



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



Summary Annual Report

for The Michigan Public School Employees'
Retirement System, a Pension and Other Employee
Benefit Trust Fund of the State of Michigan
Fiscal Year Ended September 30, 2017

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

A Message from the Director



Director Kerrie Vanden Bosch

The Office of Retirement Services (ORS) is pleased to present the Summary Annual Report for the Michigan Public School Employees' Retirement System for the fiscal year ending September 30, 2017.

ORS provides retirement and related retiree healthcare plans to help more than 675 public school employers attract, retain, and reward a highly qualified workforce.

ORS is able to provide these benefits cost-effectively while achieving high customer satisfaction scores. In 2016, the total defined benefit pension administration cost was \$56 per active member and retiree. This was \$36 below the peer average of \$92 per active member and retiree (CEM Benchmarking). In that same year, 89 percent of customers reported that they were satisfied with ORS services.

AVERAGE ADMIN. COST

\$56

per member/retiree

Accomplishments

Reform to the System

In July, Public Act 92 of 2017 was signed into law. This established a Pension Plus II plan for public school employees hired after January 31, 2018, who elect to become members. The new benefit structure was established with more conservative actuarial assumptions that reduce the risk of future unfunded liabilities. Additionally, the law eliminated most forms of service credit purchases for existing members. ORS mobilized to ensure members were informed of their options to purchase service credit before the September 29, 2017, deadline. ORS also made significant strides in revising our financial accounting, customer account management, and employer records systems to comply with the new law.

Assumed Rate of Return Reduction

The retirement board and the Department of Technology, Management and Budget (DTMB) director approved lowering the assumed rate of return (AROR) on investments from 8 percent to 7.5 percent beginning with the September 30, 2016, actuarial valuation. By adopting a lower AROR, ORS is protecting the long-term security of pensions. This also follows industry best practices. National Association of State Retirement Administrators data shows the median AROR nationwide has been trending downward and is currently 7.5 percent. In addition to lowering the AROR to 7.5 percent, the DTMB director and the retirement board adopted a dedicated gains policy. The policy uses investment returns above the current AROR to reduce the rate further. The amount of the reduction is first adjusted to offset the increase in contributions. Excess investment returns in fiscal year 2017 resulted in the pension and Other Post-Employment Benefit (OPEB) ARORs being further reduced to 7.05 percent and 7.15 percent respectively.

Accomplishments, continued

Health Care Strategic Initiative Development

ORS worked with vendor partners and industry experts to develop the 2018 - 2019 Strategic Initiative Package. ORS's goal in this process is to look for ways to continue providing a high-quality plan that is affordable to both the members and the schools that fund the coverage. The new package includes benefit changes that are necessary to meet the actuarially determined cost goal for the coming years. Each change is thoroughly analyzed and researched to determine the impact to members and the retirement system. ORS is also instituting a narrow network arrangement with Blue Cross Blue Shield of Michigan for hearing aids through TruHearing. This will provide hearing aid options to members at a lower fixed cost, while providing significant savings to the State.

Small Steps Campaign

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

Treasury and ORS Team Up to Save \$1.4 Million in Fees

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

Public Pension Standards Award

ORS was awarded the 2017 Standards Award from the Public Pension Coordinating Councils Standards Program (PPCC) for both funding and administration. ORS has received 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 our fiscal year 2016 Comprehensive Annual Financial Report (CAFR). This marks the 26th consecutive year ORS has received this prestigious award.

Two NAGDCA Leadership Awards

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

About the Michigan Public School Employees' Retirement System

This report is in compliance with the Public Employee Retirement System Investment Act, 1965 PA 314, and the Public School Employees Retirement Act, 2012 PA 300, both as amended. The contents come from the complete Michigan Public School Employees' Retirement System 2017 Comprehensive Annual Financial Report (CAFR), available on our website at www.michigan.gov/orsschools, the Annual Actuarial Valuations as of September 30, 2017, and additional analysis performed after September 30, 2017.

The Michigan Public School Employees' Retirement System serves 213,989 retirees receiving monthly benefits, and 203,981 active defined benefit plan members. Public school employees' 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 present value of the assets as of September 30, 2017, was \$52.4 billion for pension and OPEB, and the total Actuarial Accrued Liability (AAL) was \$90.2 billion resulting in a total Unfunded Actuarial Accrued Liability of \$37.8 billion.

The System's assets increased by \$5.0 billion in fiscal year 2017. Asset increases were primarily due to positive investment experience as well as contributions from employers and employees. The AAL for pension and OPEB increased by \$4.2 billion primarily due to a reduction in the discount rate for the non-Pension Plus and OPEB plans from 7.50 to 7.05 percent and 7.15 percent, respectively, as a result of the dedicated gains policy. Funding ratios improved by 1.92 percentage points for pension and 7.05 percentage points for OPEB.

Statement of Assets and Liabilities				
FY 2017		Pension*		OPEB**
Actuarial Accrued Liability	\$	76,693,475,788	\$	13,587,700,412
Present Value of Assets	\$	47,255,286,564	\$	5,177,774,602
Unfunded Actuarial Accrued Liability	\$	29,438,189,224	\$	8,409,925,810
Funding Ratio		61.62%		38.11%
FY 2016		Pension***		OPEB****
Actuarial Accrued Liability	\$	72,310,445,826	\$	13,776,389,815
Present Value of Assets	\$	43,203,593,340	\$	4,279,052,407
Unfunded Actuarial Accrued Liability	\$	29,106,852,486	\$	9,497,337,408
Funding Ratio		59.70%		31.06%
*Source: 2017 MPSERS Pension Actuarial Valuation, p. B-1				
**Source: 2017 MPSERS OPEB Actuarial Valuation, p. A-2				
***Source: 2016 MPSERS Pension Actuarial Valuation, p. B-1				
****Source: 2016 MPSERS OPEB Actuarial Valuation, p. A-2				

Membership

Members of this defined benefit plan include employees of:

- K-12 public school districts
- Intermediate school districts
- District libraries
- Public school academies/Charter schools
- Community colleges

In some instances, membership includes certain employees who began working for the following universities before January 1, 1996:

- Central Michigan University
- Eastern Michigan University
- Ferris State University
- Lake Superior State University
- Michigan Technological University
- Northern Michigan University
- Western Michigan University

Plan Membership and Retirement Allowances as of September 30, 2017

Membership

Retirees and Beneficiaries Currently Receiving Benefits	
Regular Benefits	189,960
Survivor Benefits	17,878
Disability Benefits	6,151
Total	213,989
Current Employees	
Vested	101,574
Non-vested	102,407
Total	203,981
Inactive Employees	
Entitled to benefits and not yet receiving them	18,004
Total All Members	435,974

Source: CAFR for the fiscal year ended Sept. 30, 2017, p. 23

Retirement Allowances

Average annual retirement allowance	\$ 22,615
Total annual retirement allowances being paid (in thousands)	\$ 4,839,414

Source: Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2017, p. D-2

Assets and Liabilities

The System's total assets on a market basis as of September 30, 2017, were \$56.3 billion, mostly composed of cash, investments, and contributions due from employers.

Total Liabilities as of September 30, 2017, were \$4.1 billion and include warrants outstanding, accounts payable, unearned revenue, and obligations under securities lending.

Total net assets held in trust for pension and OPEB increased \$3.9 billion from the previous year.

Assets and Liabilities (in thousands) (combined pension and OPEB)				
Assets	FY 2016		FY 2017	
Cash	\$	155,650	\$	149,556
Receivables		446,907		407,445
Investments		47,919,271		52,417,069
Securities Lending Collateral		3,336,347		3,329,249
Total Assets		51,858,175		56,303,321
Liabilities	FY 2016		FY 2017	
Warrants Outstanding	\$	373	\$	717
Unearned Revenue		2,720		2,526
Accounts Payable and Other Liabilities		230,566		783,146
Obligations Under Securities Lending		3,331,758		3,327,374
Total Liabilities	\$	3,565,417	\$	4,113,763
Net Assets	\$	48,292,758	\$	52,189,558

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

Source: CAFR for the fiscal year ended September 30, 2017, p. 17

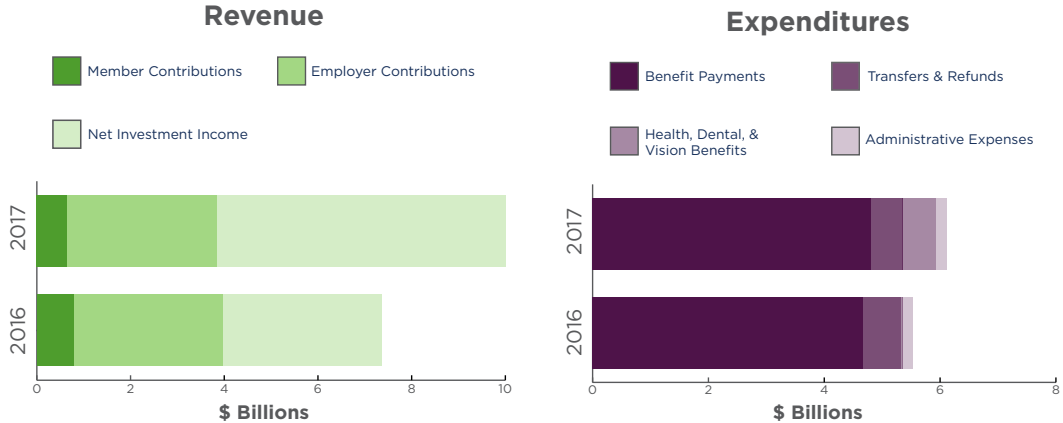
Revenue and Expenditures, Change in Net Assets

The reserves needed to finance pension and other post-employment benefits are accumulated through the collection of employer and employee contributions including earnings on investments.

Contributions and net investment income for fiscal year 2017 totaled \$10 billion. The primary expenses of the System include the payment of pension benefits to members and beneficiaries, payment for health, dental and vision benefits, refunds of contributions to former members, and the cost of administering the System.

Additions and Deductions (in thousands)				
Additions	FY 2016		FY 2017	
Members Contributions	\$	781,150	\$	642,237
Employer Contributions		3,192,600		3,193,612
Other Governmental Contributions		2,411		5
Net Investment Income (Loss)		3,384,338		6,177,748
Miscellaneous Income		642		987
Total Additions	\$	7,361,141	\$	10,014,589
Deductions	FY 2016		FY 2017	
Pension Benefits	\$	4,671,315	\$	4,806,971
Healthcare Benefits		653,071		548,258
Refunds & Transfers to Other Systems		27,090		580,073
Administrative and Other Expenses		182,571		182,488
Total Deductions	\$	5,534,047	\$	6,117,789
Net Position	FY 2016		FY 2017	
Net Increase (decrease) in Net Position	\$	1,827,095	\$	3,896,800
Beginning of Year		46,465,663		48,292,758
End of Year	\$	48,292,758	\$	52,189,558

Source: CAFR for the fiscal year ended Sept. 30, 2017, p. 18



2017 Plan Expenditures

Plan Expenses for Fiscal Year Ended September 30, 2017*

Administrative and Other Expenses		Dollars
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	\$	1,755,303
Retirement and Social Security		4,378,477
Other Fringe Benefits		1,602,815
Subtotal	\$	7,736,596
Professional Services		
Accounting	\$	1,576,963
Actuarial		298,639
Attorney General		382,353
Audit		282,500
Consulting		272,372
Medical		445,937
Subtotal	\$	3,258,763
Building and Equipment		
Building Rentals	\$	842,936
Equipment Purchase, Maintenance, and Rentals		41,457
Subtotal	\$	884,392
Miscellaneous		
Travel & Board Meetings (Excluding Travel & Education for Board Members)	\$	20,605
Office Supplies		28,580
Postage, Telephone, and Other		2,319,341
Printing		292,910
Technological Support		11,735,047
Subtotal	\$	14,396,483
Travel and Education for Board Members		2,782
Total Administrative and Other Expenses	\$	26,279,017
Health, Dental, and Vision Expenses		Dollars
These expenditures are for self-insurance of the health and dental plans, and are paid from the retirement system's trust fund.		
Staff Salaries	\$	2,459,491
Health Fees		148,101,855
Dental Fees		4,822,734
Vision Fees		817,358
Total Health, Dental, and Vision Expenses	\$	156,201,438
Investment Expenses		Dollars
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	\$	803,011
Securities Lending Expenses		28,453,351
Other Investment Expenses		
ORS-Investment Expenses		14,015,797
Custody Fees		1,240,478
Management Fees		181,827,707
Research Fees		3,429,400
Total Investment Expenses	\$	229,769,745
Benefits Paid to Members		Dollars
These are the projected retirement benefits paid to members of the retirement system.		
Retirement Benefits	\$	4,806,970,507
Health Benefits		474,021,115
Dental/Vision Benefits		74,236,553
Refunds of Member Contributions		580,052,227
Total Payments to Members	\$	5,935,280,402
Soft Dollar Expenses**		Dollars
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	\$	26,952
High Tech Strategist		116
Total Soft Dollar Expenditures	\$	27,068
Total of All Sections Above	\$	6,347,557,669

*Source: DTMB Financial Services report

**Source: Treasury Bureau of Investments

2018 Budget for Plan Expenditures

Budget for Plan Expenses for Fiscal Year Ending September 30, 2018

Administrative and Other Expenses		Dollars
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	\$	2,297,600
Retirement and Social Security		4,329,183
Other Fringe Benefits		1,576,531
Subtotal	\$	8,203,314
Professional Services		
Accounting	\$	1,545,424
Actuarial		497,350
Attorney General		351,764
Audit		427,000
Consulting		107,848
Medical		479,080
Subtotal	\$	3,408,466
Building and Equipment		
Building Rentals	\$	906,622
Equipment Purchase, Maintenance, and Rentals		139,644
Subtotal	\$	1,046,266
Miscellaneous		
Travel & Board Meetings (Excluding Travel & Education for Board Members)	\$	31,698
Office Supplies		29,466
Postage, Telephone, and Other		1,597,582
Printing		333,201
Technological Support		12,279,084
Subtotal	\$	14,271,031
Travel and Education for Board Members		3,045
Total Administrative and Other Expenses	\$	26,932,122
Health, Dental, and Vision Expenses		Dollars
These expenditures are for self-insurance of the health and dental plans, and are paid from the retirement system's trust fund.		
Staff Salaries	\$	3,219,344
Health Fees		147,953,753
Dental Fees		4,817,911
Vision Fees		816,540
Total Health, Dental, and Vision Expenses	\$	156,807,549
Investment Expenses		Dollars
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	\$	1,011,794
Securities Lending Expenses		35,851,222
Other Investment Expenses		
ORS-Investment Expenses		17,659,905
Custody Fees		1,563,003
Management Fees		229,102,911
Research Fees		4,321,044
Total Investment Expenses	\$	289,509,879
Benefits Paid to Members		Dollars
These are the projected retirement benefits paid to members of the retirement system.		
Retirement Benefits	\$	4,835,812,330
Health Benefits		476,865,242
Dental/Vision Benefits		74,681,972
Refunds of Member Contributions		26,248,117
Total Payments to Members	\$	5,413,607,661
Soft Dollar Expenses**		Dollars
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	\$	26,952
High Tech Strategist		116
Total Soft Dollar Expenditures	\$	27,068
Total of All Sections Above	\$	5,886,884,279

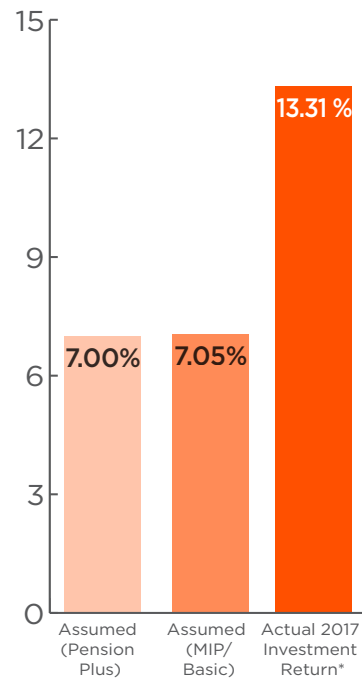
*Source: DTMB Financial Services report
 **Source: Treasury Bureau of Investments

Assumed and Actual Investment Returns

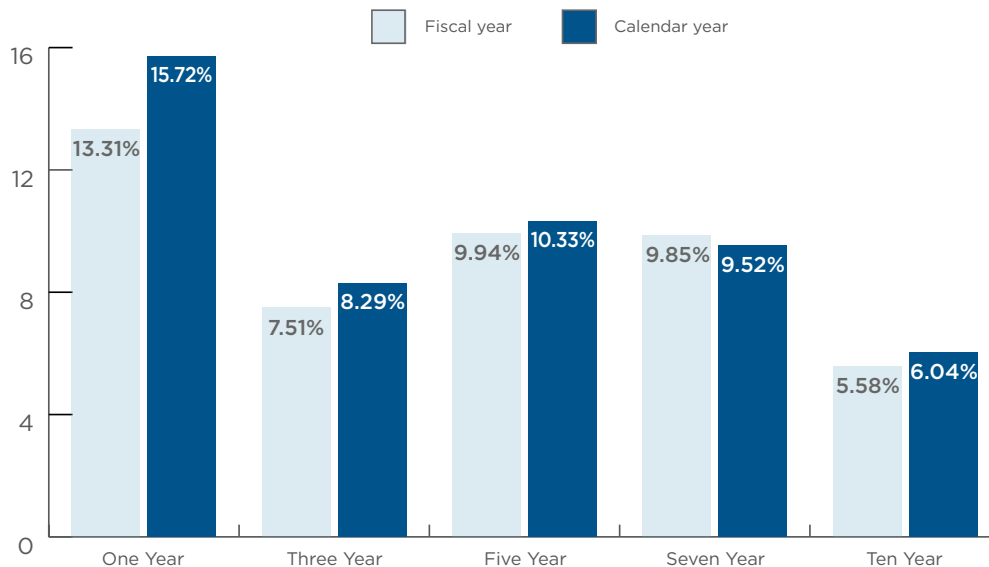
The State Treasurer administers all of the System's investments in accordance with the Public Employee Retirement System Investment Act, Public Act 314 of 1965. The main objective is maximizing the rate of return while meeting the actuarial assumptions through maintaining a diverse portfolio, eliminating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

The assumed rate of investment return is a key assumption used by the plan actuary in determining the employer contribution rates each year. Due to the adoption of the dedicated gains policy by the retirement board and the DTMB Director combined with positive investment experience in fiscal year 2017, the assumed rate of return for the MIP and Basic plans was reduced from 7.50 percent to 7.05 percent. The assumed rate of return for the Pension Plus plan is 7 percent. The actual rate of investment return in fiscal year 2017 was 13.31 percent.

Investment Returns



Historical Investment Returns as of Fiscal Year 2017**



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

**Source: Treasury Bureau of Investments

Investments and Earnings

A key function of the investment fiduciary is to ensure the retirement system’s investment portfolio is diversified. Having a diverse portfolio helps to maximize investment income responsibly while minimizing risk. Even though market performance may fluctuate, the long-term performance of the retirement system’s portfolio is stable.

Investments and Earnings*			
	Market Value		Total Investment and Interest Income
Fixed Income Pools	\$	6,428,571,249	\$ 140,961,386
Domestic Equity Pools		12,911,266,499	2,307,404,411
Real Estate & Infrastructure Pools		5,051,231,473	392,692,781
Private Equity Pool		8,164,279,262	1,137,069,770
International Equity Pools		9,518,919,832	1,589,432,573
Absolute Return Pools		7,790,608,871	731,339,837
Short Term Investment Pools		2,701,749,247	19,171,967
Market Value and Net Investment Gain	\$	52,566,626,434	\$ 6,318,072,725

Investment Classes*



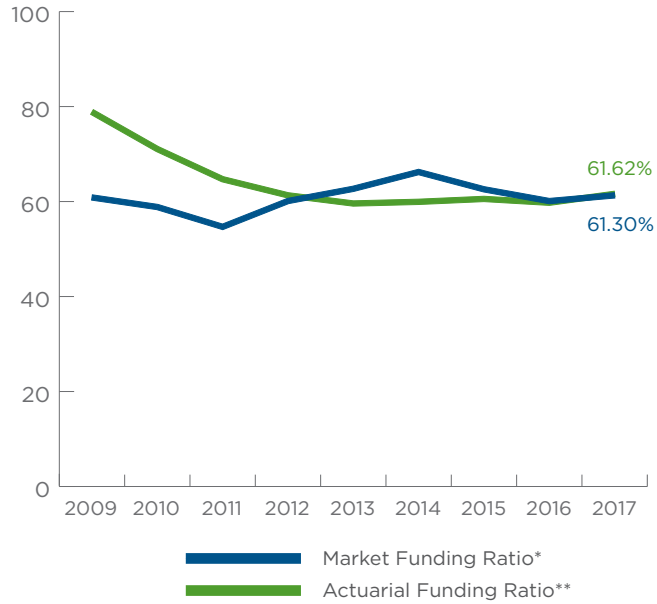
- Fixed Income Pools - 12.2%
- Domestic Equity Pools - 24.6%**
- Real Estate & Infrastructure Pools - 9.6%**
- Private Equity Pools - 15.6%**
- International Equity Pools - 18.1%**
- Absolute Pools - 14.8%**
- Short Term Investment Pools - 5.1%**

*Source: CAFR for the Fiscal Year ended Sept. 30, 2017, p. 79.

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.

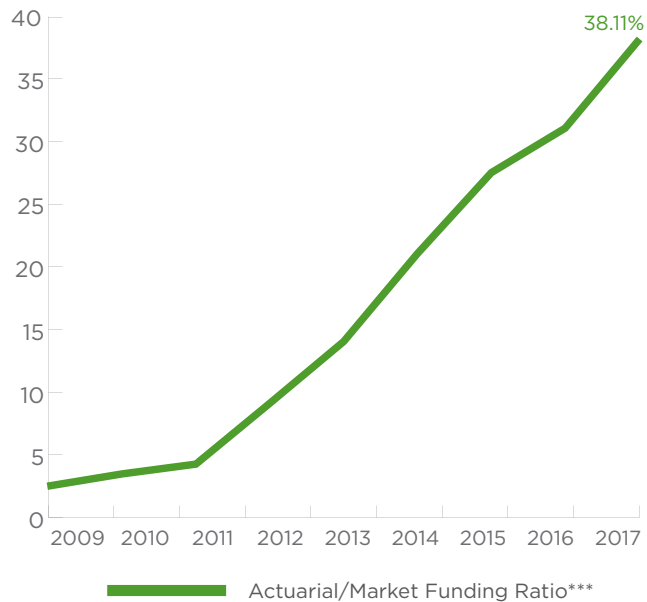


*Calculated on Market Value of Assets

**Source: Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2017, p. B-8

OPEB

Starting in fiscal year 2013, the System began pre-funding OPEB 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 OPEB costs. This reform put Michigan on the leading edge of OPEB funding practices.



Note: Actuarial Value of Assets is equal to the reported market value of assets as of the valuation date.

***Source: OPEB Actuarial Valuation for the fiscal year ended Sept. 30, 2017, p. F-1

Member and Employer Contributions

Employer Contributions

Statute requires participating employers 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 remain stable.

Definition of Normal Cost

Normal Cost is the 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. All Pension Plus I and II, MIP, and some Basic plan members contribute toward the cost of their retirement benefits. 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	
Basic/MIP	4.72%
Pension Plus	4.94%
Pension Plus II	6.20%

Employer Contributions

Normal Cost of benefits expressed as a percentage of valuation payroll	
Basic/MIP	6.02%
Pension Plus	3.06%
Pension Plus II	6.20%

UAAL contribution rate expressed as a percentage of valuation payroll	
Basic/MIP	24.07%
Pension Plus	24.07%
Pension Plus II	24.07%

Valuation Payroll	
For Normal Cost	\$ 8,726,859,711
For Unfunded Actuarial Accrued Liabilities (UAAL)	\$ 9,090,040,556

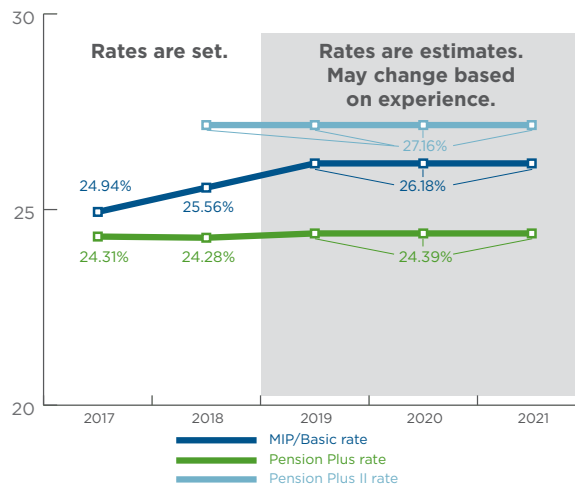
*Note: This is the defined benefit component of Pension Plus. There is an additional 1 percent employer match for the defined contribution component.

Source: Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2017, p. A-1

Contribution Rates

Contribution rates are determined actuarially based on the economic conditions and an assumed investment return each year. Contribution rates for fiscal years 2017 and 2018 have been calculated, provided to the employers, and published on the employer website.

Leveled rates for fiscal years 2019, 2020, and 2021 are estimated using the most recent data available.



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. In accordance with Section 41(1) of the MPSERS statute (Act 300 of the Public Acts of 1980, as amended), the actuarial assumptions are adopted by the retirement board and the Department of Technology,

Management, and Budget after consultation with the actuary and the State Treasurer. Examples include assumptions about future employment, investment performance, and the healthcare cost trend.

Actuarial Assumptions for Fiscal Year Ended September 30, 2017

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, 2038
Asset Valuation Method	5-Year Smoothed, Closed Period
Wage Inflation Rate	3.5%
Assumed Rate of Return - Pension	
MIP and Basic - Closed	7.05%
Pension Plus - Closed	7.00%
Pension Plus II - Open	6.00%
Assumed Rate of Return - OPEB - Closed*	7.15%
Healthcare Cost Trend Rate	7.00% Year 1 graded to 3.5% Year 12

*Note: The OPEB plan closed to employees first hired on or after September 4, 2012. These employees participate in the Personal Healthcare Fund and may become eligible for a lump sum payment into a Health Reimbursement Account upon their first termination from employment (\$1,000 with at least 10 years of service if under age 60; \$2,000 with at least 10 years of service if age 60 or older). These employees have the option of enrolling in MPSERS Retiree Healthcare at full cost at termination.

Source: Pension and OPEB Actuarial Valuations for the fiscal year ended Sept. 30, 2017.

Investment 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.

Advent International Corp	Capital Institutional Services
AEW Capital Management	(CAPIS)
Affinity Equity Partners	Capri Capital Partners
Ancora Advisors, LLC	Carlyle Group, LP
Aon Hewitt	Carlyle Investment Management
Apax Partners Worldwide LLP	Castle Harlan, Inc
Apollo Capital Management	CCMP Capital Advisors, LLC
Apollo Global Management	Centerbridge Capital
Arboretum Ventures	Cerberus Capital Management, LP
Arclight Capital Partners	Charlesbank Capital Partners
Ardian	CIE Management - BC Partners
Ares Management, LLC	CIM Investment Advisors
ARK Investment Management, LLC	Citigroup Global Markets
Asana Partners	Clarion Partners
Attucks Asset Management, LLC	Clarkston Capital Partners, LLC
Avanath Capital Management	Coller Capital
Axiom Asia Private Capital	Columbia Management Investment
Bank of Montreal	Advisors, LLC
Barclays Capital	CoStar Realty Information Inc
Barings	Cowen & Co
Basalt Infrastructure Partners	Credit Suisse
BB&T Capital Markets	Crescent Capital Group
Beacon Capital Partners	CVC Capital Partners
Bentall Kennedy	Czech Asset Management
Beringea	DA Davidson
Berkshire Partners, LLC	Dalmore Capital Limited
BGC Financial	Deutsche Bank
Bivium Capital Partners, LLC	Devon Self Storage
BlackRock Financial Management	DLJ Merchant Banking Partners
Blackstone Alternative Asset	Dodge & Cox
Management	Domain Capital Advisors
Blackstone Group, The	Drexel Hamilton
BMO Capital Markets	EDF Ventures
BNP Paribas	Effissimo Capital Management
BOA-Merrill Lynch	EnCap Investments, LP
Bridgepoint Capital	EnTrust Capital
Brookfield Asset Management Inc	Fidelity Institutional Asset
BTIG	Management
Cantor Fitzgerald	FIMI Opportunity Funds

Investment Service Providers, continued

FirstMark Capital	Loomis Sayles & Co, LP
Fisher Investments, Inc	Los Angeles Capital Management
Five Star Realty Partners	Lowe Enterprises Investment Management
Flagship Ventures	Lubert-Adler Management Company
Fortress Investment Group	Marathon Asset Management, LLP
Fox Paine & Company, LLC	MarketAxess Corp
Freeman, Spogli & Co	Martin Currie, Inc
FTN Financial	Matlin Patterson Global Advisors
Gateway Capital	MBS Securities
Genstar, LLC	Mellon Capital Management Corp
Global Energy & Power	Menlo Management Partners
Goldman Sachs	Merit Energy
Grosvenor Capital Management	Meritech Capital Partners
GSO Capital Partners	Mesirow Financial
HarbourVest Partners, LLC	Metropolitan West Asset Management, LLC
Harvest Partners, LLC	MFR Securities
Heitman Capital Management	Mischler Financial Group
Highbridge Principal Strategies	Morgan Stanley
Hopen Life Sciences Ventures	MultiBank Securities, Inc
HPS Investment Partners III, LLC	Napier Park Global Capital
Huron Capital Partners, LLC	New Leaf Venture Partners
InSight Venture Partners	Nordic Capital
Invesco Ltd	NorthPointe Capital, LLC
Jana Partners	Oak Investment Partners
JP Morgan Asset Management	Oaktree Capital Management LLC
JP Morgan Investment Management	One Liberty Ventures
Kayne Anderson	Orchard Global Asset Management
KBS Realty Advisors	Orion Resource Partners
Kelso & Company	Pacific Investment Management Co, LLC
Kensington Realty Advisors	Paladin Realty Partners
Kevin Miller Financial Services	Parallel Resource Partners
Khosla Ventures	Parthenon Capital, Inc
Kohlberg Kravis Roberts & Co	Peninsula Capital Partners, LLC
L&B Realty Advisors	Piper Jaffray
Landmark Realty Advisors	Principal Real Estate Investors, LLC
LaSalle Investment Management	Principal Financial Group
Lazard Asset Management, LLC	Proprium Capital Partners
Leonard Green & Partners, LP	PGIM, Inc
LGT Capital Partners	Prudential Trust Co
Lightspeed Ventures	Public Pension Capital
Lion Capital	
Lombard International Life Assurance Company	
Lonestar	

Investment Service Providers, continued

Questor Management Company, LLC	TCW Group, Inc, The
Raymond James	TH Real Estate Limited
RBC Capital Markets	The John Buck Company
Renaissance Venture Capital	Thomas Bravo
Rhone Capital	TICP SMA Management, LLC
Rialto Capital	TPG Real Estate Advisors
Ridgewood Energy	TPG TSSP
Riverside	TPG, Inc
RPEP SMRS Holdings, LLC	Tradition Securities
RW Baird	Transwestern Investment Management
Science Media, LLC	Trilantic Capital Management, LLC
ScotiaBank	True North Management Group
Seizert Capital Partners, LLC	TSG Consumer Partners
Shamrock Capital Advisors	Turnbridge Capital Management, LLC
Siguler, Guff & Co, LLC	Venator Real Estate
Silver Lake	Veritas Capital Fund, LP
Societe Generale	Victory Capital Management
Sprott Resources	Visium Capital Management
Sprout Group	Vista Equity Partners
State Street Global Advisors	Warburg, Pincus LLC
State Street Bank and Trust Co	Warwick Energy Group
Stockbridge Capital Group	Wayne Co
Stonepeak Advisors LLC	Wellington Trust Company
Stifel	Wells Fargo
Sycamore Partners	Western National Group
T Rowe Price Associates, Inc	
T Rowe Price Trust Company	

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Office of Retirement Services (ORS)
P.O. Box 30171
Lansing, MI 48909-7671
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