINANCIAL SECTION

Management's Discussion and Analysis (continued)

ADDITIONS TO PLAN FIDUCIARY NET POSITION

The reserves needed to finance pension and other postemployment benefits are accumulated through the collection of employer contributions and through earnings on investments. Contributions and net investment gains for fiscal year 2015 totaled \$149.5 million.

Total additions decreased \$143.4 million between fiscal years 2014 and 2015. This is due primarily to decreased net investment gains. Total contributions increased between fiscal years 2014 and 2015 by \$11.7 million or 10.7%. This increase is due primarily to activity related to larger employer contributions from an increase in the contribution rate and larger employee contributions. Net investment gains decreased between fiscal years 2014 and 2015, by \$155.2 million or 84.9%. The Investment Section of this report reviews the results of investment activity for fiscal year 2015.

DEDUCTIONS FROM PLAN FIDUCIARY NET POSITION

The primary expenses of the System include the payment of pension benefits to members and beneficiaries, payment for health, dental and vision benefits, refund of contributions to former members, and the cost of administering the System. Total deductions for fiscal year 2015 were \$149.1 million, an increase of 3.6% over fiscal year 2014 deductions.

The health, dental and vision care expenses to members and beneficiaries increased by \$0.3 million or 1.0% from \$31.4 million to \$31.7 million between fiscal years 2014 and 2015. Pension benefit payments increased by \$4.9 million or 4.5% between fiscal years 2014 and 2015. The increase in pension benefit deductions in 2015 is due primarily to an increase in DROP distributions (for more information on DROP, see note 1) and an increase in retirees of 24. Administrative and other expenses decreased by \$0.04 million or 2.0% from \$2.0 million in fiscal year 2014 to \$1.9 million in fiscal year 2015, due primarily to a decrease in personnel, contract, and office expenses.

FINANCIAL SECTION

Management's Discussion and Analysis (continued)

Changes in Plan Fiduciary Net Position (in thousands)

	2015	2014	Increase (Decrease)
Additions			
Member contributions	\$ 3,807	\$ 3,373	12.9 %
Employer contributions	116,199	105,006	10.7
Other governmental contributions	1,874	1,758	6.6
Net investment income (loss)	27,562	182,722	(84.9)
Miscellaneous income	12		
Total Additions	149,454	292,858	(49.0)
Deductions			
Pension benefits	115,466	110,543	4.5
Health care benefits	31,697	31,373	1.0
Refunds of contributions	3	8	(62.5)
Administrative and other expenses	1,945	1,985	(2.0)
Total Deductions	149,110	143,909	3.6
Net Increase (Decrease) in Net Position	343	148,948	(99.8)
Net Position Restricted for Pension Benefits and OPEB:			
Beginning of Year	1,327,832	1,178,884	12.6
End of Year	\$ 1,328,176	\$ 1,327,832	0.0 %

FINANCIAL SECTION

Management's Discussion and Analysis (continued)

RETIREMENT SYSTEM AS A WHOLE

The System's overall Fiduciary Net Position experienced a small increase in fiscal year 2015 after a larger increase in fiscal year 2014. The System's rate of return decreased 13.0% from a 15.5% return in fiscal year 2014 to a 2.5% return for the Pension Plan and decreased 12.5% from a 15.0% return in fiscal year 2014 to a 2.5% return for the OPEB Plan during fiscal year 2015. 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.

FINANCIAL SECTION

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

As of September 30, 2015 (in thousands)

	Pension Plan	OPEB Plan	Total
Assets:			
Equity in common cash	\$ 3,037	\$ 1,629	\$ 4,666
Receivables:			
Amounts due from members	53		53
Amounts due from employers	3,532	2,295	5,827
Amounts due from federal agencies		1,074	1,074
Amounts due from other		598	598
Interest and dividends	149	10	159
	3,733	3,977	7,710
Total receivables			
Investments:			
Short term investment pools	49,810	3,205	53,016
Fixed income pools	150,131	11,182	161,313
Domestic equity pools	343,581	25,693	369,274
Real estate and infrastructure pools	124,397	9,298	133,695
Private equity pools	207,491	15,512	223,004
International equity pools	169,952	12,698	182,650
Absolute return pools	181,320	13,543	194,864
	1,226,683	91,132	1,317,815
Total investments			
Securities lending collateral	73,087	5,406	78,493
	1,306,540	102,144	1,408,683
Total assets			
Liabilities:			
Warrants outstanding	4		4
Accounts payable and other accrued liabilities	55	1,968	2,023
Obligations under securities lending	73,076	5,405	78,481
	73,134	7,373	80,508
Total liabilities			
Net Position Restricted for Pension Benefits and OPEB:	\$ 1,233,405	\$ 94,770	\$ 1,328,176

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

FINANCIAL SECTION

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

For Fiscal Year Ended September 30, 2015 (in thousands)

	Pension Plan	OPEB Plan	Total
Additions:			
Contributions:			
Member contributions	\$ 2,677	\$ 1,130	\$ 3,807
Employer contributions	70,351	45,848	116,199
Other governmental contributions		1,874	1,874
Total contributions	<u>73,028</u>	<u>48,851</u>	<u>121,880</u>
Investment income (loss):			
Net increase (decrease) in fair value of investments	1,615	(315)	1,301
Interest, dividends, and other	26,827	1,785	28,612
Investment expenses:			
Real estate operating expenses	(25)	(2)	(27)
Other investment expenses	(3,653)	(241)	(3,894)
Securities lending activities:			
Securities lending income	2,092	145	2,237
Securities lending expenses	(620)	(46)	(666)
Net investment income (loss)	<u>26,236</u>	<u>1,326</u>	<u>27,562</u>
Miscellaneous income	<u>3</u>	<u>9</u>	<u>12</u>
Total additions	<u>99,268</u>	<u>50,186</u>	<u>149,454</u>
Deductions:			
Benefits and refunds paid to plan members and beneficiaries:			
Retirement benefits	115,466		115,466
Health benefits		29,110	29,110
Dental/vision benefits		2,587	2,587
Refunds of contributions	3		3
Administrative and other expenses	561	1,384	1,945
Total deductions	<u>116,030</u>	<u>33,080</u>	<u>149,110</u>
Net Increase (Decrease) in net position	(16,762)	17,106	343
Net Position Restricted for Pension Benefits and OPEB			
Beginning of Year	<u>1,250,168</u>	<u>77,664</u>	<u>1,327,832</u>
End of Year	<u>\$ 1,233,405</u>	<u>\$ 94,770</u>	<u>\$ 1,328,176</u>

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

FINANCIAL SECTION

Notes to Basic Financial Statements September 30, 2015

NOTE 1 - PLAN DESCRIPTION

ORGANIZATION

The Michigan State Police Retirement System (System) is a single employer, state-wide, defined benefit public employee retirement plan governed by the State of Michigan (State), created under Public Act 251 of 1935, recodified and currently operating under Public Act 182 of 1986. Section 7 of this act establishes the board's authority to promulgate or amend the provisions of the System. The board consists of nine members. Four members are appointed by the governor and consist of one officer having rank of sergeant or below, one officer having rank of lieutenant or above, one retirant, and one member of the general public to meet requirements within the act. The System's pension plan was established by the State to provide retirement, survivor, and disability benefits to Michigan State Police. In addition, the System's OPEB plan provides retirees hired prior to June 10, 2012 with the option of receiving health, dental, and vision coverage under the State Police Retirement Act. The System is a qualified pension trust fund under section 401(a) of the Internal Revenue Code.

A hybrid defined benefit and defined contribution plan was introduced for troopers and sergeants who became a member of SPRS on or after June 10, 2012 - this plan is called the Pension Plus plan for Michigan State Police.

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.

MEMBERSHIP

At September 30, 2015 the System's membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefits:	
Regular benefits	2,303
Survivor benefits	489
Disability benefits	195
Total	<u>2,987</u>
Inactive plan members entitled to but not yet receiving benefits:	<u>42</u>
Active plan members:	
Vested	975
Non-vested	541
Total	<u>1,516</u>
DROP program participants	294
Total plan members	<u><u>4,839</u></u>

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

Health, Dental, and Vision Plans	
Eligible participants	2,786
Participants receiving benefits:	
Health	2,653
Dental	2,644
Vision	2,649

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

BENEFIT PROVISIONS -- PENSION

Introduction

Benefit provisions of the defined benefit plan are established by State statute, which may be amended. Public Act 182 of 1986, Michigan State Police Retirement Act, as amended, establishes eligibility and benefit provisions for the defined benefit pension plan and the Pension Plus plan. Retirement benefits for defined benefit plan members are determined by final average compensation and members are eligible to receive a monthly benefit when they meet certain age and service requirements. The pension benefit for Pension Plus plan members is determined by final average compensation and years of service and members are eligible to receive a monthly benefit when they meet certain age and service requirements. In addition, the Pension Plus members' savings component includes the employee contributions into any combination of a member's 401(k), 457, or Roth 401(k) accounts, and an employer match into their 401(k) account. The System also provides duty disability, non-duty disability, and survivor benefits.

A member who leaves Michigan State Police employment may request a refund of his or her member pension contribution account. Effective in 2012, the System is contributory except for command officers. A refund cancels a former member's rights to a future pension and there is no provision for repaying the refund of contributions to restore the service represented by the refund.

Pension Reform 2012

The State Troopers' union and the State of Michigan negotiated a new retirement plan for new State Troopers and Sergeants. As a result, a State Trooper who became a member of SPRS on or after June 10, 2012, is a Pension Plus member. The Pension Plus plan pairs a guaranteed retirement income (Defined Benefit pension) with a flexible and transferable retirement investment (Defined Contribution) account.

Regular Retirement

A pension is available to a defined benefit plan member after 25 years of credited service (employment). The pension equals 60% of a member's final average compensation and is payable monthly over the lifetime of a member. Final average compensation is the average annual salary for a member's last two years of service with the Department of State Police.

For a Pension Plus member, who became a member of SPRS on or after June 10, 2012, a pension is available at age 55 with 25 years of service or age 60 with 10 or more years of service. The pension equals 2% of a five-year final average compensation (excluding overtime) multiplied by the total number of years of credited service, not to exceed 25 years. After 25 years of credited service, the pension multiplier declines by 0.4% each year until reaching 0% at 30 years of service. The reduced pension multiplier applies only to years 26 through 30, not the first 25 years. This pension is paid monthly over the lifetime of a member. Pension benefits are paid over the lifetime of a member.

Deferred Retirement

A defined benefit plan member with 10 or more years of credited service who terminates employment but has not reached the age of 50 is a deferred member and is entitled to receive a monthly allowance upon reaching age 50, provided the member's accumulated contributions have not been refunded. The deferred pension is equal to two percent of the final average compensation times the years and partial years of service credit.

A Pension Plus plan member who became a member of SPRS on or after June 10, 2012, with 10 or more years of credited service who terminates employment but has not reached the age of 60 is a deferred member and is entitled to receive a monthly allowance upon reaching age 60, provided the member's accumulated contributions have not been refunded.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Non-Duty Disability Benefit

A member with 10 or more years of credited service who becomes totally and permanently disabled not due to performing duties as an employee of the Michigan State Police may be eligible for a non-duty disability pension. The non-duty disability pension for a defined benefit plan member is 2.4% of the final average compensation times years and partial years of credited service (but not more than 25 years).

Duty Disability Benefit

A member who becomes totally and permanently disabled from performing duties as a Michigan State Police Officer is eligible for a duty disability pension. The amount, for a defined benefit plan member, is equal to 60% of the final average compensation.

Survivor Benefit

Upon the nonduty death of a defined benefit plan member who completed at least 10 years of service, the surviving spouse receives a benefit based on 2.4% of the final average compensation for each year and partial year of credited service. If there is no spouse, surviving children are entitled to equally share the benefit until age 18. If death occurs in the line of duty (a duty death), the surviving spouse receives a benefit of 60% of the final average compensation. Children receive \$100 each month until age 18. A \$1,500 funeral expense is also authorized by State statute payable by the system.

Post Retirement Adjustments

Effective October 1, 1996, the monthly pension was increased 10% if certain requirements were met. This was a one-time increase.

Each October 1, the benefits of all pension recipients increase 2% (not to exceed \$500). This non-compounding increase is paid to persons who have been retired 12 months.

A Pension Plus member who became a member of SPRS on or after June 10, 2012, does not receive an annual post-retirement increase.

Contributions

Member Contributions - Command Officers currently participate on a noncontributory basis. Effective October 1, 2012, troopers and sergeants hired before June 10, 2012 began contributing 1% of their compensation. Effective October 1, 2013 troopers and sergeants hired before June 10, 2012 began contributing 2% of their compensation. Troopers hired on or after June 10, 2012 contribute 4% of their compensation as described below. Under certain circumstances, defined benefit plan, members may contribute to the System for the purchase of creditable service, such as military, maternity or paternity leave, Peace Corps or VISTA service. Pension Plus plan members are only eligible to receive active duty military service. If a member terminates employment before a retirement benefit is payable, the member's contribution and interest on deposit are available to be refunded. If the member dies before being vested, the member's contribution and interest are refunded to the designated beneficiaries.

Pension Plus members who became members of SPRS on or after June 10, 2012, contribute 4% of gross wages for the pension component of their plan. An additional, optional, 4% contribution of gross wages is withheld for the savings component of their plan. The first 2% of employee contributions are directed to the member's Personal Healthcare Fund and receive an employer match of 100% up to a maximum of 2%. The next 2% employee contributions are identified as retirement savings and receive an employer match of 50% up to a maximum of 1%. These members will also receive a credit into a health reimbursement account (HRA) at termination if they have at least 10 years of service at termination. The credit will be up to \$2,000 for participants.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Employer Contributions - The statute requires that the employer contribute to finance the benefits of plan members. These employer contributions are determined annually by the System's actuary and are based upon level-percent-of-payroll funding principles so that the contribution rates do not have to increase over time. A chart showing the employer contribution rates is included on the Schedule of Additions by Source in the Statistical Section.

For a Pension Plus member who became a member of SPRS on or after June 10, 2012, there is an employer match for retirement of 100% of the first 2% of employee deferrals for retiree healthcare up to a maximum employer contribution of 2%. In addition employers match 50% of the next 2% of employee deferrals, up to a maximum employer contribution of 1%.

Deferred Retirement Option Plan

Public Act 83 of 2004 amended the State Police Retirement Act to create a Deferred Retirement Option Plan (DROP) for members with 25 years of service. This benefit program allows state police who are eligible to retire to defer their retirement and keep working for up to six years. The participant's pension amount is calculated on the day before the DROP period starts, and a percentage of the equivalent monthly pension is credited to an interest-bearing account in the participant's name. The DROP balance will be available at the time their DROP participation ends. At this time, only Defined Benefit members are eligible for DROP. The balance at the end of the fiscal year for the DROP accounts was \$44.6 million.

Banked Leave Time

Public Act 50 of 2004 amended the State Police Retirement Act to include Banked Leave Time (BLT) for members. BLT is an extension of the State's current annual leave program, which banks a predetermined number of hours per pay period. However, the BLT program will not have an effect on a member's Final Average Compensation calculation.

BENEFIT PROVISIONS – OTHER POSTEMPLOYMENT

Introduction

Benefit provisions of the postemployment benefit plan are established by State statute, which may be amended. Public Act 182 of 1986, as amended, establishes eligibility and benefit provisions for the OPEB plan. Defined benefit plan members are eligible to receive health, prescription drug, dental, and vision coverage on the first day they start receiving pension benefits (this benefit does not apply to Pension Plus members). There are no ad hoc or automatic increases. The State Police Retirement Act requires joint authorization by DTMB and the Civil Service Commission to make changes to retiree medical benefit plans.

Under the Michigan State Police Retirement Act, all defined benefit retirees have the option of continuing health, dental, and vision coverage. Retirees with this coverage contribute 5%, 10%, and 10% of the monthly premium amount for the health, dental, and vision coverage, respectively. The State funds 95% of the health and 90% of the dental and vision insurance. The employer payroll contribution rate to provide these benefits was 40.16% for fiscal year 2015.

The State Health Plan PPO is by far the most often selected health care option. This plan includes comprehensive coverage traditionally referred to as basic and major medical, with full coverage for most services received in-network after an annual deductible is met. Preventive services are not subject to a deductible and are fully covered if received in-network subject to an annual maximum. Both retail and mail order prescription drug coverage is included. Retiree health, dental, and vision plan benefits have generally matched those in place for active employees.

Retirees are also provided with life insurance coverage equal to 25% of the active life insurance coverage, \$1,000 for spouse and \$1,000 for each dependent under the age of 23. Premiums are fully paid by the State.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Personal Healthcare Fund

A Pension Plus member who became a member of SPRS on or after June 10, 2012 will be enrolled into a Personal Healthcare Fund (PHF), which is a separate account within the State of Michigan 401(k) and 457 Plan. The first optional 2% of their contributions plus their employer match are directed into the PHF. These members will also receive a credit into a health reimbursement account (HRA) at termination if they have at least 10 years of service at termination. The credit will be up to \$2,000 for participants.

The number of participants and other relevant financial information are as follows:

Health, Dental, and Vision Plans	2015
Eligible participants	2,786
Participants receiving benefits:	
Health	2,653
Dental	2,644
Vision	2,649
Expenses for the year (in thousands)	\$ 33,080
Employer payroll contribution rate	40.16%

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. 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.

GASB Statement No. 67 which was adopted during the year ended September 30, 2014, addresses accounting and financial reporting requirements for pension plans. The requirements for GASB Statement No. 67 require changes in presentation of the financial statements, notes to the financial statements, and required supplementary information. Significant changes include an actuarial calculation of total and net pension liability. It also includes comprehensive footnote disclosure regarding the pension liability, the sensitivity of the net pension liability to the discount rate, and increased investment activity disclosures. The implementation of GASB Statement No. 67 did not significantly impact the accounting for accounts receivable and investment balances. The total pension liability, determined in accordance with GASB Statement No. 67, is presented in Note 4 on page 31 and in the Required Supplementary Information on page 43.

Reserves

Public Act 182 of 1986, as amended, created the Reserve for Employee Contributions, Reserve for Employer Contributions, Reserve for Retired Benefit Payments, Reserve for Undistributed Investment Income, and Reserve for Health (OPEB) Related Benefits. The financial transactions of the System are recorded in these reserves as required by Public Act 182 of 1986, as amended. The reserves are described below and details are provided in the supporting schedules.

Reserve for Employee Contributions - Command Officers currently participate on a noncontributory basis. Effective October 1, 2012, troopers and sergeants hired before June 10, 2012 began contributing 1% of their compensation. Effective October 1, 2013 troopers and sergeants hired before June 10, 2012 began contributing 2% of their compensation. Troopers hired on or after June 10, 2012 contribute 4% of their compensation. This reserve represents active member contributions and interest less amounts transferred to the Reserve for Retired Benefit Payments for regular and disability retirement, amounts refunded to terminated members, and unclaimed amounts transferred to the income reserve. At September 30, 2015, the balance in this reserve was \$6.9 million.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Reserve for Employer Contributions - All employer contributions are credited to this reserve. Interest from the Reserve for Undistributed Investment Income is credited annually. Amounts are transferred annually from this reserve to the Reserve for Retired Benefit Payments to fund that reserve. At September 30, 2015, the balance in this reserve was \$118.5 million.

Reserve for Retired Benefit Payments - This represents the reserve 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 Employer Contributions. Monthly benefits, which are paid to the retirees, reduce this 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. Also included are reserves for casualty experience (injury or death of a member, or vested former member). The initial actuarial casualty valuation determined the full funding reserve requirements to be allocated from assets of the reserve. All retiree casualty payments are made from this reserve. At September 30, 2015, the balance in this reserve was \$1,296.3 million.

Reserve for Undistributed Investment Income - The net investment earnings (losses) are recorded in this reserve. Interest as authorized by the board is transferred annually to the other reserves. Administrative expenses are paid from this reserve. At September 30, 2015, the balance of this reserve was (\$188.3) million.

Reserve for Health (OPEB) Related Benefits - This reserve is credited with member and employer contributions for retirees' health (including prescription coverage), dental, and vision benefits. Starting in fiscal year 2012, the employer contribution is based on a prefunded basis and represents a level of funding that, if paid on an ongoing basis, 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. In addition, in fiscal year 2015, this reserve includes revenue from the federal government for retiree drug subsidy payment (RDS) pursuant to the provisions of Medicare Part D and for the Employee Group Waiver Plan (EGWP). Premiums for health, dental and vision benefits are paid from this reserve. At September 30, 2015, the balance in this reserve was \$94.8 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.

Fair Value of Investments

Plan investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Corporate bonds not traded on a national or international exchange are based on equivalent values of comparable securities with similar yield and risk. The fair value of private investments is based on the net assets value reported in the financial statements of the respective investment entity. The net asset value is determined in accordance with governing documents of the investment entity, and is subject to an independent annual audit. Securities purchased with cash collateral under securities lending activities are recorded at estimated fair value. Other investments not having an established market are recorded at estimated fair value.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Investment Income

Dividend and interest income are recognized on the accrual basis. Fair value changes are recorded as investment income or loss. Purchases and sales of investments are recorded as of the trade date (the date upon which the transaction is initiated), except for purchase and sale of mortgages, real estate, and alternative 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 on-going 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 following summarizes costs incurred by the System for such services.

	<u>2015</u>
Building Rentals	\$ 9,703
Technological Support	111,278
Attorney General	20,449
Investment Services	385,054
Personnel Services	314,918

Cash - At September 30, 2015, the System had \$4.7 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. Losses from these activities amounted to \$452 for the year ended September 30, 2015.

NOTE 3 – CONTRIBUTIONS AND FUNDED STATUS

Contributions

Command officers currently participate in the System on a noncontributory basis. Effective October 1, 2012, troopers and sergeants hired before June 10, 2012, began contributing 1% of their compensation. Effective October 1, 2013, they began contributing 2% of their compensation. Troopers hired on or after June 10, 2012 contribute 4% of their compensation. Under certain circumstances, members may contribute to the System for the purchase of creditable service, such as military service or maternity leave. The State is required by Public Act 182 of 1986, as amended, to contribute amounts necessary to finance the benefits of its employee and retiree OPEB. Contribution provisions are specified by State statute and may be amended only by action of the State Legislature.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

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, 2015 valuation. The following schedule summarizes pension contribution rates in effect for fiscal year 2015.

Pension Contribution Rates

<u>Benefit Structure</u>	<u>Member</u>	<u>Employer</u>
Non Command Officers	2.00 %	62.84 %
Command Officers	0.00	64.29
Pension Plus	4.00	56.67

Actual employer contributions for OPEB were \$45.8 million for fiscal year 2015. The fiscal year 2015 annual covered payroll is not yet available. Required employer contributions, based on previous year actuarial valuations, for OPEB included:

1. \$7.8 million for fiscal year 2015, for the normal cost of OPEB representing 7.0% (before reconciliation) of annual covered payroll for fiscal year 2014.
2. \$39.8 million for fiscal year 2015, for amortization of unfunded actuarial accrued liability representing 35.4% (before reconciliation) of annual covered payroll for fiscal year 2014.

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

Funded Status – Other Postemployment Benefits

For fiscal year 2014, the actuarial accrued liability (AAL) for OPEB was \$637.4 million, and the actuarial value of assets was \$77.7 million resulting in an unfunded actuarial accrued liability (UAAL) of \$559.7 million and a funded ratio of 12.2%. The covered payroll (annual payroll of active employees covered by the plan) was \$112.5 million, and the ratio of the UAAL to the covered payroll was 497.7%.

NOTE 4 – NET PENSION LIABILITY

Measurement of the Net Pension Liability

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

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Net Pension Liability (In Thousands)

Total Pension Liability	\$ 1,843,611
Plan Fiduciary Net Position	<u>1,233,405</u>
Net Pension Liability	<u>\$ 610,206</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	66.90%
Net Pension Liability as a Percentage of Covered Payroll	533.97%
Total Covered Payroll	\$ 114,278

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, 2015, are summarized in the following table:

Asset Allocation

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long Term Expected Real Rate of Return*</u>
Domestic Equity Pools	28.0 %	5.9 %
Private Equity Pools	18.0	9.2
International Equity Pools	16.0	7.2
Fixed Income Pools	10.5	0.9
Real Estate and Infrastructure Pools	10.0	4.3
Absolute Return Pools	15.5	6.0
Short Term Investment Pools	<u>2.0</u>	0.0
Total	<u><u>100.0 %</u></u>	

* Long-term Rate of Returns are net of administrative expenses and 2.1% inflation.

Rate of Return

For the fiscal year ended September 30, 2015, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was 1.92%. 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 (7.0% for the Pension Plus Plan). This discount rate was based on the long term expected rate of return on pension plan investments of 8.0% (7.0% for the Pension Plus Plan). 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.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Sensitivity of the Net Pension Liability to the Discount Rate Assumption

As required by GASB Statement No. 67, the following presents the plan's net pension liability, in thousands, calculated using a discount rate of 8.0% (7.0% for Pension Plus Plan), as well as what the plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher:

	1% Decrease 7.0% / 6.0%	Current Discount Rate Assumption 8.0% / 7.0%	1% Increase 9.0% / 8.0%
Net Pension Liability/(Asset)	\$ 807,835	\$ 610,206	\$ 443,990

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, 2015, is based on the results of an actuarial valuation performed as of September 30, 2014, and rolled-forward using generally accepted actuarial procedures.

Actuarial Valuations and Assumptions

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

The schedule of funding progress, presented as Required Supplementary Information (RSI) following the notes to the financial statements, present multi-year trend information about whether the actuarial value of plan net position for the OPEB plan is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The schedules of contributions in RSI present trend information about the amounts contributed to the plans by the employer in comparison to the ARC, an amount that is actuarially determined.

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

FINANCIAL SECTION

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	9/30/2014
Actuarial Cost Method	Entry Age, Normal
Amortization Method - OPEB	Level Percent of Payroll, Closed
Remaining Amortization Period - OPEB	22 years ⁽¹⁾
Asset Valuation Method - OPEB	Market
Actuarial Assumptions:	
Wage Inflation Rate	3.5%
Investment Rate of Return - Pension	
- Non Pension Plus Plan	8.0%
- Pension Plus Plan	7.0%
Investment Rate of Return - OPEB	8.0%
Projected Salary Increases	3.5% - 93.50%, including wage inflation at 3.5%
Cost-of-Living Pension Adjustments	2% Annual Non-Compounded with Maximum Annual Increase of \$500 for those eligible ⁽²⁾
Healthcare Cost Trend Rate	9.0% Year 1 graded to 3.5% Year 10
Mortality Pension and OPEB	RP-2000 Male and Female Combined Healthy Life Mortality Table, adjusted for mortality improvements to 2030 for males and to 2015 for females, using projection scale BB. For retirees, 100% of the table rates were used. For active members, the table is adjusted for mortality improvements to 2030 for males and to 2020 for females, 50% of the table rates were used.
Other Assumptions OPEB only ⁽²⁾ :	
Opt Out Assumption	6% 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	85% of male and 70% of female future retirees are assumed to elect coverage for 1 or more dependents
Notes:	Assumption changes as a result of an experience study for the period 2007 through 2012 have been adopted by the Retirement System for use in the pension annual valuations beginning with the September 30, 2014 valuation.

⁽¹⁾ Based on the provisions of GASB Statement Nos. 43 and 45 when the actuarial accrued liability for an OPEB Plan is underfunded or overfunded, the difference should be amortized over a period not to exceed thirty years for the fiscal periods beginning on or after June 15, 2006.

⁽²⁾ Applies to individuals hired before June 10, 2012.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

NOTE 5 - 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 derivatives 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, 2015, in their respective investment pool's fair value. Derivative net increases and decreases are reported on the Statement of Changes in Pension Plan and Other Postemployment Benefit Plan Fiduciary Net Position for fiscal year ended September 30, 2015, under "Investment income(loss)", in "Net increase (decrease) in fair value of investments". Bond interest, swap payments, and dividends are reported under "Investment income (loss)", in "Interest, dividends, and other".

Derivative Investment Table as of September 30, 2015 (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 %	\$ 278.5	\$ (2.0)	\$ (12.7)		
Option Contracts						
Equity Investments	0.0	4,706.8	13.0	(103.4)		
Swap Agreements						
International Equity Investments	1.9	29,893.4	24,660.1	(1,324.9)	\$ (72.9)	\$ 790.4
Swap Agreements						
Equity Investments	0.0	31,048.4	(623.0)	(1,326.8)	434.9	

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

To diversify the trust funds' portfolio, the State Treasurer has entered into international swap agreements with investment grade counterparties, which are tied to stock market indices in forty-two 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 2015 to September 2016. 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 Pool swap agreements provide that the System will pay interest 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 2015 to July 2016. 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 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 provide downside protection and enhance current income, the State Treasurer traded covered equity options on single securities for the Equity Investment pools. Put options are used to protect against large negative moves in single stocks, as well as, to express interest in a security that is trading well below its intrinsic value. Call options have been used to achieve current income on single equity securities that are trading near their intrinsic value.

Securities Lending

State statutes allow the System to participate in securities lending transactions, and the System has, by way of an Agreement, authorized Credit Suisse, the agent bank, to lend the System's securities to broker-dealers and banks pursuant to a form of loan agreement.

During the fiscal years, the agent bank lent, at the direction of the State Treasurer, the System's securities and received cash (United States) as collateral. The types of securities lent were equity, and fixed income, which includes government and corporate bonds and notes. Borrowers were required to deliver collateral for each loan equal to (i) in case of loaned securities denominated in United States dollars or whose primary trading market was located in the United States or sovereign debt issued by foreign governments, 102% of the fair value of the loaned securities; and (ii) in the case of loaned securities not denominated in United States dollars or whose primary trading market was not located in the United States, 105% of the fair value of the loaned securities.

The agent bank agreed to indemnify the System by purchasing replacement securities, or returning cash collateral in the event borrower failed to return the loaned security or pay distributions thereon, due to the borrower's insolvency.

Under Master Securities Lending Agreements between the System and each borrower, the System and the borrowers have the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested in assets held in a collateral account dedicated to the System. As of September 30, 2015, such assets had an

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

average weighted maturity to next reset of 2.8 years and an average weighted maturity of 12.0 years. Because the loans are terminable at will, their duration did not generally match the duration of the investments made with cash collateral. On September 30, 2015, the System had no credit risk exposure to borrowers. The cash received for securities on loan for the System as of September 30, 2015, was \$78,481,067. The fair value of assets held in the dedicated collateral account at the custodian for the System as of September 30, 2015 was \$78,492,737. The carrying amount, which is the fair value, of securities on loan for the System as of September 30, 2015 was \$77,191,039.

Risk

In accordance with GASB Statement No. 40, investments require certain disclosures regarding policies and practices, and the risks associated with them. Credit risk (including custodial credit risk and concentration of credit risk), interest rate risk, and 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 the two national rating services as specified in Public Act 314. 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 borrowers' 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 non-investment grade securities may be acquired in compliance with parameters set for 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, 2015, the System was in compliance with the Public Act 314 and the Investment Policy Statement in all material aspects.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Rated Debt Investments (in thousands) As of September 30, 2015

Investment Type	Fair Value	S&P	Fair Value	Moody's
Short Term	\$ 58,540	A-1	\$ 58,540	P-1
Government Securities				
U.S. Agencies - Sponsored	-	AAA	3,818	Aaa
	3,818	AA	-	Aa
Corporate Bonds & Notes				
	3,007	AAA	4,875	Aaa
	8,895	AA	5,369	Aa
	35,612	A	30,195	A
	33,163	BBB	41,095	Baa
	8,745	BB	9,477	Ba
	10,341	B	11,812	B
	2,880	CCC	3,434	Caa
	311	CC	1,564	Ca
	2	C	67	C
	1,191	D	-	D
	13,150	NR	9,410	NR
International *				
	3,909	AA	4,580	Aa
	9,017	A	8,122	A
	5,699	BBB	7,155	Baa
	2,327	NR	1,096	NR
Securities Lending Collateral				
Short Term				
	2,144	AAA	6,596	Aaa
	6,677	AA	2,226	Aa
	-	BB	67,363	Ba
	2,309	CCC	2,309	Caa
	67,363	NR	-	NR
Total	<u>\$ 279,100</u>		<u>\$ 279,100</u>	

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's 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, 2015. As of September 30, 2015, 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.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

At September 30, 2015, there were no investments in any single issuer that accounted for more than 5% of the System's assets. The System held one investment that exceeded the 5% cap in obligations of any one issuer. The System is aware of the breach and, in accordance with MCL 38.1133(3)(g), is developing a prudent plan for reallocating assets to comply with the prescribed limitation.

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, 2015, the fair value of the System's prime commercial paper was \$58.5 million with the weighted average maturity of 12 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.

	Debt Securities (in thousands)	
	As of September 30, 2015	
	Fair Value	Effective Duration in Years
Government		
U. S. Treasury	\$ 40,412	3.9
U. S. Agencies - Backed	10,707	5.1
U. S. Agencies - Sponsored	3,818	2.1
Corporate	117,296	4.6
International*		
Corporate	20,953	0.2
Total	<u>\$ 193,185</u>	

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 in companies that have active business operations in state sponsors of terror as identified by the United States Secretary of State. At September 30, 2015, the total amount of foreign investment subject to foreign currency risk was \$212.7 million, which amounted to 16.1% of total investments (exclusive of securities lending collateral) of the System.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

Foreign Currency Risk
(in thousands)
As of September 30, 2015

Region	Country	Currency	Private Equity, Real Estate, & Infrastructure			International & Absolute Return	
			Fair Value in U.S. \$	Equity Fair Value in U.S. \$	Fixed Income Fair Value in U.S. \$	Fair Value in U.S. \$ *	
<u>AMERICA</u>							
	Canada	Dollar		\$ 81		\$ (55)	
	Mexico	Peso			\$ 3,165	122	
<u>CARIBBEAN</u>							
	Cayman Islands	Dollar		509		982	
<u>EUROPE</u>							
	European Union	Euro	\$ 15,718	390		1,040	
	Switzerland	Franc		63		303	
	Sweden	Krona		11		234	
	Denmark	Krone		-		93	
	Norway	Krone		9		-	
	U.K.	Sterling	303	1,733		508	
<u>PACIFIC</u>							
	Australia	Dollar				(58)	
	China	Renminbi	1,255			-	
	Hong Kong	Dollar	1,358			(236)	
	Japan	Yen				(250)	
	New Zealand	Dollar				(23)	
	Philippines	Peso			1,482	-	
	Singapore	Dollar				185	
	South Korea	Won				99	
<u>AFRICA</u>							
	South Africa	Rand		14			
	Liberia	Dollar		28			
<u>OTHER</u>							
	Various		28,571	2,783	4,704	147,536	
	Total		<u>\$ 47,205</u>	<u>\$ 5,621</u>	<u>\$ 9,351</u>	<u>\$ 150,480</u>	

* International includes derivatives whose market value exposure to foreign currency risk is the net amount of unrealized gains and unrealized losses. Maturity dates on these investments range from October 2015 through September 2016, with an average maturity of 0.6 years.

FINANCIAL SECTION

Notes to Basic Financial Statements (continued)

NOTE 6 – COMMITMENTS AND CONTINGENCIES

Under the Administrative Procedures Act, members may appeal a decision 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.

Required Supplementary Information

Schedule of Funding Progress – Other Postemployment Benefit Plan

Expressing the actuarial value of assets as a percentage of the actuarial accrued liability provides one indication of the OPEB Plan's funding status. Analysis of this percentage over time indicates whether the Plan is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the Plan. Trends in unfunded actuarial accrued liability and annual covered payroll are both affected by inflation. Expressing the unfunded or overfunded actuarial accrued liability as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the Plan.

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)
2006		\$ 944.4	\$ 944.4	0.0 %	\$ 115.9	814.9 %
2007		918.1	918.1	0.0	118.2	776.7
2008		963.0	963.0	0.0	120.7	797.7
2009		882.3	882.3	0.0	123.2	715.9
2010		1,055.9	1,055.9	0.0	118.6	890.5
2011		994.7	994.7	0.0	110.3	902.0
2012 ¹	\$ 33.0	599.1	566.1	5.5	104.9	539.8
2013	52.2	603.0	550.8	8.7	110.2	499.6
2014	77.7	637.4	559.7	12.2	112.5	497.7

¹ Revised investment rate of return from 4% to 8% due to prefunding

FINANCIAL SECTION

Required Supplementary Information (continued)

Schedule of Changes in Net Pension Liability (in thousands)

	Fiscal Year	
	2014	2015
Total Pension Liability		
Service cost	\$ 21,142	\$ 19,952
Interest	134,317	140,575
Changes of benefit terms		
Differences between expected and actual experience		(6,998)
Changes of assumptions	36,683	
Benefit payments, including refunds of member contributions	(110,551)	(115,469)
Net Change in Total Pension Liability	81,591	38,060
Total Pension Liability - Beginning	1,723,960	1,805,551
Total Pension Liability - Ending (a)	\$ 1,805,551	\$ 1,843,611
Plan Fiduciary Net Position		
Contributions - Employer	\$ 58,391	\$ 70,351
Contributions - Member	2,174	2,677
Net Investment Income	174,085	26,236
Miscellaneous Income		3
Benefit payments, including refunds of member contributions	(110,551)	(115,469)
Pension Plan Administrative Expense	(575)	(561)
Net Change in Plan Fiduciary Net Position	\$ 123,524	\$ (16,762)
Plan Fiduciary Net Position - Beginning	\$ 1,126,643	\$ 1,250,168
Plan Fiduciary Net Position - Ending (b)	\$ 1,250,168	\$ 1,233,405
Net Pension Liability (Assets) - Ending (a) - (b)	\$ 555,384	\$ 610,206
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	69.24%	66.90%
Covered Employee Payroll	\$ 114,480	\$ 114,278
Net Pension Liability as a Percentage of Covered Employee Payroll	485.14%	533.97%

FINANCIAL SECTION

Required Supplementary Information (continued)

Schedule of Net Pension Liability

Year Ended Sept. 30	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as % of Total Pension Liability	Covered Payroll	Net Pension Liability as % of Covered Payroll
2014	\$ 1,805,551,309	\$ 1,250,167,799	\$ 555,383,510	69.24%	\$ 114,479,912	485.14%
2015	1,843,610,986	1,233,405,304	610,205,682	66.90	114,277,701	533.97

Schedules of Contributions

Pension Benefits

Fiscal Year Ended Sept. 30	Annual Required Contribution (ARC) ¹	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2006	\$ 36,063,260	\$ 26,103,923	\$ 9,959,337	\$ 115,894,652	22.52 %
2007	32,386,761	24,323,324	8,063,437	118,209,401	20.58
2008	33,669,820	34,364,943	(695,123)	120,723,943	28.47
2009	36,697,604	35,434,912	1,262,692	123,237,957	28.75
2010	41,607,229	37,897,934	3,709,295	118,570,985	31.96
2011	47,247,573	38,573,946	8,673,627	110,279,709	34.98
2012	52,275,891	40,686,857	11,589,034	104,875,847	38.80
2013	57,667,657	49,004,314	8,663,343	110,244,195	44.45
2014	61,400,958	58,391,310	3,009,648	114,479,912	51.01
2015	63,271,128	70,351,036	(7,079,908)	114,277,701	61.56

¹ Pursuant to Public Act 22 of 2007, the System's assets were revalued to their actual market value as of September 30, 2006. The five-year smoothing began again in fiscal year 2008.

Other Postemployment Benefits

Fiscal Year Ended Sept. 30	Annual Required Contribution (ARC)	Actual Employer Contribution	Other Governmental Contribution	Percentage Contributed
2007	\$ 59,691,819	\$ 27,840,439		46.6 %
2008	59,027,965	29,131,474	\$ 277,601	49.8
2009	63,928,600	29,841,208	371,752	47.3
2010	60,004,401	32,890,501	321,844	55.3
2011	73,690,143	31,627,140	3,643,725	47.9
2012	68,335,401	46,190,655	1,061,040	69.1
2013 ¹	46,803,163	42,858,381	2,800,949	97.6
2014	46,382,746	46,614,502	1,757,525	104.3
2015	47,673,754	45,848,019	1,873,602	100.1

¹ Revised actuarial assumptions.

FINANCIAL SECTION

Required Supplementary Information (continued)

Schedule of Investment Returns

<u>Fiscal Year</u>	<u>Annual Return¹</u>
2014	13.97%
2015	1.92%

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. Because this is the ninth year the system is reporting other postemployment benefits in accordance with GASB Statement No. 43, only nine years of historical trend information is provided.

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

The Schedule of Funding Progress and Schedules of Contributions are reported as historical trend information. The Schedule of Funding Progress is presented to measure the progress being made to accumulate sufficient assets to pay benefits when due. The Schedules of Contributions are presented 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 Liability, Schedule of Net Pension Liability, Schedule of Contributions, and Schedule of Investment returns are schedules that are required in implementing GASB Statement No. 67. These schedules are required to show information for ten years, additional years will be displayed as it becomes available. The two schedules of the Net Pension Liability represents in actuarial terms, the accrued liability less the market value of assets. The Schedule of Contributions is a comparison of the employer's contributions to the actuarially determined contributions. The Schedule of Investment Returns represents a money-weighted rate of return that expresses investment performance, net of pension 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 for the Pension Plan follows.

FINANCIAL SECTION

Note to Required Supplementary Information (continued)

Valuation:

Actuarially determined contribution amounts are calculated as of September 30 each year, which is one day prior to the beginning of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contributions for Fiscal Year 2015:

Actuarial Cost Method	Entry Age, Normal
Amortization Method	Level Percent of Payroll, Closed
Remaining Amortization Period	22 Years
Asset Valuation Method	5-Year Smoothed Market
Inflation	2.5%
Salary Increases	3.5% Wage Inflation
Investment Rate of Return	
(net of investment and administrative expenses)	
- Non Pension Plus Plan	8.0%
- Pension Plus Plan	7.0%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility conditions.
Mortality	Post Retirement Mortality: RP-2000 Combined Healthy Life Mortality Table, adjusted for mortality improvements to 2030 using projection scale BB for males and adjusted for mortality improvements to 2015 using projection scale BB for females. Pre-Retirement for Mortality: 50% of the post retirement mortality table rates.

FINANCIAL SECTION

Supporting Schedules

**Summary Schedule of
Pension Plan Administrative and Other Expenses
For Fiscal Year Ended September 30, 2015
(in thousands)**

Personnel Services:	
Staff Salaries	\$ 150
Retirement and Social Security	46
Other Fringe Benefits	15
Total	<u>212</u>
Professional Services:	
Accounting	16
Actuarial	98
Attorney General	20
Audit	51
Consulting	5
Medical	5
Total	<u>196</u>
Building Equipment:	
Building Rentals	10
Equipment Purchase, Maintenance, and Rentals	4
Total	<u>14</u>
Miscellaneous:	
Travel and Board Meetings	1
Office Supplies	1
Postage, Telephone, and Other	23
Printing	4
Technological Support	111
Total	<u>140</u>
Total Administrative and Other Expenses	<u>\$ 561</u>

**Summary Schedule of
OPEB Plan Administrative and Other Expenses
For Fiscal Year Ended September 30, 2015
(in thousands)**

Staff Salaries	\$ 103
Health Fees	1,173
Dental Fees	95
Vision Fees	12
Total Administrative and Other Expenses	<u>\$ 1,384</u>

FINANCIAL SECTION

Supporting Schedules (continued)

Schedule of Investment Expenses For Fiscal Year Ended September 30, 2015 (in thousands)

Real Estate Operating Expenses	\$	27
Securities Lending Expenses		666
Other Investment Expenses ¹		
ORS-Investment Expenses ²		385
Custody Fees		28
Management Fees		3,397
Research Fees		83
		<hr/>
Total Investment Expenses	\$	4,587
		<hr/> <hr/>

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

²Does not exclude Treasurer Civil Service fees recorded as a pass through in the Schedule of Investment Fees - State Treasury. As of September 30, 2015 fees totaled \$5,129.

Schedule of Payments for Professional Services For Fiscal Years Ended September 30, 2015 (in thousands)

Accounting	\$	16
Actuary		98
Attorney General		20
Independent Auditors		51
Consulting		5
Medical		5
		<hr/>
Total Payments	\$	196
		<hr/> <hr/>

FINANCIAL SECTION

Supporting Schedules (continued)

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

For the Fiscal Year Ended September 30, 2015 (in thousands)

	<u>Employee Contributions</u>	<u>Employee Contributions Pension Plus</u>	<u>Employer Contributions</u>	<u>Employer Contributions Pension Plus</u>
Additions:				
Contributions:				
Member contributions	\$ 1,789	\$ 889		
Employer contributions			\$ 67,856	\$ 2,495
Other governmental contributions				
Total contributions	<u>1,789</u>	<u>889</u>	<u>67,856</u>	<u>2,495</u>
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)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Miscellaneous income				
Total additions	<u>1,789</u>	<u>889</u>	<u>67,856</u>	<u>2,495</u>
Deductions:				
Benefits paid to plan members and beneficiaries:				
Retirement benefits				
Health benefits				
Dental/vision benefits				
Refunds of contributions		3		
Administrative and other expenses				
Total deductions	<u>-</u>	<u>3</u>	<u>-</u>	<u>-</u>
Net Increase (Decrease) Before Other Changes	<u>1,789</u>	<u>886</u>	<u>67,856</u>	<u>2,495</u>
Other Changes in Net Position:				
Interest allocation	101		3,741	197
Transfers upon retirement	(221)			
Transfers of employer shares			(5,372)	
Total other changes in net position	<u>(120)</u>	<u>-</u>	<u>(1,631)</u>	<u>197</u>
Net Increase (Decrease) in net position	1,668	886	66,225	2,692
Net Position Restricted for Pension Benefits and OPEB:				
Beginning of Year	<u>3,528</u>	<u>855</u>	<u>46,766</u>	<u>2,811</u>
End of Year	<u>\$ 5,196</u>	<u>\$ 1,741</u>	<u>\$ 112,991</u>	<u>\$ 5,503</u>

FINANCIAL SECTION

Supporting Schedules (continued)

Retired Benefit Payments	Retired Benefit Payments Pension Plus	Undistributed Investment Income	OPEB	Total
			\$ 1,130	\$ 3,807
			45,848	116,199
			1,874	1,874
-	-	-	48,851	121,880
		\$ 1,615	(315)	1,301
		26,827	1,785	28,612
		(25)	(2)	(27)
		(3,653)	(241)	(3,894)
		2,092	145	2,237
		(620)	(46)	(666)
-	-	26,236	1,326	27,562
\$ 3			9	12
3	-	26,236	50,186	149,454
115,466				115,466
			29,110	29,110
			2,587	2,587
				3
		561	1,384	1,945
115,466	-	561	33,080	149,110
(115,463)	-	25,675	17,106	343
188,709		(192,748)		
221				
5,372				
194,302	-	(192,748)	-	-
78,840	-	(167,073)	17,106	343
1,217,478	-	(21,271)	77,664	1,327,832
\$ 1,296,318	\$ -	\$ (188,344)	\$ 94,770	\$ 1,328,176

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INVESTMENT SECTION

Prepared by Michigan Department of Treasury, Bureau of Investments

Jon M. Braeutigam, Chief Investment Officer

Report on Investment Activity
Asset Allocation
Investment Results
List of Largest Stock Holdings
List of Largest Bond Holdings
Schedule of Investment Fees
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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 & Budget are ex-officio members. As of September 30, 2015, 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), Mike Zimmer (ex-officio member), and David Behen (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:

1. Maintain sufficient liquidity to pay benefits.
2. Meet or exceed the actuarial assumption over the long term.
3. Perform in the top half of the public plan universe over the long term.
4. Diversify assets to preserve capital and avoid large losses.
5. 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.

INVESTMENT SECTION

Report on Investment Activity (continued)

Asset Allocation (Excludes Collateral on Loaned Securities)

<u>Investment Category</u>	<u>As of 9/30/15 Actual %</u>	<u>Five-Year Target %</u>
Domestic Equity Pools	27.9 %	28.0 %
International Equity Pools	13.8	16.0
Private Equity Pools	16.9	18.0
Real Estate and Infrastructure Pools	10.1	10.0
Fixed Income Pools	12.2	10.5
Absolute Return Pools	14.7	15.5
Short Term Investment Pools	4.4	2.0
TOTAL	<u>100.0 %</u>	<u>100.0 %</u>

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, 2015, the total System's rate of return was 2.5% for the Pension Plan and 2.5% 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, 2015 were: 10.0%, 10.0%, and 6.6% respectively.

In the five years leading up to September 2014, the U.S. stock market had more than doubled in value. However, for fiscal year 2015, the market paused. The U.S. stock market returns were slightly negative, returning -0.3% including dividends. Returns in foreign stocks were worse, losing 11.7% in value. However, as interest rates fell, the price of bonds rose. The U.S. 10-year Treasury rate dropped to 2.0%, down from 2.5% the year before. Due to Federal Reserve policies, short-term investment returns continued to yield negligible returns.

The value of the U.S. dollar rose significantly over fiscal year 2015. On a trade-weighted basis, the dollar increased in value by more than 14%. Related to the dollar's strength, commodity prices across the board fell as well. The price of a barrel of crude oil, for example, fell by 50% to end September 2015 at around \$45 per barrel.

Despite the cool returns in the capital markets, the U.S. economy is doing fairly well. By the end of the fiscal year, real GDP was growing at a 2.7% year-over-year rate, and while partially due to the fall in commodity prices, headline inflation is virtually non-existent. The national unemployment rate is at 5.1%, its lowest level in over seven years.

The Federal Reserve Board has held down short-term interest rate to near zero for over six and a half years. At its September 2015 meeting, the Fed again voted to keep rates at these levels. However, it appears that the aggressive Fed policies that have been put in place may be slowly coming to an end. Barring a significant economic set-back, most Fed

INVESTMENT SECTION

Report on Investment Activity (continued)

prognosticators expect the Fed to begin gradually increasing short-term rates to a more normal policy in the coming twelve months. 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 these pools may be invested in exchange traded funds (ETFs) and fixed-income short-term securities with maturities of less than one year.

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

The following summarizes the weightings of the pools as of September 30, 2015:

Active	57.3 %
Passive	42.7
Total	<u>100.0</u> %
Large Cap	65.3 %
Multi Cap	25.0
Mid Cap	7.2
Small Cap	2.5
Total	<u>100.0</u> %

The System's Domestic Equity pools total rate of return was -0.8% for the Pension Plan and OPEB for fiscal year 2015. This compared with -0.3% for the S&P 1500 Index.

At the close of fiscal year 2015, the Domestic Equity pools represented 27.9% of total investments. The following summarizes the System's 2.3% ownership share of the Domestic Equity pools at September 30, 2015.

INVESTMENT SECTION

Report on Investment Activity (continued)

Domestic Equity Pools (in thousands)

Short Term Pooled Investments	\$	1,532
Equities		368,261
Market Value of Equity Contracts		(1,034)
Settlement Principal Payable		(503)
Settlement Proceeds Receivable		495
Accrued Dividends		523
Total	\$	<u>369,274</u>

International Equity Pools

The objective for investments made in International Equity pools is to meet or exceed the total return of the MSCI ACWI Ex-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.

INVESTMENT SECTION

Report on Investment Activity (continued)

The following summarizes the weightings of the pools as of September 30, 2015:

Active	47.2 %
Passive	52.8
Total	<u>100.0 %</u>

Developed	82.0 %
Emerging	18.0
Total	<u>100.0 %</u>

The System's International Equity pools total rate of return was -8.8% for fiscal year 2015. This compared with -12.2% for the MSCI ACWI Ex US Net.

At the close of fiscal year 2015, the International Equity pools represented 13.8% of total investments. The following summarizes the System's 2.2% ownership share of the International Equity Pools at September 30, 2015:

International Equity Pools (in thousands)

Short Term Pooled Investments	\$ 5,659
Equities	157,466
Fixed Income Securities	20,953
Market Value of Equity Contracts	(1,400)
Settlement Principal Payable	(79)
Accrued Dividends and Interest	51
Total	<u>\$ 182,650</u>

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, 2015:

Buyout Funds	55.5 %
Special Situation Funds	19.2
Venture Capital Funds	15.7
Fund of Funds	5.3
Liquidation Portfolio	2.7
Mezzanine Funds	1.6
Total	<u>100.0 %</u>

INVESTMENT SECTION

Report on Investment Activity (continued)

The Private Equity pools had a return of 11.7% for the Pension Plan and OPEB for the fiscal year ended September 30, 2015, versus the benchmark of 10.6%.

At the close of fiscal year 2015, the Private Equity pools represented 16.9% of total investments. The following summarizes the System's 2.6% ownership share of the Private Equity pools at September 30, 2015:

Private Equity Pools (in thousands)

Short Term Pooled Investments	\$	3,272
Equities		219,447
Long Term Obligations		144
Settlement Proceeds Receivable		131
Accrued Interest		10
Total	\$	<u>223,004</u>

Real Estate and Infrastructure Pools

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

The Real Estate and Infrastructure pools diversify its holdings by:

- Geography - The pools are invested globally and are diversified geographically so that it is not concentrated in a limited number of cities 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	30.9 %
Hotel	15.2
Commercial office buildings	15.2
Infrastructure	9.8
Industrial warehouse buildings	5.5
Retail shopping centers	6.5
For Rent Homes	6.7
For Sale Homes	5.7
Land	2.2
Short Term Investments	2.3
Total	<u>100.0 %</u>

The Real Estate and Infrastructure pools generated a return of 11.1% for the Pension Plan and OPEB for fiscal year 2015. The two benchmark returns from the National Council of Real Estate Investment Fiduciaries: the National Property Blended Index (less 130 basis points) was 12.0% and the Open-End Diversified Core Equity Index was 13.9%.

INVESTMENT SECTION

Report on Investment Activity (continued)

At the close of fiscal year 2015, the Real Estate and Infrastructure pools represented 10.1% of total investments. The following summarizes the System's 2.2% ownership share of the Real Estate and Infrastructure pools at September 30, 2015:

Real Estate and Infrastructure Pools (in thousands)

Short Term Pooled Investments	\$	3,108
Real Estate Equities		117,609
Infrastructure Equities		12,978
Total	\$	<u>133,695</u>

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 their investments by allocating their strategies with consideration of credit risk.

The System's Fixed Income pools total rate of return was 3.0% for fiscal year 2015. This compared with 2.9% for the Barclays Aggregate Bond Index.

At the close of fiscal year 2015, the Fixed Income pools represented 12.2% of total investments. The following summarizes the System's 2.2% ownership share of the Fixed Income pools at September 30, 2015:

Fixed Income Pools (in thousands)

Short Term Pooled Investments	\$	2,341
Fixed Income Securities		158,195
Accrued interest		777
Total	\$	<u>161,313</u>

Absolute Return Pools

The Absolute Return Pools consist of the Absolute Return Strategies Pool and the Real Return and Opportunistic Investment Pool.

INVESTMENT SECTION

Report on Investment Activity (continued)

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 2.4% versus the benchmark's 1.9%.

The primary investment objective of the Real Return and Opportunistic Pool is to generate a rate of return that meets or exceeds the increase in the CPI by at least 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 pool rate for the fiscal year was 7.3% versus the benchmark's 6.5%.

At the close of fiscal year 2015, the Absolute Return pools represented 14.7% of total investments. The following summarizes the System's 2.2% ownership share of the Absolute Return Pools at September 30, 2015:

Absolute Return Pools (in thousands)

Short Term Pooled investments	\$ 6,456
Equities	186,102
Long Term Obligations	2,242
Accrued Interest and Dividends	64
Total	\$ 194,864

Short Term Investment Pools

The objective of the Short Term Investment pools is to closely match the return performance of its benchmark, the 30 day Treasury bill. The Short Term Investment pools return for the fiscal year was 0.5% for the Pension Plan and 0.4% for the OPEB Plan versus the benchmark's 0.0%.

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.

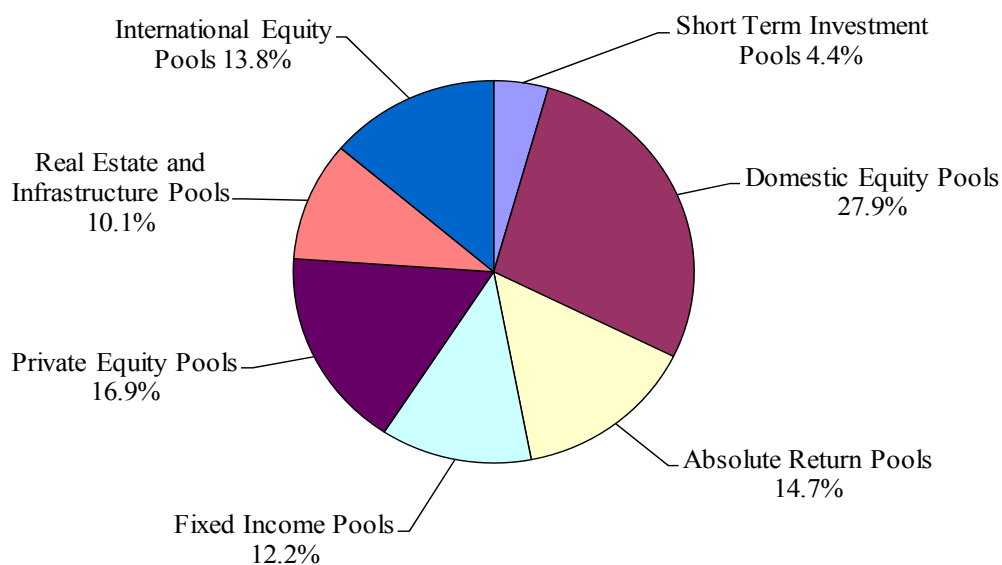
At the close of fiscal year 2015, the Short Term Investment pools represented 4.4% of total investments. The following summarizes the System's 2.5% ownership share of the Short Term Investment pools at September 30, 2015:

INVESTMENT SECTION

Short Term Investment Pools (in thousands)

Short Term Pooled Investments	\$	36,809
Fixed Income Securities		20,831
Accrued Interest		41
Total	\$	57,681

Asset Allocation – Security Type Only



INVESTMENT SECTION

Pension Plan Investment Results for the Period Ending September 30, 2015

<u>Investment Category</u>	<u>Current Year</u>	<u>Annualized Rate of Return¹</u>		
		<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>
Total Portfolio	2.5 %	10.0 %	10.0 %	6.6 %
Domestic Equity Pools	(0.8)	13.2	13.1	7.1
S&P 1500 Index	(0.3)	12.4	13.3	7.0
International Equity Pools	(8.8)	4.0	3.5	2.7
International Blended Benchmark ²	(12.2)	2.6	2.2	1.8
Private Equity Pools	11.7	17.2	16.8	13.4
Private Equity Blended Benchmark ³	10.6	20.4	20.3	11.9
Real Estate and Infrastructure Pools	11.1	12.7	12.4	5.7
NCREIF Property Blended Index ⁴	12.0	10.5	11.1	6.6
Fixed Income Pools	3.0	2.5	3.7	5.4
Barclays Aggregate Bond	2.9	1.7	3.1	4.6
Absolute Return Pools				
Total Absolute Return	2.4	7.2	5.7	
HFRI Fund of Funds Cons 1 month lag	1.9	4.9	3.4	
Total Real Return and Opportunistic	7.3	12.5	10.0	
Real Return and Opportunistic Benchmark ⁵	6.5	7.0	7.4	
Short Term Investment Pools	0.5	0.4	0.3	1.1
30 Day Treasury Bill	0.0	0.0	0.0	1.2

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%).

INVESTMENT SECTION

OPEB Investment Results for the Period Ending September 30, 2015

<u>Investment Category</u>	<u>Current Year</u>	<u>Annualized Rate of Return¹</u>	
		<u>3 Years</u>	
Total Portfolio	2.5 %	9.6 %	
Domestic Equity Pools	(0.8)	13.3	
S&P 1500 Index	(0.3)	12.5	
International Equity Pools	(8.8)	4.0	
International Blended Benchmark ²	(12.2)	2.6	
Private Equity Pools	11.7	17.2	
Private Equity Blended Benchmark ³	10.6	20.4	
Real Estate and Infrastructure Pools	11.1	12.7	
NCREIF Property Blended Index ⁴	12.0	10.5	
Fixed Income Pools	3.0	2.5	
Barclays Aggregate Bond	2.9	1.7	
Absolute Return Pools			
Total Absolute Return	2.4	7.2	
HFRI Fund of Funds Cons 1 month lag	1.9	4.9	
Total Real Return and Opportunistic	7.3	12.5	
Real Return and Opportunistic Benchmark ⁵	6.5	7.0	
Short Term Investment Pools	0.4	0.3	
30 Day Treasury Bill	0.0	0.0	

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 10/01/10 to 6/30/14, index 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%).

INVESTMENT SECTION

Largest Assets Held¹

Largest Stock Holdings (By Market Value) September 30, 2015

Rank	Shares	Stocks	Market Value
1	126,665	Apple Inc.	\$ 13,971,165
2	153,647	Wells Fargo & Co.	7,889,752
3	132,455	Aflac Inc.	7,699,589
4	71,078	Gilead Sciences Inc.	6,979,101
5	76,364	Union Pacific Corp.	6,751,326
6	48,306	Home Depot Inc.	5,578,832
7	122,177	Verizon Communications Inc.	5,315,905
8	117,356	Microsoft Corp.	5,194,184
9	82,220	JP Morgan Chase & Co.	5,012,980
10	7,411	Google Inc.	4,731,150

Largest Bond Holdings (By Market Value)² September 30, 2015

Rank	Par Amount	Description	Market Value
1	\$ 4,326,772	US Treasury N/B 1.625% Due 07-31-2019	\$ 4,401,024
2	3,781,377	US Treasury N/B 2.125% Due 05-15-2025	3,804,126
3	2,773,572	US Treasury N/B 2.125% Due 06-30-2022	2,845,801
4	2,335,401	US Treasury N/B 2.000% Due 08-15-2025	2,323,056
5	2,218,858	US Treasury N/B 1.625% Due 06-30-2019	2,258,063
6	2,218,858	US Treasury N/B 1.000% Due 09-15-2017	2,234,487
7	2,234,605	Barclays Bank PLC 1.005% FRN Due 01-22-2019	2,233,068
8	2,218,858	US Treasury N/B 0.875% Due 10-15-2017	2,228,046
9	1,694,930	TSY Infl IX N/B 0.125% Due 04-15-2019	1,689,148
10	1,407,801	Suntrust Banks Inc. 0.9941% FRN Due 04-29-2019	1,386,735

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 represents the System's pro-rata share based on its ownership of the investment pools.

INVESTMENT SECTION

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. 63.43% of the total investment portfolio is managed by fully discretionary outside advisors. The Michigan Department of Treasury's cost of operations applicable to the retirement system for the fiscal year amounted to \$390 thousand or eight and one tenth basis points (0.081%) of the market value of the Assets under Management by the State Treasurer.

Act 380 of the Public Acts 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

	Assets under Management (in thousands)	Fees (in thousands)	Basis Points *
Investment Managers' Fees:			
State Treasurer	\$ 483,629	\$ 390	8.1
Outside Advisors for			
Fixed Income	57,619	206	35.8
Absolute Return	193,887	393	20.3
International Equity	148,750	309	20.8
Domestic Equity	81,896	219	26.7
Private Equity	223,004	1,599	71.7
Real Estate/Infrastructure	133,695	671	50.2
Total	\$ 1,322,480	\$ 3,787	
 Other Investment Services Fees:			
Assets in Custody	\$ 1,317,815	\$ 111	
Securities on Loan	77,191	216	

*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.

INVESTMENT SECTION

Schedule of Investment Commissions

Fiscal Year Ended September 30, 2015							
	Actual		Average	Estimated	Estimated	Estimated	Estimated
	Commissions	Number of	Commission	Trade	Research	Trade	Research
	Paid ¹	Shares	Per Share	Costs	Costs	Costs	Costs
		Traded ¹		Per Share	Per Share		
Investment Brokerage Firms:							
Banc Of America Securities LLC	\$ 1,259	34,138	\$ 0.04	\$ 0.01	\$ 0.03	\$ 342	\$ 1,024
BNY Convergenx Execution Solutions LLC	838	41,891	0.02	0.01	0.01	420	420
BTIG LLC	34,179	3,146,360	0.01	0.01	-	31,463	-
Capital Institutional Services Inc.	4,193	263,572	0.02	0.01	0.01	2,636	2,636
Citigroup Global Markets Inc.	1,539	76,965	0.02	0.01	0.01	769	769
Cowen & Company LLC	5,095	254,713	0.02	0.01	0.01	2,547	2,547
Credit Suisse Securities LLC	13,046	679,968	0.02	0.01	0.01	6,800	6,800
Deutsche Bank - Alex Brown	61	2,026	0.03	0.01	0.02	20	41
Drexel Hamilton	2,194	309,619	0.01	0.01	-	3,097	-
J. P. Morgan Securities Inc.	7,565	924,504	0.01	0.01	-	9,245	-
Mischler Financial Group Inc.	3,213	160,656	0.02	0.01	0.01	1,606	1,606
Morgan Stanley & Co. Inc.	12,611	628,375	0.02	0.01	0.01	6,283	6,283
OTA LLC	4,270	146,115	0.03	0.01	0.02	1,461	2,923
Piper Jaffray & Co.	155	15,385	0.01	0.01	-	154	-
Stifel, Nicolaus & Co. Inc.	525	13,144	0.04	0.01	0.03	132	394
UBS Securities LLC	80	2,013	0.04	0.01	0.03	20	61
Total	\$ 90,823	6,699,444	\$ 0.02²	\$ 0.01	\$ 0.01	\$ 66,995	\$ 25,504

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

² The average commission per share for all brokerage firms.

INVESTMENT SECTION

Investment Summary

Fiscal Year Ended September 30, 2015

	<u>Market Value</u> ¹	<u>Percent of Total Market Value</u>	<u>Investment & Interest Income</u> ²	<u>Percent of Total Investment & Interest Income</u>
Fixed Income Pools	\$ 161,312,824	12.2 %	\$ 4,622,925	17.2 %
Domestic Equity Pools	369,273,912	27.9	(1,895,549)	(7.1)
Real Estate and Infrastructure Pools	133,695,358	10.1	13,299,366	49.6
Private Equity Pools	223,003,693	16.9	22,342,111	83.3
International Equities Pools	182,649,806	13.8	(17,625,893)	(65.7)
Absolute Return Pools	194,863,735	14.7	5,961,981	22.2
Short Term Investment Pools	<u>57,681,450</u> ³	<u>4.4</u>	<u>112,750</u>	<u>0.4</u>
Total	<u>\$ 1,322,480,779</u>	<u>100.0 %</u>	<u>\$ 26,817,691</u>	<u>100.0 %</u>

¹ Market value excludes \$78,492,737 in securities lending collateral for fiscal year 2015.

² Total Investment & Interest Income excludes net security lending income of \$1,570,585 and unrealized gain of \$3,094,288 for securities lending collateral.

³ Short term investment pools market value includes \$4,665,643 of equity in common cash.

ACTUARIAL SECTION

Actuary's Certification
Summary of Actuarial Assumptions and Methods
Schedule of Active Member Valuation Data
Schedule of Changes in the Retirement Rolls
Prioritized Solvency Test
Analysis of System Experience
Summary of Plan Provisions

ACTUARIAL SECTION

Actuary's Certification



Gabriel Roeder Smith & Company
Consultants & Actuaries

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248.799.9020 fax
www.gabrielroeder.com

October 23, 2015

Mr. David Behen, Director
Department of Technology, Management and Budget and
The Retirement Board
Michigan State Police Retirement System
P.O. Box 30171
Lansing, Michigan 48909

Ladies and Gentlemen:

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

We performed actuarial valuations and issued actuarial reports for SPRS as of September 30, 2014. The purpose of the September 30, 2014 annual actuarial valuations was to determine the contribution requirements for the fiscal year ending September 30, 2015, to measure the System's funding progress, and to provide actuarial 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, 2014.

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 otherwise 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.

Actuary's Certification (continued)

Mr. David Behen

October 23, 2015

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
- Note 3 - Summary of Actuarial Assumptions
- Schedules of Funding Progress
- Schedules of Employer Contributions (Annual Required Contribution)

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
- Analysis of System Experience
- Schedule of Active Member OPEB Valuation Data
- Schedule of Changes in OPEB Rolls

Statistical Section

- Schedule of Retired Members by Type of Pension Benefit (Retirement Type and Option)
- Schedule of Retired Members by Type of Health Benefit
- Schedules of Average Benefit Payments – Pension, Medical, Dental, and Vision

The September 30, 2014 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.

Gabriel Roeder Smith & Company

ACTUARIAL SECTION

Actuary's Certification (continued)

Mr. David Behen

October 23, 2015

Page 3

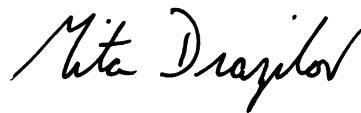
The signing actuaries are independent of the plan sponsor.

The actuarial valuations of SPRS as of September 30, 2014 were performed by qualified actuaries in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with applicable State statutes. Louise Gates and Mita Drazilov are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the calculated employer contribution meets the financial objective of the Retirement System.

Respectfully submitted,



Louise M. Gates, ASA, MAAA



Mita D. Drazilov, ASA, MAAA

LMG:MDD:mrb

Gabriel Roeder Smith & Company

Summary of Actuarial Assumptions and Methods

1. The investment return rate used in the valuations was 8% per year net of expenses (7.0% for the Hybrid Plan), compounded annually. This rate of return is not the assumed real rate of return. Considering other financial assumptions, this 8% investment return rate translates to an assumed real rate of return of 4.5%. Adopted 2004.
2. The healthy life mortality table used in evaluating allowances to be paid was the RP-2000 Combined Healthy Mortality Table adjusted for mortality improvements to 2030 using projection scale BB for males and adjusted for mortality improvements to 2015 using projection scale BB for females. 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. Total active member payroll is assumed to increase 3.5% per year. This represents the portion of the individual pay increase assumptions attributable to inflation. In effect, this assumes no change in the number of active members. Adopted 1998.
6. An individual entry age actuarial cost method of valuation was used in determining actuarial liabilities and normal cost. Unfunded actuarial accrued liabilities, including actuarial gains and losses, are financed over a declining 40-year period for years beginning October 1, 1986. Adopted or readopted 1996.
7. The Department of Technology, Management & Budget approved the use of market value of assets as of September 30, 2006, for actuarial valuation purposes. For investment gains and 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 2007.
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 the actuarial assumptions then in use. Adopted 2014.
11. Gabriel Roeder Smith & Co. was awarded the actuarial and consulting services contract beginning October 4, 2006.

ACTUARIAL SECTION

Summary of Actuarial Assumptions and Methods (continued)

SCHEDULE 1

Percent of Eligible Active Members Retiring Within Next Year¹

Retirement After 25 or More Years of Service (Non Pension Plus Plan)

<u>Service</u>	<u>% Retiring</u>
25-27	60 %
28-44	35
45 and over	100

Retirement at or After Age 50 with 10 years of Service (Non Pension Plus Plan), or After age 55 with 25 Years of Service (Pension Plus), or After Age 60 with 10 years of service (Pension Plus Plan)

<u>Age</u>	<u>% Retiring</u>
50	15 %
51-53	25
54-59	35
60	40
61-66	50
67 and over	100

¹ Of those Non Pension Plus Plan members assumed to retire with 25 or more years of service, based on the percents above, 70% are assumed to elect the DROP and 30% are assumed to retire without the DROP.

SCHEDULE 2

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

<u>Sample Ages</u>	<u>Years of Service</u>	<u>Percent of Active Members Withdrawing Within Next Year (Men and Women)</u>	<u>Percent of Active Members Becoming Disabled Within Next Year</u>		<u>Percent Increase In Pay During Next Year</u>
			<u>Duty</u>	<u>Non-duty</u>	
All	0	10.00 %			93.50 %
	1	8.00			21.50
20	2 & Over	1.35	0.20 %	0.00 %	9.40
25	"	1.22	0.20	0.00	9.40
30	"	1.02	0.20	0.03	6.18
35	"	0.84	0.20	0.06	4.82
40	"	0.74	0.20	0.15	4.38
45	"	0.64	0.20	0.33	4.29
50	"	0.60	0.20	0.57	4.18
55	"	0.60	0.20	0.81	4.06
60 & Over	"	0.60	0.20	1.14	4.02

Actuarial Valuation Data

Schedule of Active Member Pension Valuation Data

<u>Valuation Date Sept. 30</u>	<u>Number</u>	<u>Reported Annual Payroll</u>	<u>Average Annual Pay</u>	<u>Increase (Decrease)</u>	<u>Average Age</u>	<u>Average Service</u>
2005	1,708	\$ 117,648,748	\$ 68,881	5.3 %	38.3	12.0
2006	1,678	115,894,652	69,067	0.3	39.2	12.9
2007	1,620	118,209,401	72,969	5.6	40.0	13.6
2008	1,660	120,723,943	72,725	(0.3)	40.1	13.8
2009	1,655	123,237,957	74,464	2.4	41.0	14.6
2010	1,556	118,570,985	76,202	2.3	41.8	15.5
2011	1,451	110,279,709	76,003	(0.3)	41.7	15.4
2012	1,426	104,875,847	73,545	(3.2)	41.2	14.9
2013	1,521	110,244,195	72,481	(1.4)	39.8	13.3
2014	1,603	112,453,562	70,152	(3.2)	38.8	12.3

Excludes DROP program participants who are still actively employed.

Schedule of Active Member OPEB Valuation Data

<u>Valuation Date Sept. 30</u>	<u>Number</u>	<u>Reported Annual Payroll</u>	<u>Average Annual Pay</u>	<u>Increase (Decrease)</u>	<u>Average Age</u>	<u>Average Service</u>
2012	1,426	\$ 104,875,847	\$ 73,545		41.2	14.9
2013	1,521	110,244,195	72,481	(1.5) %	39.8	13.3
2014	1,603	112,453,562	70,152	(3.2)	38.8	12.3

ACTUARIAL SECTION

Actuarial Valuation Data (continued)

Schedule of Changes in the Retirement Rolls

Year Ended Sept. 30	Added to Rolls ¹		Removed from Rolls ¹		Rolls-End of Year		Increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances*	No.	Annual Allowances*	No.	Annual Allowances*		
2005	66		37		2,726	\$ 80,669	3.3 %	\$ 29,592
2006	67		81		2,712	82,255	2.0	30,330
2007	61		40		2,733	85,416	3.8	31,253
2008	62	\$ 2,964	59	\$ 1,317	2,736	87,063	1.9	31,821
2009	51	2,692	66	1,471	2,721	88,284	1.4	32,446
2010	110	5,572	69	1,586	2,762	92,270	4.5	33,407
2011	157	7,362	62	1,522	2,857	98,110	6.3	34,340
2012	93	5,115	37	972	2,913	102,253	4.2	35,102
2013	105	5,206	65	1,704	2,953	105,755	3.4	35,813
2014	95	4,797	85	2,340	2,963	108,212	2.3	36,521

* In thousands of dollars.

¹ Annual allowance amounts are not available for fiscal years 2007 and prior.

Schedule of Changes in the OPEB Rolls

Year Ended Sept. 30	Added to Rolls ¹		Removed from Rolls ¹		Rolls-End of Year		Increase in Annual Allowances	Average Annual Allowances
	No.	Annual Allowances*	No.	Annual Allowances*	No.	Annual Allowances*		
2011					2,566	\$ 33,561		\$ 13,079
2012	86	\$ 1,340	31	\$ 976	2,621	33,926	1.1 %	12,944
2013	90	1,408	58	2,397	2,653	32,938	(2.9)	12,415
2014	80	1,043	79	1,476	2,654	32,504	(1.3)	12,247

* In thousands of dollars.

¹ Annual allowance amounts are not available for fiscal years 2011 and prior.

Notes:

No. Refers to the 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 System'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 is indicative of the System's policy of following the discipline of level percent of payroll financing.

Pension Benefits (\$ in thousands)

Valuation Date Sept. 30	Actuarial Accrued Liability (AAL)			Valuation Assets	Portion of AAL Covered by Assets			
	(1)	(2)	(3)		(1)	(2)	(3)	(4) ²
	Active Member Contributions	Retirants and Beneficiaries	Active and Inactive Members (Employer Financed Portion) ⁴					
2005	\$ 295	\$ 909,741	\$ 390,307	\$ 1,090,327	100 %	100 %	46.2 %	83.8 %
2006	268	981,994	403,591	1,113,455	100	100	32.5	80.3
2006 ¹	268	981,994	403,591	1,204,248	100	100	55.0	86.9
2007	398	995,714	447,619	1,259,129	100	100	58.8	87.2
2007 ³	398	1,003,835	447,619	1,259,129	100	100	56.9	86.7
2008	453	1,010,206	485,638	1,265,725	100	100	52.5	84.6
2009	487	1,010,464	523,028	1,238,089	100	100	43.4	80.7
2010	485	1,047,318	517,379	1,201,968	100	100	29.8	76.8
2010 ⁵	485	1,052,454	541,361	1,201,968	100	100	27.5	75.4
2011	451	1,111,282	516,192	1,318,129	100	100	5.1	69.9
2012	480	1,145,516	525,042	1,069,179	100	93	0.0	64.0
2013	1,549	1,173,048	549,362	1,069,106	100	91	0.0	62.0
2014 ⁵	3,589	1,817,229	573,236	1,133,323	100	95	0.0	64.2

¹ Revised asset valuation method.

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

³ Revised benefit provisions.

⁴ Includes DROP members.

⁵ Revised actuarial assumptions.

ACTUARIAL SECTION

Prioritized Solvency Test (continued)

Other Postemployment Benefits (\$ in thousands)

Valuation Date	Actuarial Accrued Liability (AAL)			Valuation Assets	Portion of AAL Covered by Assets			
	(1) Active Member Contributions	(2) Retirants and Beneficiaries	(3) Active and Inactive Members (Employer Financed Portion) ²		(1)	(2)	(3)	(4) ¹
2007	-	\$ 584,668	\$ 333,456	-	0.0 %	0.0 %	0.0 %	0.0 %
2008	-	590,311	372,711	-	0.0	0.0	0.0	0.0
2009	-	528,354	353,908	-	0.0	0.0	0.0	0.0
2010	-	615,468	440,407	-	0.0	0.0	0.0	0.0
2011	-	596,842	397,839	-	0.0	0.0	0.0	0.0
2012 ³	-	397,041	202,054	\$ 32,996	0.0	8.3	0.0	5.5
2013	-	395,655	207,311	52,240	0.0	13.2	0.0	8.7
2014	-	415,077	222,276	77,664	0.0	18.7	0.0	12.2

¹ Percent funded on a total valuation asset and total actuarial accrued liability basis.

² Includes DROP members.

³ Revised actuarial assumptions

ACTUARIAL SECTION

Analysis of System Experience

Gains/(Losses) in Accrued Liabilities During Year Ended September 30, 2014 Resulting from Differences Between Assumed Experience & Actual Experience

<u>Type of Activity</u>	<u>Gain/(Loss)</u>
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.	\$ (754,802)
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.	424,532
3. Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	8,934,418
4. Investment Income. If there is greater investment income than assumed, there is a gain. If less income, a loss.	30,699,331
5. Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(2,778,748)
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.	<u>(1,116,499)</u>
8. Composite Gain (or Loss) During Year	<u>\$ 35,408,232</u>

ACTUARIAL SECTION

Summary of Plan Provisions

Our actuarial valuation of the System as of September 30, 2014, is based on the present provisions of Michigan State Police Retirement Act (Public Act 182 of 1986, as amended).

Regular Retirement

Eligibility - 25 years of credited service with no age requirement; or age 50 with 10 years credited service.

Annual Amount - If member has 25 or more years of credited service, 60% of final average compensation; if member has less than 25 years of credited service, total credited service times 2% of final average compensation.

Type of Final Average Compensation - Average of 2 final years.

Early Retirement

None.

Deferred Retirement (vested benefit)

Eligibility - 10 years of credited service. Benefit commences at age 50.

Annual Amount - Computed as Regular Retirement benefit based on credited service and final average compensation at termination.

Duty-Disability Retirement

Eligibility - No age or service requirement.

Annual Amount - 60% of final average compensation. Disability benefit plus workers' compensation benefit, if any, shall not exceed 100% of final average compensation.

Non-Duty Disability Retirement

Eligibility - 10 years of credited service.

Annual Amount - 2.4% of final average compensation times years of credited service, to a maximum of 60% of final average compensation.

Duty Death Before Retirement

Eligibility - No age or service requirement.

Annual Amount - 60% of final average compensation is payable to surviving spouse; additional \$1,200 per year for each child under 18 is also payable. If no surviving spouse, children under 18 share in 60% benefit until attainment of age 18. If no spouse or children, dependent parents are eligible for 60% benefit (plus \$1,200 per dependent sibling under 18). Retirement benefit plus workers' compensation, if any, shall not exceed 100% of final average compensation.

Lump Sum Payment - A \$1,500 funeral benefit is also payable.

Summary of Plan Provisions (continued)

Non-Duty Death Before Retirement

Eligibility - 10 years of credited service.

Annual Amount - 2.4% of final average compensation times years of credited service, to a maximum of 60% of final average compensation, payable to surviving spouse. If no surviving spouse, children under 18 share in benefit until attainment of age 18.

Death After Retirement

The retired member's benefit continues to the surviving spouse. If no surviving spouse, children under 18 share in the continued benefit until attainment of age 18.

DROP Program Provisions

DROP Eligibility - Any age with 25 years of service.

Maximum Years of DROP - 6 years.

Retirement Benefit - Monthly benefit frozen at date of DROP election.

DROP Account - Amount credited - 100% of the participant's Retirement Benefit if stay full six years (for all 6 years); 90% if stay 5 years; 80% if stay 4 years; 70% if stay 3 years; 60% if stay 2 years; 50% if stay 1 year; 30% if stay less than 1 year.

Interest Credit Rate - 3%

COLA - No COLA adjustment on Retirement Benefit until the end of the DROP period.

Benefit Options - At termination of DROP participation and commencement of retirement, options are lump sum of DROP account, partial lump sum, or maintain funds in account.

Post-Retirement Cost-of-Living Adjustments

All members retiring (or leaving employment with vested benefits), and their survivors, are eligible for automatic 2% annual (non-compounded) benefit increases, with a maximum annual increase of \$500.

Post-Retirement Health Insurance Coverage

Persons in receipt of retirement allowances (including members who did not retire directly from the System, but come from a vested deferred status), and their dependents, are eligible for 95% State-paid health insurance coverage and 90% State-paid dental and vision insurance.

Member Contributions

Command Officers currently participate on a noncontributory basis. Troopers hired on or after June 10, 2012 contribute 4% of their compensation. Effective October 1, 2012, troopers and sergeants hired before June 10, 2012 began contributing 1% of their compensation. Effective October 1, 2013 troopers and sergeants hired before June 10, 2012 began contributing 2% of their compensation. These contributions are for the pension component of their plan.

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STATISTICAL SECTION

Schedules of Additions by Source
Schedules of Deductions by Type
Schedules of Changes in Fiduciary Net Position
Schedules of Benefits and Refunds by Type
Schedules of Retired Members by Type of Benefit
Schedule of Funding Progress – Pension Plan
Schedule of Other Postemployment Benefits
Schedules of Average Benefit Payments
Ten Year History of Membership

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 Benefits
- Schedule of Funding Progress – Pension Plan
- Schedule of Other Postemployment Benefits
- Schedule of Average Benefit Payments - Pension
- Schedule of Average Benefit Payments - Health
- Schedule of Average Benefit Payments - Dental
- Schedule of Average Benefit Payments - Vision
- Ten Year History of Membership

STATISTICAL SECTION

Schedule of Pension Plan Additions by Source

Last Ten Years

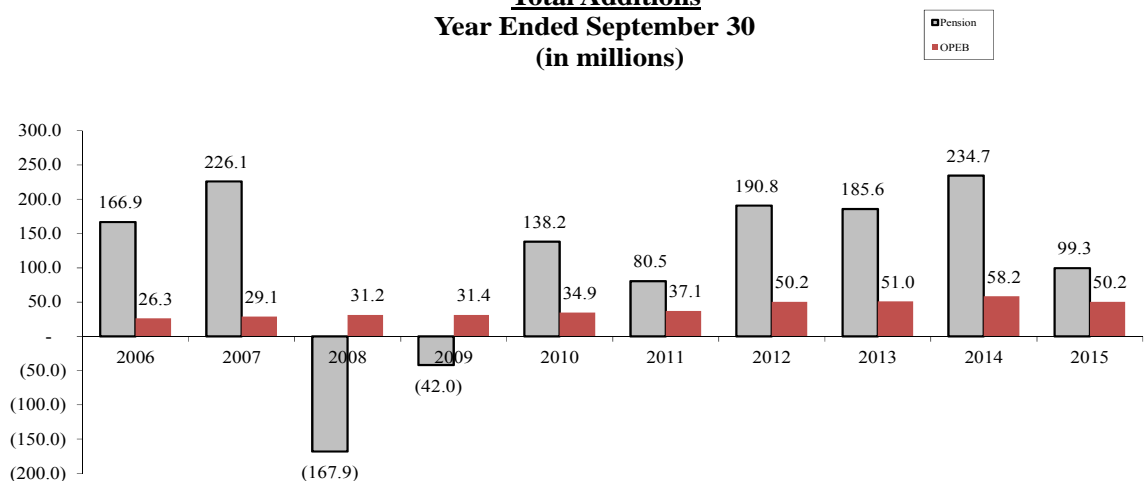
Fiscal Year Ended Sept. 30	Member Contributions	Employer Contributions		Net Investment & Other Income	Total
		Dollars	% of Annual Covered Payroll		
2006	\$ 252,805	\$ 26,103,923	22.5 %	\$ 140,565,537	\$ 166,922,265
2007	101,205	24,323,324	20.6	201,660,589	226,085,118
2008	95,904	34,364,943	28.5	(202,365,084)	(167,904,237)
2009	139,924	35,434,912	28.8	(77,524,873)	(41,950,037)
2010	172,387	37,897,934	32.0	100,179,113	138,249,434
2011	207,384	38,573,946	35.0	41,746,238	80,527,568
2012	229,085	40,686,857	38.8	149,844,852	190,760,794
2013	1,336,081	49,004,314	44.5	135,230,258	185,570,653
2014	2,174,031	58,391,310	51.9	174,085,069	234,650,410
2015	2,677,458	70,351,036	N/A	26,239,211	99,267,706

Schedule of OPEB Plan Additions by Source

Last Ten Years

Fiscal Year Ended Sept. 30	Member Contributions	Employer Contributions		Net Investment & Other Income	Total
		Dollars	% of Annual Covered Payroll		
2006	\$ 1,254,352	\$ 25,021,287	21.6 %	\$ 4,319	\$ 26,279,958
2007	1,219,760	27,840,439	23.6		29,060,199
2008	1,274,189	29,131,474	24.1	747,263	31,152,926
2009	1,244,169	29,841,207	24.2	276,098	31,361,474
2010	1,157,358	32,890,501	27.7	813,870	34,861,729
2011	1,333,174	31,627,140	28.7	4,178,390	37,138,704
2012	1,337,205	46,190,655	44.0	2,671,348	50,199,208
2013	1,272,232	42,858,381	38.9	6,891,305	51,021,917
2014	1,198,890	46,614,502	41.5	10,394,057	58,207,450
2015	1,129,645	45,848,019	N/A	3,208,549	50,186,214

Total Additions
Year Ended September 30
(in millions)



STATISTICAL SECTION

Schedule of Pension Plan Deductions by Type

Last Ten Years

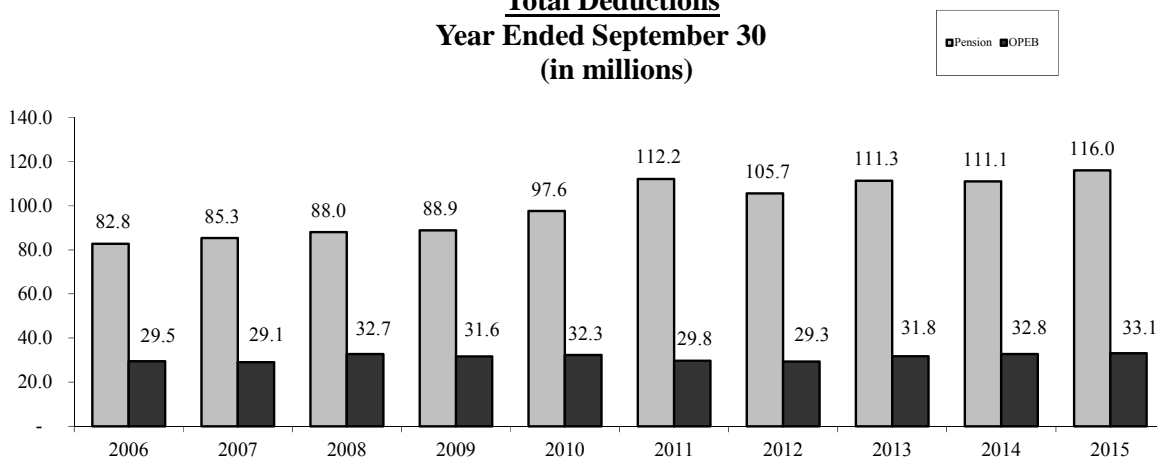
<u>Fiscal Year Ended Sept. 30</u>	<u>Benefit Payments</u>	<u>Refunds and Transfers</u>	<u>Administrative and Other Expenses</u>	<u>Total</u>
2006	\$ 82,316,931	\$ 142,979	\$ 343,205	\$ 82,803,115
2007	84,930,044	1,087	401,570	85,332,701
2008	87,590,337		361,652	87,951,989
2009	88,492,159		386,146	88,878,305
2010	97,194,529	7,166	372,728	97,574,423
2011	111,809,981	5,177	361,611	112,176,769
2012	104,962,793		756,602	105,719,395
2013	110,782,367	19,489	508,118	111,309,974
2014	110,542,930	7,977	575,108	111,126,016
2015	115,466,146	2,935	561,121	116,030,202

Schedule of OPEB Plan Deductions by Type

Last Ten Years

<u>Fiscal Year Ended Sept. 30</u>	<u>Benefit Payments</u>	<u>Refunds and Transfers</u>	<u>Administrative and Other Expenses</u>	<u>Total</u>
2006	\$ 29,492,740			\$ 29,492,740
2007	29,060,199			29,060,199
2008	29,672,228	\$ 1,502,006	\$ 1,553,172	32,727,406
2009	30,007,135		1,624,795	31,631,930
2010	31,378,928		876,797	32,255,725
2011	28,954,352		875,530	29,829,882
2012	28,421,260		875,883	29,297,144
2013	30,571,508		1,205,738	31,777,247
2014	31,373,483		1,409,863	32,783,346
2015	31,696,743		1,383,518	33,080,261

Total Deductions
Year Ended September 30
(in millions)



STATISTICAL SECTION

Schedule of Changes in Fiduciary Net Position - Pension Plan

Last Ten Years

(in thousands)

	Fiscal Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Member contributions	\$ 253	\$ 101	\$ 96	\$ 140	\$ 172	\$ 207	\$ 229	\$ 1,336	\$ 2,174	\$ 2,677
Employer contributions	26,104	24,323	34,365	35,435	37,898	38,574	40,687	49,004	58,391	70,351
Net investment income	140,565	201,614	(202,388)	(77,536)	100,144	41,731	149,832	135,202	174,085	26,236
Miscellaneous income		47	23	11	35	15	13	28		3
Total Additions	166,922	226,085	(167,904)	(41,950)	138,249	80,528	190,761	185,571	234,650	99,268
Pension benefits	82,317	84,930	87,590	88,492	97,194	111,810	104,963	110,782	110,543	115,466
Refunds of contributions	143	1			7	5		19	8	3
Administrative and other expenses	343	402	362	386	373	362	757	508	575	561
Total Deductions	82,803	85,333	87,952	88,878	97,574	112,177	105,719	111,310	111,126	116,030
Changes in net position	\$ 84,119	\$ 140,752	\$ (255,856)	\$ (130,828)	\$ 40,675	\$ (31,649)	\$ 85,041	\$ 74,261	\$ 123,524	\$ (16,762)

Schedule of Changes in Fiduciary Net Position - OPEB Plan

Last Ten Years

(in thousands)

	Fiscal Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Member contributions	\$ 1,255	\$ 1,220	\$ 1,274	\$ 1,244	\$ 1,157	\$ 1,333	\$ 1,337	\$ 1,272	\$ 1,199	\$ 1,130
Employer contributions	25,021	27,840	29,131	29,841	32,891	31,627	46,191	42,858	46,615	45,848
Other governmental contributions			278	372	322	3,644	1,061	2,801	1,758	1,874
Net investment income	4		(125)	(158)	480	527	1,594	4,073	8,637	1,326
Transfer from other systems			551							
Miscellaneous income			44	62	12	8	17	17		9
Total Additions	26,280	29,060	31,153	31,361	34,862	37,139	50,199	51,022	58,207	50,186
Health care benefits	29,493	29,060	29,672	30,007	31,379	28,954	28,421	30,572	31,373	31,697
Refunds of contributions										
Transfer to other systems			1,502							
Administrative and other expenses			1,553	1,625	877	876	876	1,206	1,410	1,384
Total Deductions	29,493	29,060	32,727	31,632	32,256	29,830	29,297	31,777	32,783	33,080
Changes in net position	\$ (3,213)	\$ -	\$ (1,574)	\$ (271)	\$ 2,606	\$ 7,309	\$ 20,902	\$ 19,245	\$ 25,424	\$ 17,106

STATISTICAL SECTION

Schedule of Pension Benefits and Refunds by Type

Last Ten Years

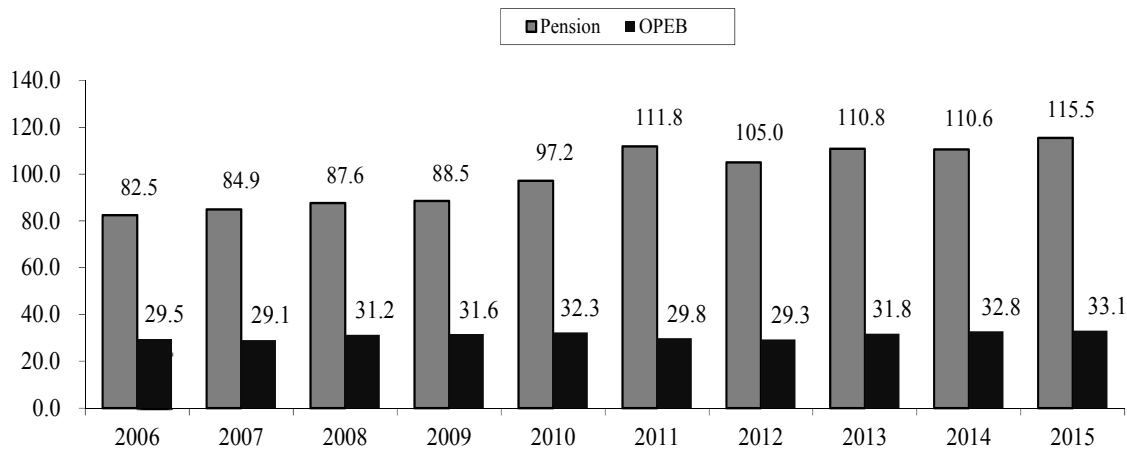
Fiscal Year Ended Sept. 30	Regular Benefits	Disability Benefits	Survivor Benefits	Funeral Benefits	Refunds		Total
					Employee Contribution	Employer Contribution	
2006	\$ 71,830,448	\$ 3,993,123	\$ 6,493,360		\$ 802	\$ 142,177	\$ 82,459,910
2007	72,275,182	4,100,010	8,554,852			1,087	84,931,131
2008	73,769,670	4,407,127	9,413,540				87,590,337
2009	74,051,305	4,452,564	9,988,290				88,492,159
2010	81,958,482	4,814,513	10,421,533		4,353	2,813	97,201,695
2011	95,613,346	5,226,631	10,968,504	\$ 1,500		5,177	111,815,158
2012	87,999,851	5,370,427	11,592,515				104,962,793
2013	93,031,493	5,675,801	12,073,573	1,500	19,489		110,801,855
2014	91,805,601	5,804,476	12,932,853			7,977	110,550,907
2015	95,679,585	6,132,395	13,654,166		2,935		115,469,081

Schedule of OPEB Benefits and Refunds by Type

Last Ten Years

Fiscal Year Ended Sept. 30	Health Benefits	Dental Benefits	Vision Benefits	Administrative Expenses	Health Refunds	Total
2006	\$ 27,090,226	\$ 2,091,393	\$ 311,121			\$ 29,492,740
2007	26,675,560	2,075,976	308,663			29,060,199
2008	27,093,222	2,324,543	254,463	\$ 1,553,172		31,225,400
2009	27,404,439	2,345,481	257,216	1,624,795		31,631,930
2010	28,398,257	2,568,972	411,698	876,797		32,255,725
2011	26,456,992	2,272,568	224,792	875,530		29,829,882
2012	26,071,869	2,282,682	66,709	875,883		29,297,144
2013	27,881,426	2,314,422	375,661	1,205,738		31,777,247
2014	28,748,890	2,440,060	184,533	1,409,863		32,783,346
2015	29,110,087	2,380,425	206,231	1,383,518		33,080,261

**Total Benefit Deductions
Year Ended September 30
(in millions)**



STATISTICAL SECTION

Schedule of Retired Members by Type of Pension Benefit

September 30, 2014

<u>Amount of Monthly Pension Benefit</u>	<u>Number of Retirees</u>	<u>Type of Retirement *</u>						<u>Selected Option **</u>
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>Life</u>
\$ 1 - 400	30	23		2	1	4		30
401 - 800	109	94	5	2	1		7	109
801 - 1,200	103	78	8	4	6		7	103
1,201 - 1,600	222	83	89	27	5	15	3	222
1,601 - 2,000	231	107	71	28	15	5	5	231
2,001 - 2,400	165	106	36	7	8	4	4	165
2,401 - 2,800	150	99	25	13	9	1	3	150
2,801 - 3,200	339	237	65	22	9	1	5	339
3,201 - 3,600	530	450	39	29	7	2	3	530
3,601 - 4,000	503	456	26	16	2	1	2	503
Over 4,000	581	556	13	11			1	581
Totals	<u>2,963</u>	<u>2,289</u>	<u>377</u>	<u>161</u>	<u>63</u>	<u>33</u>	<u>40</u>	<u>2,963</u>

* Type of Retirement

- 1 - Normal retirement for age & service
- 2 - Survivor payment - normal retirement
- 3 - Duty disability retirement (incl. survivors)
- 4 - Non-duty disability retirement (incl. survivors)
- 5 - Survivor payment - duty death in service
- 6 - Survivor payment - non-duty death in service

**Selected Option

Life - 100% joint and survivor

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

Schedule of Retired Members by Type of Other Postemployment Benefits September 30, 2014

Amount of Monthly Pension Benefit	Number of Retirees	Type of Other Postemployment Benefits		
		Health	Dental	Vision
\$ 1-400	30	3	3	3
401-800	109	46	45	45
801-1,200	103	36	37	37
1,201-1,600	222	174	170	169
1,601-2,000	231	194	189	189
2,001-2,400	165	149	146	146
2,401-2,800	150	146	145	146
2,801-3,200	339	332	332	332
3,201-3,600	530	518	520	520
3,601-4,000	503	483	485	487
Over 4,000	581	559	558	563
Totals	2,963	2,640	2,630	2,637

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

Schedules of Funding Progress - Pension Plan

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)
2005	\$ 1,090.3	\$ 1,300.3	\$ 210.0	83.8 %	\$ 117.6	178.5 %
2006	1,113.5	1,385.9	272.4	80.3	115.9	235.0
2006 ¹	1,204.2	1,385.9	181.7	86.9	115.9	156.8
2007	1,259.1	1,443.7	184.6	87.2	118.2	156.2
2007 ²	1,259.1	1,451.9	192.7	86.7	118.2	163.0
2008	1,265.7	1,496.3	230.6	84.6	120.7	191.0
2009	1,238.1	1,534.0	295.9	80.7	123.2	240.1
2010	1,202.0	1,565.2	363.2	76.8	118.6	306.3
2010 ³	1,202.0	1,594.3	392.3	75.4	118.6	330.9
2011	1,138.1	1,627.9	489.8	69.9	110.3	444.1
2012 ²	1,069.2	1,671.0	601.9	64.0	104.9	573.9
2013	1,069.1	1,724.0	654.9	62.0	110.2	594.0
2014	1,133.3	1,764.1	630.7	64.2	112.5	560.9
2014 ³	1,133.3	1,799.9	666.6	63.0	112.5	592.8

1 Change in asset valuation method.

2 Revised benefit provisions.

3 Revised actuarial assumptions and/or methods.

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

Schedule of Other Postemployment Benefits For Year Ended September 30, 2015

Claims	
Health insurance	\$ 27,418,253
Vision insurance	196,514
Dental insurance	<u>2,332,643</u>
Total Claims	<u>29,947,409</u>
Estimated Claims Liability	
Health insurance	1,691,835
Vision insurance	9,718
Dental insurance	<u>47,782</u>
Total Estimated Claims Liability	<u>1,749,334</u>
Administrative Fees	
Staff Salaries	103,197
Health insurance	1,173,205
Vision insurance	11,720
Dental insurance	<u>95,396</u>
Total Administrative Fees	<u>1,383,518</u>
Subtotal	33,080,261
Grand Total	<u>\$ 33,080,261</u>

STATISTICAL SECTION

Schedule of Average Benefit Payments - Pension

Last Ten Years

Payment Periods	Credited Service (Years) as of September 30							Total
	0-5	5-10	10-15	15-20	20-25	25-30	30+	
Period 10/1/04 to 9/30/05:								
Average Monthly Benefit	\$ 881	\$ 1,692	\$ 1,023	\$ 1,494	\$ 1,688	\$ 2,704	\$ 2,955	\$ 2,466
Average Final Average Salary	1,150	34,621	28,069	31,362	30,799	46,663	51,067	42,364
Number of Active Retirants	171	32	103	79	105	1,955	281	2,726
Period 10/1/05 to 9/30/06:								
Average Monthly Benefit	\$ 1,074	\$ 1,803	\$ 1,034	\$ 1,534	\$ 1,708	\$ 2,672	\$ 2,908	\$ 2,528
Average Final Average Salary	7,023	36,079	30,151	33,407	32,097	48,479	53,890	46,586
Number of Active Retirants	28	33	115	83	110	2,048	295	2,712
Period 10/1/06 to 9/30/07:								
Average Monthly Benefit	\$ 1,204	\$ 1,953	\$ 1,090	\$ 1,567	\$ 1,812	\$ 2,752	\$ 3,054	\$ 2,604
Average Final Average Salary	13,908	35,752	31,922	33,416	33,727	49,100	54,008	47,113
Number of Active Retirants	37	31	123	83	113	2,053	293	2,733
Period 10/1/07 to 9/30/08:								
Average Monthly Benefit	\$ 1,409	\$ 1,958	\$ 1,133	\$ 1,618	\$ 1,881	\$ 2,801	\$ 3,094	\$ 2,652
Average Final Average Salary	25,371	36,598	33,124	33,774	34,889	49,530	54,550	47,774
Number of Active Retirants	32	33	127	88	116	2,046	294	2,736
Period 10/1/08 to 9/30/09:								
Average Monthly Benefit	\$ 1,577	\$ 1,988	\$ 1,164	\$ 1,677	\$ 2,004	\$ 2,857	\$ 3,146	\$ 2,704
Average Final Average Salary	46,745	38,004	33,515	36,187	37,184	50,070	55,329	48,649
Number of Active Retirants	41	35	127	88	117	2,023	290	2,721
Period 10/1/09 to 9/30/10:								
Average Monthly Benefit	\$ 1,934	\$ 2,139	\$ 1,221	\$ 1,704	\$ 2,182	\$ 2,936	\$ 3,226	\$ 2,784
Average Final Average Salary	48,354	37,160	34,502	36,152	40,307	51,475	56,908	50,021
Number of Active Retirants	50	33	132	88	125	2,040	294	2,762
Period 10/1/10 to 9/30/11:								
Average Monthly Benefit	\$ 1,946	\$ 2,169	\$ 1,307	\$ 1,801	\$ 2,525	\$ 3,018	\$ 3,293	\$ 2,862
Average Final Average Salary	42,720	37,160	35,669	39,170	47,658	53,194	58,578	51,716
Number of Active Retirants	79	33	135	93	143	2,078	296	2,857
Period 10/1/11 to 9/30/12:								
Average Monthly Benefit	\$ 2,232	\$ 2,181	\$ 1,362	\$ 1,851	\$ 2,779	\$ 3,111	\$ 3,340	\$ 2,925
Average Final Average Salary	40,154	37,217	38,697	40,877	53,981	54,808	59,266	52,867
Number of Active Retirants	178	31	145	94	148	2,033	284	2,913
Period 10/1/12 to 9/30/13:								
Average Monthly Benefit	\$ 1,949	\$ 2,197	\$ 1,389	\$ 1,846	\$ 2,803	\$ 3,147	\$ 3,383	\$ 2,984
Average Final Average Salary	57,421	36,625	39,204	41,154	54,177	54,952	59,512	53,953
Number of Active Retirants	58	32	150	99	165	2,153	296	2,953
Period 10/1/13 to 9/30/14:								
Average Monthly Benefit	\$ 1,487	\$ 2,258	\$ 1,423	\$ 1,989	\$ 2,311	\$ 3,211	\$ 3,444	\$ 3,043
Average Final Average Salary	12,794	37,160	39,452	45,375	43,523	57,079	60,468	55,126
Number of Active Retirants	12	33	150	109	122	2,249	288	2,963

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

Schedule of Average Benefit Payments - Health Last Nine Years

Payment Periods	Credited Service (Years) as of September 30							Total
	0-5	5-10	10-15	15-20	20-25	25-30	30 +	
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	\$ 1,426	\$ 1,992	\$ 1,167	\$ 1,577	\$ 2,547	\$ 2,821	\$ 3,018	\$ 2,657
Average Final Average Salary	17,123	34,797	28,154	32,493	43,596	49,238	53,401	46,579
Number of Active Retirants	9	27	81	69	707	1,249	269	2,411
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	\$ 1,667	\$ 2,060	\$ 1,231	\$ 1,607	\$ 2,621	\$ 2,915	\$ 3,163	\$ 2,741
Average Final Average Salary	21,265	33,615	31,012	32,504	44,052	50,004	53,445	47,112
Number of Active Retirants	14	25	89	69	711	1,253	267	2,428
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	\$ 2,109	\$ 2,173	\$ 1,256	\$ 1,666	\$ 2,668	\$ 2,974	\$ 3,216	\$ 2,792
Average Final Average Salary	35,474	35,421	32,171	34,365	44,369	50,596	53,934	47,706
Number of Active Retirants	14	27	94	73	703	1,253	267	2,431
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	\$ 2,148	\$ 2,229	\$ 1,276	\$ 1,729	\$ 2,733	\$ 3,029	\$ 3,277	\$ 2,845
Average Final Average Salary	41,318	35,421	32,572	35,861	45,021	51,038	54,550	48,236
Number of Active Retirants	17	27	97	74	697	1,248	260	2,420
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	\$ 2,774	\$ 2,266	\$ 1,334	\$ 1,756	\$ 2,800	\$ 3,120	\$ 3,364	\$ 2,927
Average Final Average Salary	52,130	35,421	33,845	35,819	45,993	52,808	56,040	49,727
Number of Active Retirants	24	27	103	74	694	1,276	262	2,460
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	\$ 2,342	\$ 2,298	\$ 1,406	\$ 1,863	\$ 2,906	\$ 3,212	\$ 3,458	\$ 3,011
Average Final Average Salary	36,454	35,421	34,597	39,393	47,821	54,685	58,042	51,289
Number of Active Retirants	51	27	105	79	696	1,328	264	2,550
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	\$ 2,423	\$ 2,319	\$ 1,495	\$ 1,940	\$ 3,011	\$ 3,316	\$ 3,519	\$ 3,076
Average Final Average Salary	35,943	35,352	37,432	41,389	49,669	56,573	58,839	52,335
Number of Active Retirants	148	25	111	80	678	1,305	255	2,602
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	\$ 2,813	\$ 2,328	\$ 1,521	\$ 1,918	\$ 3,040	\$ 3,355	\$ 3,571	\$ 3,147
Average Final Average Salary	52,704	34,695	38,003	41,001	49,624	56,859	59,281	53,496
Number of Active Retirants	28	26	116	85	731	1,388	265	2,639
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	\$ 1,454	\$ 2,393	\$ 1,550	\$ 2,077	\$ 3,001	\$ 3,474	\$ 3,645	\$ 3,217
Average Final Average Salary	14,124	35,421	38,186	45,084	47,839	59,214	60,250	54,560
Number of Active Retirants	8	27	115	94	686	1,454	256	2,640

Source: Gabriel Roeder Smith & Co.

STATISTICAL SECTION

Schedule of Average Benefit Payments - Dental Last Nine Years

Payment Periods	Credited Service (Years) as of September 30							Total
	0-5	5-10	10-15	15-20	20-25	25-30	30 +	
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	\$ 1,426	\$ 1,992	\$ 1,172	\$ 1,575	\$ 2,573	\$ 2,836	\$ 3,023	\$ 2,675
Average Final Average Salary	17,123	34,797	28,084	32,097	44,239	49,573	53,502	46,970
Number of Active Retirants	9	27	79	68	695	1,248	268	2,394
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	\$ 1,667	\$ 2,060	\$ 1,237	\$ 1,605	\$ 2,644	\$ 2,928	\$ 3,171	\$ 2,758
Average Final Average Salary	21,265	33,615	31,015	32,102	44,638	50,293	53,637	47,475
Number of Active Retirants	14	25	87	68	700	1,253	267	2,414
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	\$ 2,109	\$ 2,173	\$ 1,274	\$ 1,659	\$ 2,689	\$ 2,987	\$ 3,224	\$ 2,810
Average Final Average Salary	35,474	35,421	32,475	33,454	44,915	50,915	54,126	48,072
Number of Active Retirants	14	27	92	71	692	1,252	267	2,415
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	\$ 2,148	\$ 2,229	\$ 1,293	\$ 1,728	\$ 2,747	\$ 3,039	\$ 3,284	\$ 2,858
Average Final Average Salary	41,318	35,421	32,875	35,532	45,400	51,261	54,685	48,504
Number of Active Retirants	17	27	95	73	688	1,246	260	2,406
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	\$ 2,774	\$ 2,266	\$ 1,352	\$ 1,755	\$ 2,815	\$ 3,124	\$ 3,379	\$ 2,938
Average Final Average Salary	52,130	35,421	34,155	35,490	46,395	52,910	56,366	49,958
Number of Active Retirants	24	27	101	73	687	1,272	263	2,447
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	\$ 2,342	\$ 2,298	\$ 1,446	\$ 1,863	\$ 2,921	\$ 3,220	\$ 3,472	\$ 3,023
Average Final Average Salary	36,454	35,421	35,530	39,131	48,187	54,871	58,357	51,562
Number of Active Retirants	51	27	105	78	690	1,326	265	2,542
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	\$ 2,435	\$ 2,319	\$ 1,534	\$ 1,940	\$ 3,026	\$ 3,327	\$ 3,527	\$ 3,089
Average Final Average Salary	36,182	35,352	38,315	41,155	50,071	56,833	59,026	52,642
Number of Active Retirants	148	25	111	79	674	1,304	256	2,597
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	\$ 2,813	\$ 2,328	\$ 1,549	\$ 1,918	\$ 3,048	\$ 3,364	\$ 3,578	\$ 3,156
Average Final Average Salary	52,704	34,695	38,683	40,777	49,851	57,062	59,413	53,705
Number of Active Retirants	28	26	117	84	725	1,384	265	2,629
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	\$ 1,454	\$ 2,393	\$ 1,578	\$ 2,078	\$ 3,010	\$ 3,480	\$ 3,653	\$ 3,224
Average Final Average Salary	14,124	35,421	38,870	44,925	48,067	59,324	60,387	54,710
Number of Active Retirants	8	27	116	93	683	1,447	256	2,630

Source: Gabriel Roeder Smith & Co.

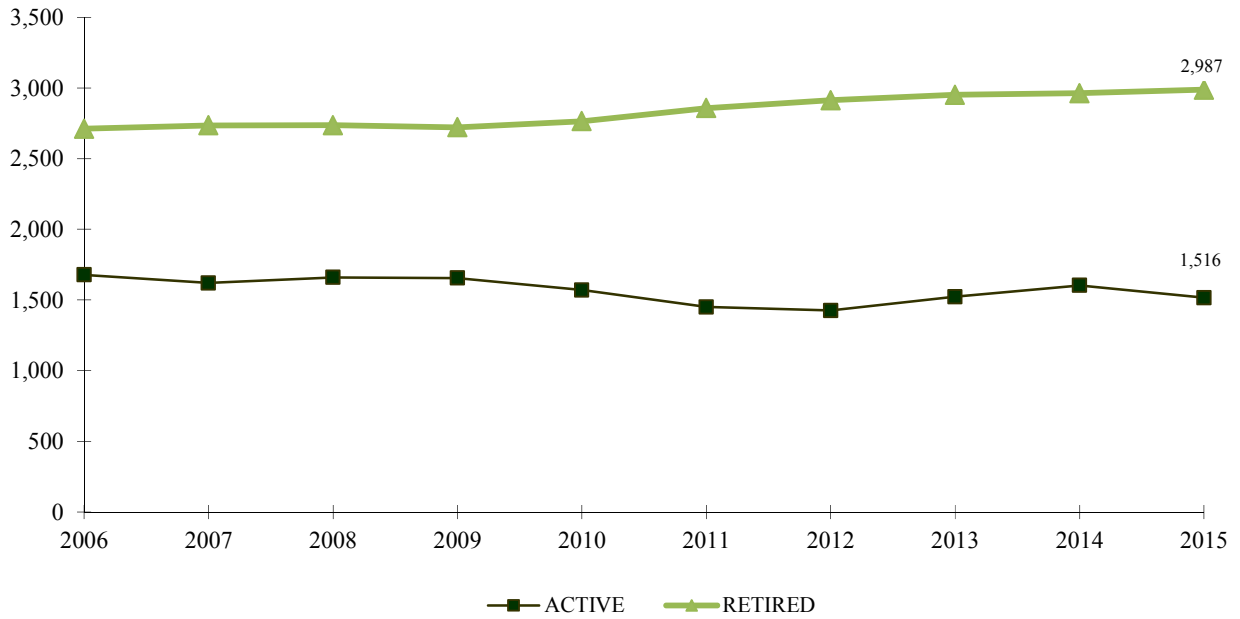
STATISTICAL SECTION

Schedule of Average Benefit Payments - Vision Last Nine Years

Payment Periods	Credited Service (Years) as of September 30							Total
	0-5	5-10	10-15	15-20	20-25	25-30	30 +	
Period 10/1/05 to 9/30/06								
Average Monthly Benefit	\$ 1,426	\$ 1,992	\$ 1,161	\$ 1,561	\$ 2,571	\$ 2,836	\$ 3,023	\$ 2,673
Average Final Average Salary	17,123	34,797	28,418	31,669	44,168	49,574	53,502	46,936
Number of Active Retirants	9	27	80	69	696	1,250	268	2,399
Period 10/1/06 to 9/30/07								
Average Monthly Benefit	\$ 1,667	\$ 2,060	\$ 1,226	\$ 1,591	\$ 2,643	\$ 2,927	\$ 3,171	\$ 2,755
Average Final Average Salary	21,265	33,615	31,285	31,674	44,568	50,293	53,637	47,440
Number of Active Retirants	14	25	88	69	701	1,255	267	2,419
Period 10/1/07 to 9/30/08								
Average Monthly Benefit	\$ 2,109	\$ 2,173	\$ 1,265	\$ 1,645	\$ 2,686	\$ 2,987	\$ 3,224	\$ 2,807
Average Final Average Salary	35,474	35,421	32,576	33,025	44,813	50,914	54,126	48,027
Number of Active Retirants	14	27	92	72	694	1,254	267	2,420
Period 10/1/08 to 9/30/09								
Average Monthly Benefit	\$ 2,148	\$ 2,229	\$ 1,284	\$ 1,713	\$ 2,746	\$ 3,039	\$ 3,284	\$ 2,857
Average Final Average Salary	41,318	35,421	32,973	35,087	45,327	51,258	54,685	48,469
Number of Active Retirants	17	27	95	74	689	1,249	260	2,411
Period 10/1/09 to 9/30/10								
Average Monthly Benefit	\$ 2,774	\$ 2,266	\$ 1,343	\$ 1,740	\$ 2,813	\$ 3,125	\$ 3,379	\$ 2,937
Average Final Average Salary	52,130	35,421	34,248	35,045	46,321	52,929	56,366	49,936
Number of Active Retirants	24	27	101	74	688	1,277	263	2,454
Period 10/1/10 to 9/30/11								
Average Monthly Benefit	\$ 2,342	\$ 2,298	\$ 1,438	\$ 1,848	\$ 2,919	\$ 3,220	\$ 3,472	\$ 3,021
Average Final Average Salary	36,454	35,421	35,619	38,668	48,110	54,882	58,357	51,537
Number of Active Retirants	51	27	105	79	691	1,331	265	2,549
Period 10/1/11 to 9/30/12								
Average Monthly Benefit	\$ 2,435	\$ 2,319	\$ 1,525	\$ 1,924	\$ 3,026	\$ 3,328	\$ 3,527	\$ 3,089
Average Final Average Salary	36,182	35,352	38,399	40,673	50,036	56,857	59,026	52,637
Number of Active Retirants	148	25	111	80	676	1,310	256	2,606
Period 10/1/12 to 9/30/13								
Average Monthly Benefit	\$ 2,813	\$ 2,328	\$ 1,550	\$ 1,918	\$ 3,048	\$ 3,365	\$ 3,578	\$ 3,157
Average Final Average Salary	52,704	34,695	38,928	40,777	49,820	57,084	59,413	53,729
Number of Active Retirants	28	26	116	84	727	1,390	265	2,636
Period 10/1/13 to 9/30/14								
Average Monthly Benefit	\$ 1,454	\$ 2,393	\$ 1,580	\$ 2,078	\$ 3,010	\$ 3,483	\$ 3,653	\$ 3,227
Average Final Average Salary	14,124	35,421	39,119	44,925	48,043	59,417	60,387	54,786
Number of Active Retirants	8	27	115	93	683	1,455	256	2,637

Source: Gabriel Roeder Smith & Co.

Ten Year History of Membership Fiscal Year Ended September 30



Source: Gabriel Roeder Smith & Co.

ACKNOWLEDGMENTS

The *Michigan State Police Retirement System Comprehensive Annual Financial Report* is prepared by Financial Services, Fiscal Management Division. Staff of the division for the fiscal year 2015 report included:

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The report may be viewed on-line at: www.michigan.gov/ors