



**MICHIGAN OFFICE OF
RETIREMENT SERVICES**
Big Plans. Small Steps.



Summary Annual Report

for The State Police Retirement System,
a Pension and Other Employee Benefit
Trust Fund of the State of Michigan
Fiscal Year Ended September 30, 2016

Prepared By
Office of Retirement Services
Department of Technology, Management and Budget

About the Michigan State Police Retirement System

This report is in compliance with Public Employee Retirement System Investment Act, 1965 PA 314, as amended. The contents come from the complete Michigan State Police Retirement System 2016 Comprehensive Annual Financial Report (CAFR), available on our website at www.michigan.gov/orsmsp, the Annual Actuarial Valuations as of September 30, 2016, and additional analysis performed after September 30, 2016.

The Michigan State Police Retirement System serves 3,018 retirees receiving monthly benefits, and 1,688 active defined benefit plan members. State police pensions are protected by Michigan's Constitution. The System's net assets are held in trust to meet future benefit payments.

The State Treasurer is the investment fiduciary and custodian of all investments of the System pursuant to state law.

Executive Summary

The System's assets increased by approximately \$9.7 million in fiscal year 2016. The AAL for pension and OPEB increased by approximately \$2.3 million primarily due to a reduction in the discount rate for the non-Pension Plus and OPEB plans from 8 percent to 7.5 percent.

Statement of Assets and Liabilities

FY 2016	Pension*	OPEB**
Actuarial Accrued Liability	\$ 2,007,503,481	\$ 753,451,826
Present Value of Assets	\$ 1,272,574,817	\$ 116,709,016
Unfunded Actuarial Accrued Liability	\$ 734,928,664	\$ 636,742,810
Funding Ratio	63.4%	15.5%

* Source: 2016 SPRS Pension Actuarial Valuation, Page B-1

** Source: 2016 SPRS OPEB Actuarial Valuation, Page A-2

FY 2015	Pension*	OPEB**
Actuarial Accrued Liability	\$ 1,851,427,004	\$ 675,587,630
Present Value of Assets	\$ 1,197,222,014	\$ 94,770,252
Unfunded Actuarial Accrued Liability	\$ 654,204,990	\$ 580,817,378
Funding Ratio	64.7%	14.0%

* Source: 2015 SPRS Pension Actuarial Valuation, Page B-1

** Source: 2015 SPRS OPEB Actuarial Valuation, Page A-2

Membership

Members of this defined benefit plan are enlisted Michigan State Police officers. Membership in the plan is automatic when officers complete recruit school and subscribe to the constitutional oath of office.

Members also include officers participating in the Deferred Retirement Option Plan (DROP) and receiving employee wages.

Employees who work for the Michigan State Police but are not enlisted officers are not members of this plan.

Plan Membership and Retirement Allowances as of September 30, 2016	
Membership	
Retirees and Beneficiaries Currently Receiving Benefits	
Regular Benefits	2,325
Survivor Benefits	496
Disability Benefits	197
Total	3,018
Current Employees	
Vested	935
Non-vested	753
Total	1,688
DROP Participants	270
Inactive Employees	
Entitled to benefits and not yet receiving them	44
Total All Members	5,020
Source: CAFR for the fiscal year ended September 30, 2016, p. 23	
Retirement Allowances	
Average annual retirement allowance	\$ 38,019
Total annual retirement allowances being paid	\$ 114,742,829
Source: Pension Actuarial Valuation for the fiscal year ended September 30, 2016, p. D2	

Benefit Structures

Michigan State Police troopers and sergeants enlisted before June 10, 2012, are in the Defined Benefit (DB) plan. Newly-hired command officers are still eligible to become members of the DB plan.

The Pension Plus retirement plan was introduced for troopers and sergeants enlisted on or after June 10, 2012. Pension Plus is a hybrid plan that contains a pension component with an employee contribution and a flexible and portable defined contribution account.

Assets and Liabilities

The System's total market value of assets as of September 30, 2016, were \$1.5 billion, mostly comprised of cash, investments, and contributions due from employers.

Total liabilities as of September 30, 2016, were \$99.1 million and include warrants outstanding, accounts payable, other accrued liabilities and obligations under securities lending.

Total net assets held in trust for pension and Other Post-Employment Benefits (OPEB) increased \$66.6 million from the previous year.

Assets & Liabilities (in thousands) (combined pension and OPEB)			
Assets	FY 2016		FY 2015
Cash	\$	10,824	\$ 4,666
Receivables		9,228	7,710
Securities Lending Collateral		97,117	78,493
Investments		1,376,741	1,317,815
Total Assets	\$	1,493,910	\$ 1,408,683
Liabilities	FY 2016		FY 2015
Accounts Payable and Other Liabilities	\$	2,146	\$ 2,027
Obligations Under Securities Lending		96,983	78,481
Total Liabilities	\$	99,129	\$ 80,508
Net Assets	\$	1,394,780	\$ 1,328,176

Source: CAFR for the fiscal year ended September 30, 2016, p. 17

Note: Liabilities in this context are exclusive of Actuarial Accrued Liabilities (AAL) for pension and OPEB.

Revenue and Expenditures

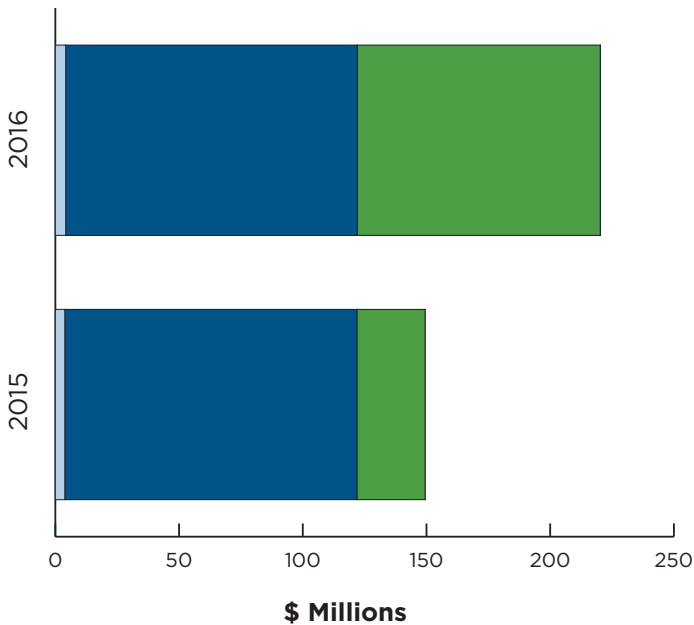
The reserves needed to finance pension and OPEB are accumulated through the collection of employer and employee contributions and through earnings on investments. Contributions and net investment income for fiscal year 2016 totaled \$220 million.

The primary expenses of the System include the payment of pension benefits to members and beneficiaries, payment of health, dental and vision benefits, refund of contributions to former members, and the cost of administering the System.

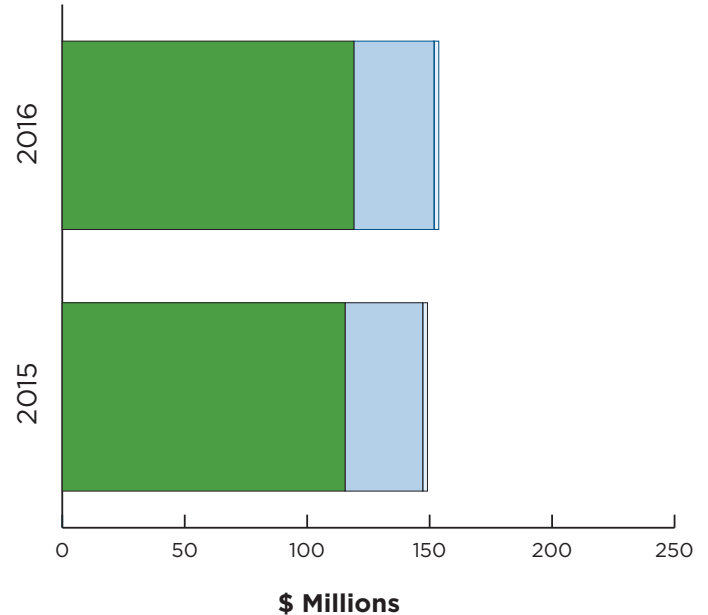
Additions & Deductions (in thousands) (combined pension and OPEB)			
Additions	FY 2016		FY 2015
Member Contributions	\$	4,170	\$ 3,807
Employer Contributions		117,853	118,073
Net Investment Income (loss)		98,207	27,562
Transfers and Misc. Income		115	12
Total Additions	\$	220,345	\$ 149,454
Deductions	FY 2016		FY 2015
Benefit Payments	\$	119,081	\$ 115,466
Health, Dental, & Vision Benefits		32,668	31,697
Transfers & Refunds		13	3
Administrative Expenses		1,977	1,945
Total Deductions	\$	153,740	\$ 149,110
Beginning of Year Assets	\$	1,328,176	\$ 1,327,832
End of Year Net Assets	\$	1,394,780	\$ 1,328,176

Source: CAFR for the fiscal year ended September 30, 2016, p. 18

Revenue



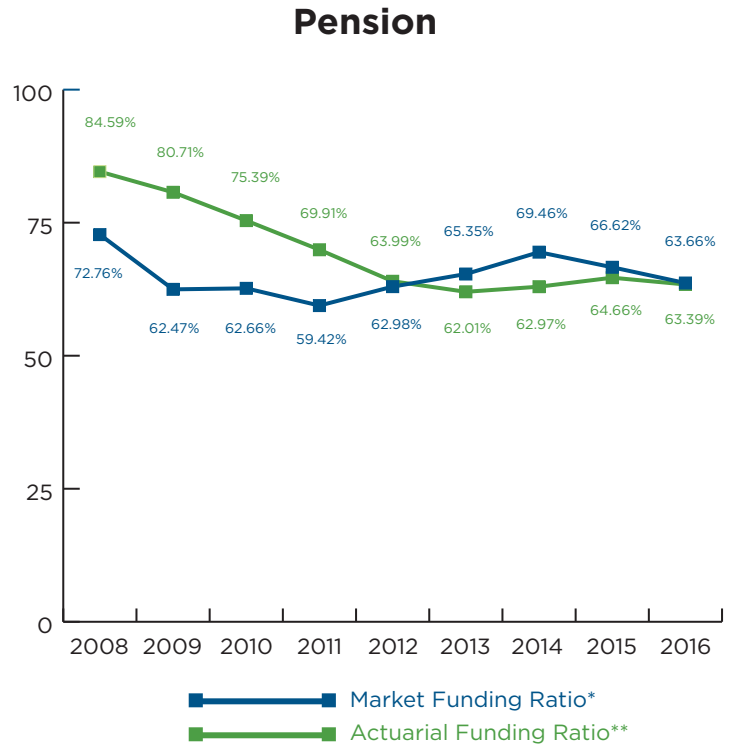
Expenditures



Market and Actuarial Funding Ratios

Pension

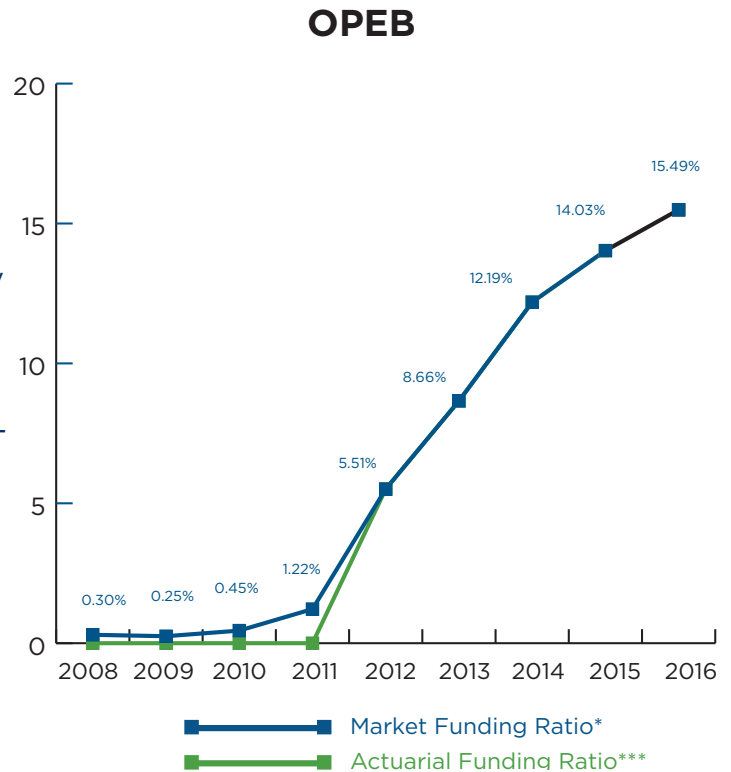
The market funding ratio is based on the market value of assets at fiscal year end. The actuarial funding ratio is the best practice used by all pension plans nationwide. It incorporates a five year “smoothing” period, which minimizes volatility in a pension system’s funding requirements.



OPEB

Starting in 2012, the System began pre-funding retiree healthcare costs, which significantly decreased the liability and increased the asset levels. Pre-funding is a best practice that invests assets and allows investment returns to help fund the plan. Many states do not pre-fund. This reform puts Michigan on the leading edge of retirement funding practices.

Before 2012, the System was funded on a pay-as-you-go basis. The funding ratio will improve over time as pre-funding contributions are made to the plan.



*Calculated on Market Value of Assets

**Source: Pension Actuarial Valuation for the fiscal year ended September 30, 2016, p. B-8

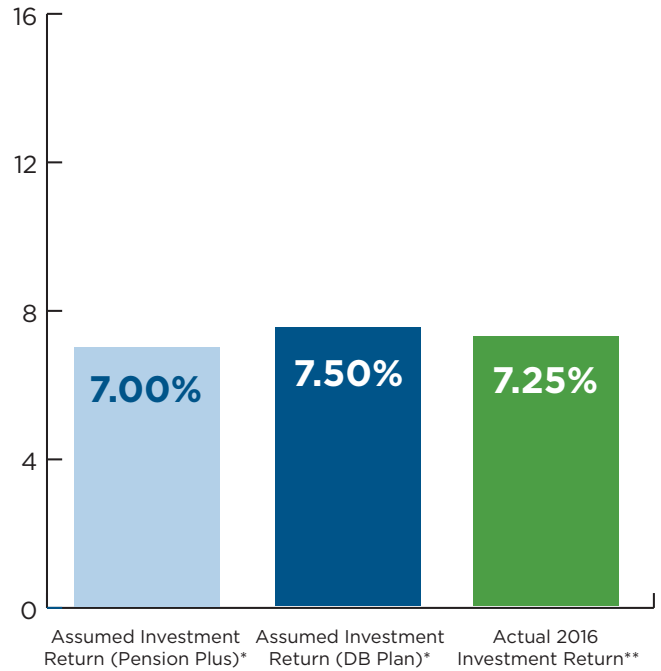
***Source: OPEB Actuarial Valuation for the fiscal year ended September 30, 2016, Appendix A-1

Assumed and Actual Investment Returns

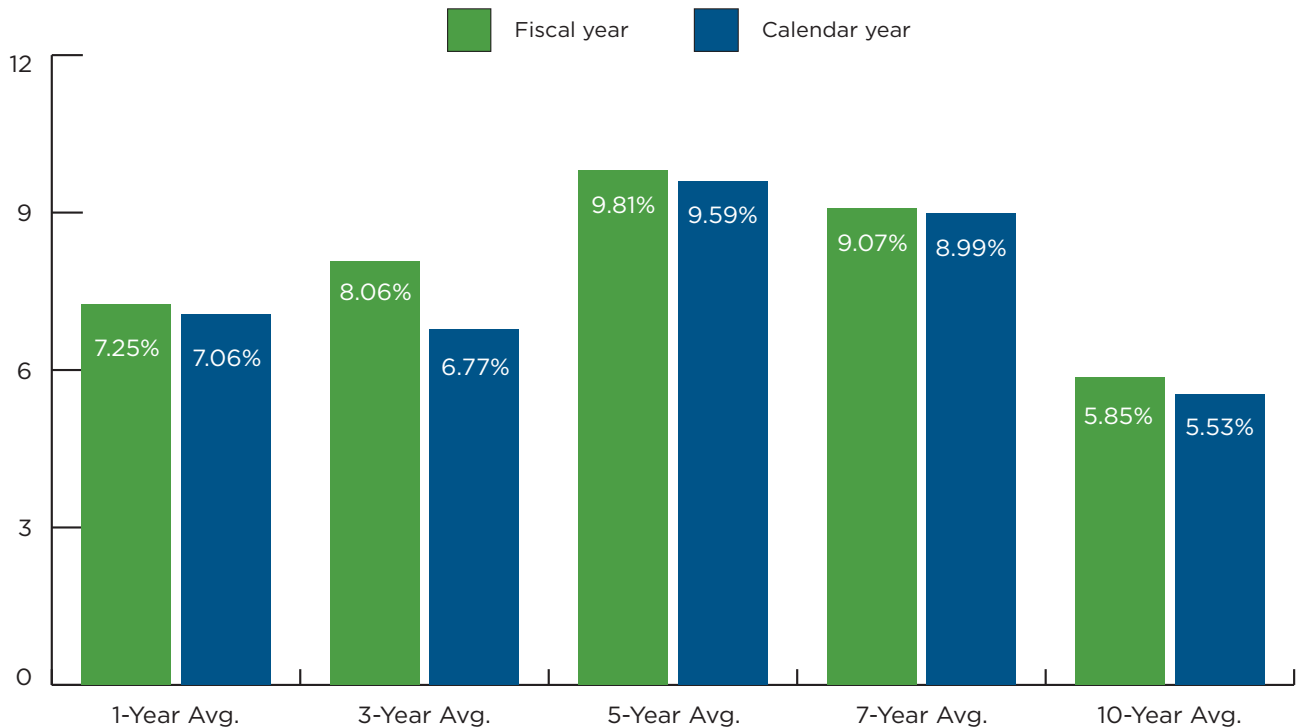
The State Treasurer administers all of the System's investments in accordance with the Public Employee Retirement System Investment Act, Public Act 314 of 1965. The main objective is maximizing the rate of return while meeting the actuarial assumptions through maintaining a diverse portfolio, eliminating unnecessary risks, and investing prudently.

The assumed rate of investment return is a key assumption used by the plan actuary in determining the contribution rates each year. These assumptions are different for the DB Plan and Pension Plus Plan: 7.5 percent and 7 percent, respectively. When investments do not exceed the assumed rates of return, this results in an actuarial loss for the System. The actual rate of investment return in FY 2016 was 7.25 percent, which is less than the assumed rate of 7.5 percent for the DB Plan.

Assumed and Actual Investment Returns for Fiscal Year 2016



Historical Investment Returns as of Fiscal Year 2016**



Note: These figures are shown net of fees. Information shown in the CAFR is shown gross of fees.

*Source: Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2016, p. E-2

** Source: Treasury Bureau of Investments FY2016

Member and Employer Contributions

Employer Contributions

The statute requires the employer to 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 the contribution rates do not have to increase over time.

Definition of Normal Cost

Normal Cost is the actual cost of the retirement benefit a member earns each year, and is set using the assumed rate of investment return in addition to other actuarial assumptions. After member contributions are accounted for, the employer pays the remainder of the Normal Cost as shown here.

Member and Employer Pension Contributions	
Member Contributions	
Weighted Average	
Pension Plus	4.00%
Defined Benefit (DB) Plan	1.70%
Employer Contributions	
Normal Cost of benefits expressed as a percentage of valuation payroll	
Pension Plus	9.05%*
Defined Benefit (DB) Plan	18.56%
UAAL contribution rate expressed as a percentage of valuation payroll	
Pension Plus	42.79%
Defined Benefit (DB) Plan	42.79%
Valuation Payroll	\$ 131,986,492
*Note: This is the defined benefit component of Pension Plus. There is an additional 1 percent employer match for the defined contribution component.	
Source: Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2016, p. A-1	

2016 Plan Expenditures

Plan Expenses for Fiscal Year Ended September 30, 2016*		
Administrative and Other Expenses		
	Dollars	% of Total
These expenditures are the administrative costs of running the retirement system, and are paid by DTMB – Office of Retirement Services and DTMB – Financial Services through an annual appropriation.		
Personnel Services		
Staff Salaries	\$ 163,255	0.10289%
Retirement and Social Security	42,414	0.02673%
Other Fringe Benefits	15,392	0.00970%
Total	<u>\$ 221,061</u>	<u>0.13932%</u>
Professional Services		
Accounting	\$ 17,733	0.01118%
Actuarial	90,812	0.05723%
Attorney General	20,645	0.01301%
Audit	54,000	0.03403%
Consulting	1,390	0.00088%
Medical	10,816	0.00682%
Total	<u>\$ 195,396</u>	<u>0.12315%</u>
Building and Equipment		
Building Rentals	\$ 9,600	0.00605%
Equipment Purchase, Maintenance, and Rentals	1,449	0.00091%
Total	<u>\$ 11,049</u>	<u>0.00696%</u>
Miscellaneous		
Travel & Board Meetings (Excluding Travel & Education for Board Members)	\$ 313	0.00020%
Office Supplies	788	0.00050%
Postage, Telephone, and Other	27,546	0.01736%
Printing	2,249	0.00142%
Technological Support	116,080	0.07316%
Subtotal	146,975	0.09263%
Travel and Education for Board Members	653	0.00041%
Total Administrative and Other Expenses	<u><u>\$ 575,134</u></u>	<u><u>0.36247%</u></u>
Health, Dental & Vision Fees		
	Dollars	% of Total
These expenditures are for self-insurance of the health, dental, and vision plans, and are paid from the retirement system's trust fund.		
Staff Salaries	\$ 72,340	0.04559%
Health Fees	1,219,418	0.76852%
Dental Fees	96,356	0.06073%
Vision Fees	14,178	0.00894%
Total Health and Dental Fees	<u>\$ 1,402,293</u>	<u>0.88377%</u>
Investment Expenses		
	Dollars	% of Total
These expenditures are related to the Department of Treasury (Bureau of Investments) for managing the retirement system's assets, and are paid from the retirement system's trust fund.		
Real Estate Operating Expenses	\$ 32,272	0.02034%
Securities Lending Expenses	365,422	0.23030%
Other Investment Expenses		
ORS-Investment Expenses	380,791	0.23999%
Custody Fees	35,289	0.02224%
Management Fees	4,018,614	2.53267%
Research Fees	98,152	0.06186%
Total Investment Expenses	<u>\$ 4,930,540</u>	<u>3.10740%</u>
Benefits Paid to Members		
	Dollars	% of Total
These are the actual retirement benefits paid to members of the retirement system.		
Retirement Benefits	\$ 119,081,074	75.04902%
Health Benefits	30,057,236	18.94311%
Dental/Vision Benefits	2,610,712	1.64536%
Refunds of Member Contributions	13,299	0.00838%
Total Payments to Members	<u>\$ 151,762,321</u>	<u>95.64588%</u>
Soft Dollar Expenses**		
	Dollars	% of Total
These expenditures are for research provided by the retirement system's service providers, and are incorporated into the brokerage fees and commissions.		
Bass Trading Int'l Group (BTIG)		
Macro Mavens Newsletter	\$ 758	0.00048%
High Tech Strategist	3	0.00000%
Total Soft Dollar Expenditures	<u>761</u>	<u>0.00048%</u>
Total of All Sections Above	<u><u>\$ 158,671,050</u></u>	<u><u>100%</u></u>

*Source: DTMB Financial Services report

**Source: Treasury Bureau of Investments

2017 Budget for Plan Expenditures

Budget for Plan Expenses for Fiscal Year Ending September 30, 2017*		
Administrative and Other Expenses	Dollars	% of Total
These expenditures are the administrative costs of running the retirement system, and are paid by DTMB – Office of Retirement Services and DTMB – Financial Services through an annual appropriation.		
Personnel Services		
Staff Salaries	\$ 185,457	0.10395%
Retirement and Social Security	44,313	0.02484%
Other Fringe Benefits	15,815	0.00886%
Total	\$ 245,585	0.13765%
Professional Services		
Accounting	\$ 19,069	0.01069%
Actuarial	86,000	0.04820%
Attorney General	19,845	0.01112%
Audit	55,000	0.03083%
Consulting	3,000	0.00168%
Medical	19,000	0.01065%
Total	\$ 201,914	0.11318%
Building and Equipment		
Building Rentals	\$ 10,015	0.00561%
Equipment Purchase, Maintenance, and Rentals	1,541	0.00086%
Total	\$ 11,556	0.00648%
Miscellaneous		
Travel & Board Meetings (Excluding Travel & Education for Board Members)	\$ 339	0.00019%
Office Supplies	239	0.00013%
Postage, Telephone, and Other	28,593	0.01603%
Printing	2,764	0.00155%
Technological Support	126,486	0.07090%
Subtotal	158,421	0.08880%
Travel and Education for Board Members	1,000	0.00056%
Total Administrative and Other Expenses	\$ 618,476	0.34666%
Health, Dental & Vision Fees	Dollars	% of Total
These expenditures are for self-insurance of the health, dental, and vision plans, and are paid from the retirement system's trust fund.		
Staff Salaries	\$ 82,178	0.04606%
Health Fees	1,304,778	0.73135%
Dental Fees	103,101	0.05779%
Vision Fees	15,171	0.00850%
Total Health and Dental Fees	\$ 1,505,228	0.84370%
Investment Expenses	Dollars	% of Total
These expenditures are related to the Department of Treasury (Bureau of Investments) for managing the retirement system's assets, and are paid from the retirement system's trust fund.		
Real Estate Operating Expenses	\$ 15,510	0.00869%
Securities Lending Expenses	377,802	0.21176%
Other Investment Expenses		
ORS-Investment Expenses	439,156	0.24615%
Custody Fees	31,341	0.01757%
Management Fees	3,928,309	2.20187%
Research Fees	83,055	0.04655%
Total Investment Expenses	\$ 4,875,173	2.73260%
Benefits Paid to Members	Dollars	% of Total
These are the projected retirement benefits paid to members of the retirement system.		
Retirement Benefits	\$ 132,465,918	74.24893%
Health Benefits	36,107,213	20.23858%
Dental/Vision Benefits	2,827,535	1.58487%
Refunds of Member Contributions	7,553	0.00423%
Total Payments to Members	\$ 171,408,218	96.07661%
Soft Dollar Expenses**	Dollars	% of Total
These expenditures are for research provided by the retirement system's service providers, and are incorporated into the brokerage fees and commissions.		
Bass Trading Int'l Group (BTIG)		
Macro Mavens Newsletter	\$ 758	0.00042%
High Tech Strategist	3	0.00000%
Total Soft Dollar Expenditures	761	0.00043%
Total of All Sections Above	\$ 178,407,856	100%
*Source: DTMB Financial Services report		
**Source: Treasury Bureau of Investments		

Actuarial 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, investment performance, and the healthcare cost trend.

Actuarial Assumptions for Fiscal Year Ended September 30, 2016	
Actuarial Cost Method	Entry Age, Normal
Amortization Method – Pension	Level Percent of Payroll
Amortization Method – OPEB	Level Percent of Payroll
Amortization Period	Ending Sept. 30, 2036
Asset Valuation Method	5–Year Smoothed, Closed Period
Wage Inflation Rate	3.5%
Investment Rate of Return – Pension	
Defined Benefit Plan – Closed	7.5%
Pension Plus Plan – Open	7.0%
Investment Rate of Return – OPEB – Closed*	7.5%
Healthcare Cost Trend Rate	9.0% Year 1 graded to 3.5% Year 10
<p>*Note: The OPEB plan is closed to new troopers and sergeants hired on or after June 10, 2012. These members participate in the Personal Healthcare Fund and may become eligible for a lump sum payment of \$2,000 into a Health Reimbursement Account at termination (with at least 10 years of service).</p>	
<p>Source: Pension and OPEB Actuarial Valuations for the fiscal year ended September 30, 2016</p>	

Michigan State Police Retirement System Service Providers

A service provider is any individual, third-party agent or consultant, or other entity that receives direct or indirect compensation for consulting, investment management, brokerage, or custody services related to the system's assets.

Accel Partners	Carlyle Group LP	Fortress Investment Group
Advent International Corp	Carlyle Investment Management	Fox Paine & Company LLC
AEW Capital Management	Castle Harlan Inc	Freeman, Spogli & Co
Affinity Equity Partners	CCMP Capital Advisors LLC	FrontPoint Partners
Apax Partners Worldwide LLP	Centerbridge Capital	FTN Financial
Apollo Capital Management	Cerberus Capital Management LP	Gateway Capital
Apollo Global Management LLC	CIE Management - BC Partners	Genstar, LLC
Arboretum Ventures	CIM Investment Advisors	Goldman Sachs
Arclight Capital Partners	Citigroup	Grosvenor Capital Management LP
Ardian	Citigroup Global Markets Inc	GSO Capital Partners
Ares Management LLC	Clarion Partners	HC Wainwright
ARK Investment Management	Clarkston Capital Partners LLC	HarbourVest Partners LLC
Attucks Asset Management	Coller Capital	Harvest Partners LLC
Avanath Capital Management	Columbia Management Investment Advisors	Heitman Capital Management
Axiom Asia Private Capital	CoStar Realty Information Inc	Highbridge Principal Strategies
Bank of America/Merrill	Cowen Group	Hilltop Securities
Bank of Montreal	Credit Suisse Securities LLC	Hopen Life Sciences Ventures
Barclay's Capital	Crescent Capital Group	HPS Investment Partners III LLC
Barings	Czech Asset Management	Huron Capital Partners LLC
Basalt Infrastructure Partners	DA Davidson & Co	InSight Venture Partners
BB&T Capital Markets	Dalmore Capital Limited	Invesco Ltd
Beacon Capital Partners	Deutsche Bank	Jana Partners
Bentall Kennedy	Devon Self Storage	Jefferies
Beringea	DLJ Merchant Banking Partners	JP Morgan Asset Management
Berkshire Partners LLC	Dodge & Cox	JP Morgan Investment Management
BGC Partners	Domain Capital Advisors	JP Morgan Securities LLC
Bivium Capital Partners	Drexel Hamilton	Kayne Anderson
BlackRock Financial Management	EDF Ventures	KBS Realty Advisors
Blackstone Alternative Asset Management	Effissimo Capital Management	Kelso & Company
Blackstone Group	EnCap Investments LP	Kensington Realty Advisors
BMO Capital Markets	EnTrust Capital	Kevin Miller Financial Services
BNP Paribas Finance	Fidelity Institutional Asset Management	Khosla Ventures
BNY ConverEx	FIMI Opportunity Funds	Kohlberg Kravis Roberts & Co
Brevan Howard Asset Management	First Reserve Management	L&B Realty Advisors
Bridgepoint Capital	FirstMark Capital	Landmark Realty Advisors
Brookfield Asset Management Inc	Fisher Investments Institutional Group	LaSalle Investment Management
BTIG Inc	Five Star Realty Partners	Lazard Asset Management
Cantor Fitzgerald	Flagship Ventures	Leonard Green & Partners LP
Capital Institutional Services		LGT Capital Partners
Capri Capital Partners		Lightspeed Ventures

Michigan State Police Retirement System Service Providers, continued

Lion Capital	Paladin Realty Partners	Stifel Nicolaus & Co
Lombard International Life Assurance Company	Parallel Resource Partners	Stockbridge Capital Group
Lonestar	Parthenon Capital Inc	Stonepeak Advisors LLC
Loomis Sayles & Co	Peninsula Capital Partners LLC	Sun Trust, Robinson, Humphrey
Los Angeles Capital Management	Phoenix Equity Partners	Susquehanna Intl Group
Lowe Enterprises Investment Management	PIMCO	T Rowe Price Associates
Lubert-Adler Management Company	Piper Jaffray	TCW Group Inc
Marathon Asset Management	Principal CMBS	TH Real Estate Limited
MarketAxess	Principal Financial Group	The John Buck Company
Matlin Patterson Global Advisors	Proprium Capital Partners	Thomas Bravo
Menlo Management Partners	Prudential Fixed Income	TPG Real Estate Advisors
Merit Energy	Prudential Insurance Co	TPG Inc
Meritech Capital Partners	Prudential Investment Management	Transwestern Investment Management
Merrill Lynch Pierce Fenner & Smith	Public Pension Capital	Trilantic Capital Management LLC
Mesirow Financial Inc	Questor Management Company LLC	True North Management Group
Metropolitan West Asset Management	Raymond James & Assoc	TSG Consumer Partners
MFR Securities Inc	RBC Capital Markets	Turnbridge Capital Management LLC
Mischler Financial Group	RBS Securities	UBS
Morgan Stanley	Renaissance Venture Capital	US Bancorp
Multi-Bank Securities	Rhone Capital	Venator Real Estate
Napier Park Global Capital	Rialto Capital	Veritas Capital Fund LP
New Leaf Venture Partners	Ridgewood Energy	Victory Capital
Nordic Capital	Riverside	Visium Capital Management
NorthPointe Capital	RW Baird	Vista Equity Partners
Oak Investment Partners	RW Pressprich & Co	Warburg, Pincus LLC
Oaktree Capital Management LLC	Sanford C. Bernstein & Co Inc	Warwick Energy Group
One Liberty Ventures	Scotia Capital (USA) Inc	Wayne Co
Oppenheimer & Co	Seizert Capital Partners	Wellington Management Co
Orchard Global Asset Management	Shamrock Capital Advisors	Wellington Trust Co
Orion Resource Partners	Siguler, Guff & Co LLC	Wells Fargo Securities LLC
OTA Ltd Partnership	Silver Lake	Western National Group
P Schoenfeld Asset Management	Societe Generale	
	Sprott Resources	
	Sprout Group	
	State Street Global Advisors	

Our website is available seven days a week, even when our office is closed:
www.michigan.gov/ormsmp

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