



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



# Summary Annual Report

for the State Police Retirement System, a Pension and Other Postemployment  
Benefit Trust Fund of the State of Michigan  
Fiscal Year Ended Sept. 30, 2018

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

# A Message From The Director



Director Kerrie Vanden Bosch

The Department of Technology, Management and Budget (DTMB) Office of Retirement Services (ORS) is pleased to present the Summary Annual Report for the State Police Retirement System (SPRS), henceforth referred to as the System, for the fiscal year ended Sept. 30, 2018.

ORS provides retirement and related retiree healthcare plans to help attract, retain, and reward a highly qualified workforce.

ORS is able to cost-effectively provide these benefits to retirees. In 2017, the total defined benefit (DB) pension administration cost was \$57 per active member and retiree. This was \$37 below the peer average of \$94 per active member and retiree (CEM Benchmarking).

## Average Admin. Cost

**\$57** per member/  
retiree

## Accomplishments

### Dedicated Gains Policy Successfully Reduces Assumed Rate of Return

In summer 2017, the DTMB director and the retirement board adopted a mechanism that gradually reduces the assumed rate of investment return (AROR). This policy was necessary to align the AROR with industry trends toward more prudent investment expectations. Whenever investment returns exceed the assumed return (e.g., we achieve 9.0% instead of the expected 7.50%), the dedicated gains policy uses those excess returns to lower the AROR going forward. This is done without increasing unfunded actuarial accrued liabilities (UAAL) and largely offsetting contribution increases toward the UAAL from the employer. Excess investment returns in fiscal year 2018 resulted in the legacy pension AROR being reduced from 7.05% to 6.80% and the Pension Plus and other postemployment benefit (OPEB) ARORs being reduced from 7.00% to 6.85% and 6.90% respectively, beginning with the actuarial valuation as of Sept. 30, 2018.

### Actuarial Experience Studies Result in Adjustments to Assumptions

Every five years the plan actuary evaluates how well the assumptions used to determine system liabilities and set employer contributions match the real experience of the plan. These experience studies are statutorily required and are an industry

best practice that allows the System to make adjustments that ensure the System is valued and funded properly. The most recent five-year cycle concluded on Sept. 30, 2017, and the actuary delivered its evaluation in spring 2018. The results of the evaluation are more conservative economic and demographic assumptions. The actuary and ORS collaborated to provide detailed information to department leaders and the retirement board about the proposed adjustments and the impact to the State and school budgets. The proposed changes were approved for use with the actuarial valuations beginning Sept. 30, 2018. These changes will protect the long-term security of both the pension and healthcare trusts.

### Call Center Upgrade

ORS is modernizing its toll-free phone service from a dial-tone system to a modern voice over internet solution. This effort involved a sweeping overhaul of the existing software and hardware to ensure optimum performance, a redesign and rewrite of the call routing software, and improved security. Customers will reach a call agent more quickly because of streamlined menus and more automatic methods for authenticating the caller. ORS will have more flexibility in the way new menu options and associated queues are used for seasonal business topics. In total, the new system is

# Accomplishments, Continued

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more secure, more stable, provides a better experience for customers and gives ORS ways to adapt to changes in demand.

## **Redesign of Insurance Systems**

In spring 2018, ORS successfully deployed the redesign of insurance eligibility and enrollment systems. The redesign applied a flexible, rules-based approach to system development that allows ORS to update business rules to match insurance offerings, regulations or requirements more quickly. The new system improves both the customer and staff experience with insurance enrollment management. New customer-focused features include: per-person itemized enrollment cost, a shopping cart so customers can clearly understand their costs, printable bills available in miAccount, and online account management for COBRA enrollees.

## **Mobile Application Launch**

ORS developed a mobile application for members and retirees of the DB plans. The highlight of this new application is the ability to upload documents directly to ORS. This feature allows the user to take a picture of a form, birth certificate, or other insurance

proof and send the document(s) securely to ORS, eliminating the need to locate a fax machine or rely on standard postal delivery. The application also allows ORS to send custom-crafted alerts and announcements to targeted user-types, based on their retirement system and account status. Active members will be able to estimate their pensions, update beneficiaries and dependents, and update contact information. Retirees will be able to manage their direct deposit, update tax withholdings, update dependents, and view their payment history.

## **Imaging Enhancements**

The ORS team is heavily dependent on images of customer correspondence. These images are carefully indexed and stored in a way that call agents and processors can access them quickly and easily. This year, significant upgrades of both the hardware and the software applications for document storage and retrieval were completed and will ensure that this system is stable and secure for years to come. A pivotal change was a move away from a complex, custom-built solution to more standardized tools that are easier to maintain.

# Honors

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## **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 2017 Comprehensive Annual Financial Report (CAFR). This marks the 27th consecutive year ORS has received this prestigious award.

## **Public Pension Standards Award**

ORS was awarded the 2018 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 DB public plans to be measured.

# About The State Police Retirement System

This report is issued in compliance with the Public Employee Retirement System Investment Act, 1965 Public Act (PA) 314, as amended. The contents come from the complete SPRS 2018 CAFR, available on our website at [michigan.gov/orsmsp](http://michigan.gov/orsmsp), the annual actuarial valuations as of Sept. 30, 2018, the 5-Year Actuarial Experience Study covering the period Oct. 1, 2012, through Sept. 30, 2017, and additional analysis performed after Sept. 30, 2018.

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 actuarial value of the assets as of Sept. 30, 2018, was \$1.7 billion for pension and OPEB, and the total actuarial accrued liability (AAL) was \$3.0 billion resulting in a total UAAL of \$1.4 billion.

The System’s assets increased by \$142.0 million in fiscal year 2018. Asset increases were primarily due to positive investment experience and contributions from the state and employees. The AAL for pension and OPEB increased by \$174.6 million primarily due to assumption changes adopted with the most recent actuarial experience study and the reduction in the AROR for pension and OPEB due to the dedicated gains policy. The pension AROR was reduced to 6.80% from 7.05% for the DB plan and it was also reduced to 6.85% from 7.00% for the

<b>Statement of Assets and Liabilities</b>		
<b>FY 2018</b>	<b>Pension<sup>1</sup></b>	<b>OPEB<sup>2</sup></b>
AAL	\$2,271,136,638	\$777,265,847
Actuarial Value of Assets	\$1,499,321,222	\$191,219,457
UAAL	\$771,815,416	\$586,046,390
Funding Ratio	66.01%	24.60%
<b>FY 2017</b>	<b>Pension<sup>3</sup></b>	<b>OPEB<sup>4</sup></b>
AAL	\$2,146,821,700	\$727,028,441
Actuarial Value of Assets	\$1,397,866,479	\$150,670,090
UAAL	\$748,955,221	\$576,358,351
Funding Ratio	65.11%	20.72%

1. 2018 SPRS Pension Actuarial Valuation, Page B-1.  
 2. 2018 SPRS OPEB Actuarial Valuation, Page A-2.  
 3. 2017 SPRS Pension Actuarial Valuation, Page B-1.  
 4. 2017 SPRS OPEB Actuarial Valuation, Page A-2.

Pension Plus plan. The OPEB AROR was reduced to 6.90% from 7.40%.

Funding ratios improved by 0.9 percentage points for pension and 3.9 percentage points for OPEB due to continued positive experience.

# Membership

Members of the DB 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 troopers 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 Sept. 30, 2018

### Membership<sup>1</sup>

Retirees and Beneficiaries Currently Receiving Benefits	
Regular Benefits	2,419
Survivor Benefits	498
Disability Benefits	200
<b>Total</b>	<b>3,117</b>
Current Employees	
Vested	822
Non-vested	965
<b>Total</b>	<b>1,787</b>
Inactive Employees	
Entitled to benefits and not yet receiving them	43
DROP Participant	213
<b>Total All Members</b>	<b>5,160</b>

1. CAFR for the fiscal year ended Sept. 30, 2018, Page 22.

### Retirement Allowances<sup>2</sup>

Average Annual Retirement Allowance	\$39,787
<b>Total Annual Retirement Allowances Being Paid</b>	<b>\$124,016,073</b>

2. Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2018, Page D-2.

# Assets And Liabilities

The System's total assets on a market basis as of Sept. 30, 2018, were \$1.8 billion, mostly composed of cash and investments.

Total liabilities as of Sept. 30, 2018, were \$78.9 million and include warrants outstanding, accounts payable, unearned revenue, and obligations under securities lending.

Total net assets held in trust for pension and OPEB increased \$142.2 million from the previous year.

## Assets and Liabilities<sup>1</sup> (Dollars In Thousands) (Combined Pension and OPEB)

Assets	FY 2017	FY 2018
Cash	\$ 13,057	\$ 6,345
Equity in Common Cash	10,228	12,306
Investments	1,520,262	1,667,956
Securities Lending Collateral	97,004	75,674
<b>Total Assets</b>	<b>\$ 1,640,551</b>	<b>\$ 1,762,280</b>
Liabilities	FY 2017	FY 2018
Warrants Outstanding	\$ 3	\$ -
Accounts Payable and Other Liabilities	2,365	3,177
Obligations Under Securities Lending	96,949	75,694
<b>Total Liabilities</b>	<b>99,317</b>	<b>78,871</b>
<b>Net Assets</b>	<b>\$ 1,541,234</b>	<b>\$ 1,683,409</b>

1. CAFR for the fiscal year ended Sept. 30, 2018, Page 17. Liabilities in this context are exclusive of AAL for pension and OPEB.

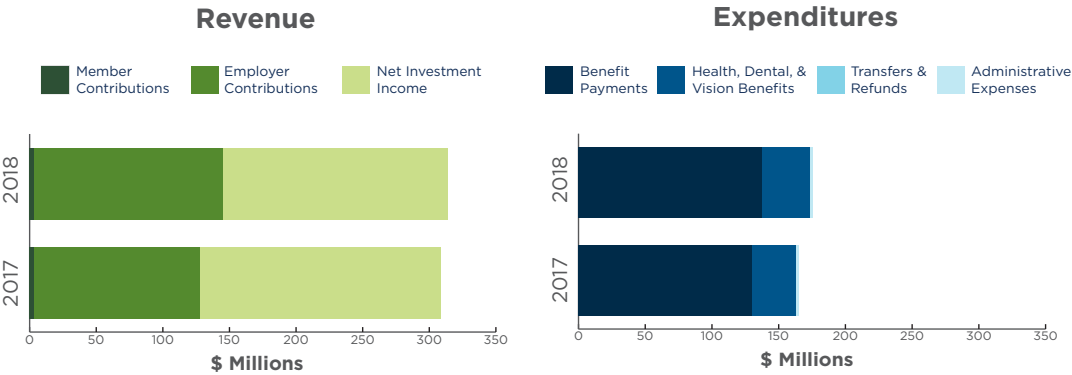
# Revenue And Expenditures, Change In Net Assets

The reserves needed to finance pension and OPEB are accumulated through the collection of employer and employee contributions including earnings on investments.

Contributions and net investment income for fiscal year 2018 totaled \$317.5 million. 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.

<b>Additions and Deductions<sup>1</sup> (Dollars In Thousands)</b>			
<b>Additions</b>	<b>FY 2017</b>	<b>FY 2018</b>	
Member Contributions	\$ 3,142	\$ 3,489	
Employer Contributions	124,231	141,709	
Other Governmental Contributions	2,469	3,546	
Net Investment Income (Loss)	181,447	168,750	
Miscellaneous Income	42	13	
<b>Total Additions</b>	<b>\$ 311,331</b>	<b>\$ 317,507</b>	
<b>Deductions</b>	<b>FY 2017</b>	<b>FY 2018</b>	
Pension Benefits	\$ 130,203	\$ 137,367	
Healthcare Benefits	32,658	35,804	
Refunds and Transfers to Other Systems	5	-	
Administrative and Other Expenses	2,011	2,162	
<b>Total Deductions</b>	<b>\$ 164,878</b>	<b>\$ 175,332</b>	
<b>Net Position</b>	<b>FY 2017</b>	<b>FY 2018</b>	
Net Increase (Decrease) in Net Position	\$ 146,453	\$ 142,175	
Beginning of Year	1,394,780	1,541,234	
<b>End of Year</b>	<b>\$ 1,541,234</b>	<b>\$ 1,683,409</b>	

1. CAFR for the fiscal year ended Sept. 30, 2018, Page 18.



# 2018 Plan Expenditures

## Plan Expenses for Fiscal Year Ended Sept. 30, 2018<sup>1</sup>

### Pension Plan 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	\$	181,035
Retirement and Social Security		102,126
Other Fringe Benefits		34,955
<b>Subtotal</b>	<b>\$</b>	<b>318,116</b>

#### Professional Services

Accounting	\$	19,887
Actuarial		135,955
Attorney General		24,846
Audit		71,700
Consulting		9,044
Medical		9,639
<b>Subtotal</b>	<b>\$</b>	<b>271,070</b>

#### Building and Equipment

Building Rentals	\$	15,905
Equipment Purchase, Maintenance, and Rentals		490
<b>Subtotal</b>	<b>\$</b>	<b>16,395</b>

#### Miscellaneous

Travel and Board Meetings (Excluding Travel and Education for Board Members)	\$	278
Office Supplies		148
Postage, Telephone, and Other		24,884
Printing		3,012
Technological Support		114,138
<b>Subtotal</b>		<b>142,460</b>

Travel and Education for Board Members		962
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<b>Total Administrative and Other Expenses</b>	<b>\$</b>	<b>749,004</b>
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## 2018 Plan Expenditures, Continued

<b>Health, Dental, and Vision Plan Expenses</b>		<b>Dollars</b>
These expenditures are for self-insurance of the health and dental plans, and are paid from the retirement system's trust fund.		
Staff Salaries	\$	87,463
Health Fees		1,223,357
Dental Fees		88,091
Vision Fees		13,652
<b>Total Health, Dental, and Vision Expenses</b>	<b>\$</b>	<b>1,412,564</b>
<b>Investment Expenses</b>		<b>Dollars</b>
These expenditures are related to the Department of Treasury's Bureau of Investments for managing the retirement system's assets and are paid from the retirement system's trust fund.		
Real Estate Operating Expenses	\$	90,579
Securities Lending Expenses		1,604,396
Other Investment Expenses		
ORS-Investment Expenses		399,032
Custody Fees		37,954
Management Fees		6,172,793
Research Fees		118,720
<b>Total Investment Expenses</b>	<b>\$</b>	<b>8,423,474</b>
<b>Benefits Paid to Members</b>		<b>Dollars</b>
These were the retirement benefits paid to members of the retirement system during the 2018 fiscal year.		
Pension Benefits	\$	137,366,603
Health Benefits		33,328,845
Dental/Vision Benefits		2,475,122
Refunds of Member Contributions		62
<b>Total Payments to Members</b>	<b>\$</b>	<b>173,170,631</b>
<b>Soft Dollar Expenses<sup>2</sup></b>		<b>Dollars</b>
These expenditures are for research provided by the retirement system's service providers and are incorporated into the brokerage fees and commissions.		
Bass Trading International Group (BTIG)		
MacroMavens Newsletter	\$	403
High Tech Strategist		3
<b>Total Soft Dollar Expenditures</b>	<b>\$</b>	<b>406</b>
<b>Total of All Sections</b>	<b>\$</b>	<b>183,756,079</b>
1. DTMB-Financial Services report.		
2. Department of Treasury, Bureau of Investments report.		

# 2019 Budget For Plan Expenditures

<b>Budget for Plan Expenses for Fiscal Year Ending Sept. 30, 2019<sup>1</sup></b>		
<b>Pension Plan Administrative and Other Expenses</b>		<b>Dollars</b>
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	\$	158,696
Retirement and Social Security		143,591
Other Fringe Benefits		53,340
<b>Subtotal</b>	<b>\$</b>	<b>355,627</b>
Professional Services		
Accounting	\$	23,068
Actuarial		89,036
Attorney General		27,331
Audit		70,800
Consulting		6,147
Medical		19,671
<b>Subtotal</b>	<b>\$</b>	<b>236,053</b>
Building and Equipment		
Building Rentals	\$	12,781
Equipment Purchase, Maintenance, and Rentals		998
<b>Subtotal</b>	<b>\$</b>	<b>13,779</b>
Miscellaneous		
Travel and Board Meetings (Excluding Travel and Education for Board Members)	\$	780
Office Supplies		183
Postage, Telephone, and Other		23,208
Printing		2,071
Technological Support		140,922
<b>Subtotal</b>		<b>167,163</b>
Travel and Education for Board Members		1,035
<b>Total Administrative and Other Expenses</b>	<b>\$</b>	<b>773,658</b>

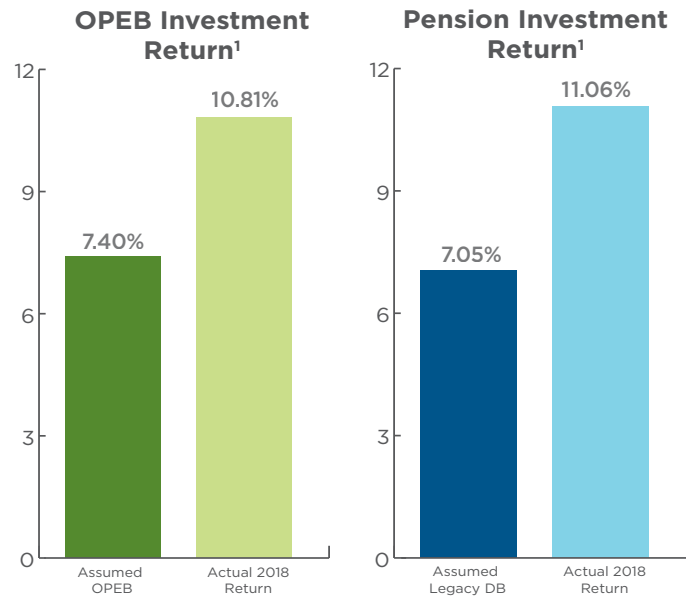
# 2019 Budget, Continued

<b>Health, Dental, and Vision Plan Expenses</b>		<b>Dollars</b>
These expenditures are for self-insurance of the health and dental plans and are paid from the retirement system's trust fund.		
Staff Salaries	\$	76,671
Health Fees		1,308,992
Dental Fees		93,377
Vision Fees		12,014
<b>Total Health, Dental, and Vision Expenses</b>	<b>\$</b>	<b>1,491,054</b>
<b>Investment Expenses</b>		<b>Dollars</b>
These expenditures are related to the Department of Treasury's Bureau of Investments for managing the retirement system's assets and are paid from the retirement system's trust fund.		
Real Estate Operating Expenses	\$	113,223
Securities Lending Expenses		2,005,495
Other Investment Expenses		
ORS-Investment Expenses		498,790
Custody Fees		47,443
Management Fees		7,715,991
Research Fees		148,400
<b>Total Investment Expenses</b>	<b>\$</b>	<b>10,529,342</b>
<b>Benefits Paid to Members</b>		<b>Dollars</b>
These are the projected retirement benefits paid to members of the retirement system.		
Pension Benefits	\$	145,608,599
Health Benefits		35,328,575
Dental/Vision Benefits		2,623,629
Refunds of Member Contributions		66
<b>Total Payments to Members</b>	<b>\$</b>	<b>183,560,869</b>
<b>Soft Dollar Expenses<sup>2</sup></b>		<b>Dollars</b>
These expenditures are for research provided by the retirement system's service providers and are incorporated into the brokerage fees and commissions.		
Bass Trading International Group (BTIG)		
MacroMavens Newsletter	\$	403
High Tech Strategist		3
<b>Total Soft Dollar Expenditures</b>	<b>\$</b>	<b>406</b>
<b>Total of All Sections</b>	<b>\$</b>	<b>196,355,329</b>
1. DTMB-Financial Services report.		
2. Department of Treasury, Bureau of Investments report.		

# Assumed And Actual Investment Returns

The state treasurer administers all the System's investments in accordance with the Public Employee Retirement System Investment Act, PA 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 AROR 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 2018, the AROR for the pension plan was reduced from 7.05% to 6.80%. The actual rate of investment return for the pension plan in fiscal year 2018 was 11.06%. The assumed rate of return for the Pension Plus plan is 6.85%.



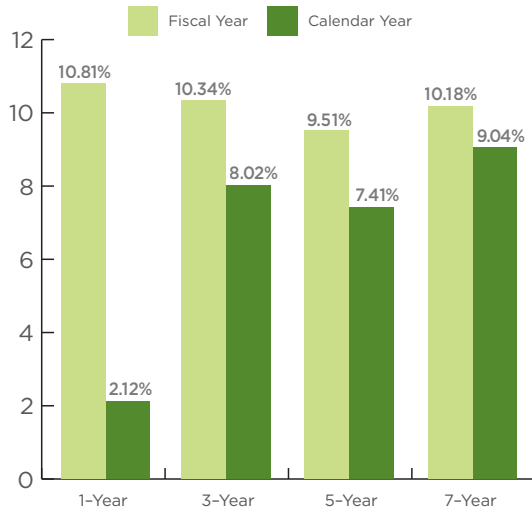
1. Department of Treasury, Bureau of Investments report. These figures are shown net of fees. Information shown in the CAFR is shown gross of fees.

The dedicated gains policy reduced the AROR for OPEB from 7.40% to 6.90%. The actual rate of investment return for OPEB was 10.81%. All changes to the AROR are reflected in the Sept. 30, 2018, actuarial valuations, but for comparison with current year investment results, the prior-year assumptions are presented in the chart.

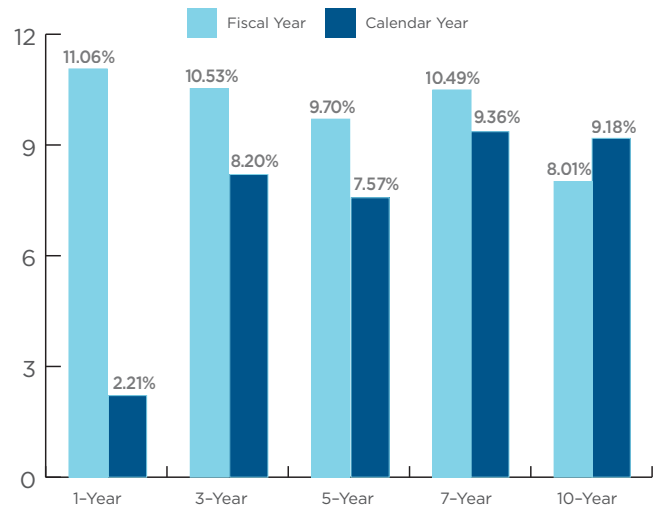
# Historical Investment Returns

Historical investment returns for both pension and OPEB are presented in the following charts. Because SPRS OPEB is in the early stages of pre-funding, longer-term investment results are not available. Over time, as the plan gains more experience, 10-year investment returns will be reported.

**OPEB Historical Investment Returns For 2018<sup>1</sup>**



**Pension Historical Investment Returns For 2018<sup>1</sup>**

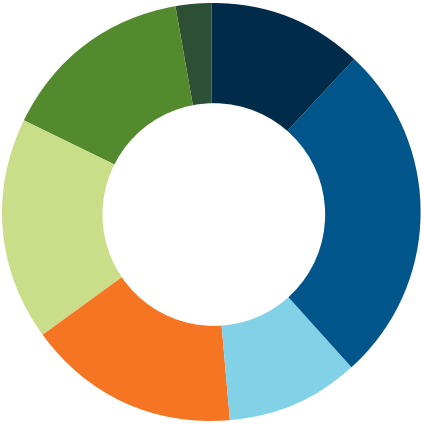


1. Department of Treasury Bureau of Investments report. These figures are shown net of fees. Information shown in the CAFR is shown gross of fees.

# 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.

<b>Investments and Earnings<sup>1</sup></b>			
		<b>Market Value (Dollars)</b>	<b>Total Investment And Interest Income (Dollars)</b>
Fixed Income Pools	\$	202,016,398	\$ 1,889,788
Domestic Equity Pools		439,899,909	76,497,997
Real Estate and Infrastructure Pools		175,998,340	20,489,879
Private Equity Pools		274,255,263	44,857,300
International Equity Pools		287,507,505	5,009,044
Absolute Return Pools		251,262,312	24,606,744
Short-Term Investment Pools		43,360,929	1,027,380
<b>Market Value and Net Investment Gain</b>	<b>\$</b>	<b>1,674,300,657</b>	<b>\$ 174,378,132</b>



- Fixed Income Pools - 12.1%**
- Domestic Equity Pools - 26.3%**
- Real Estate and Infrastructure Pools - 10.5%**
- Private Equity Pools - 16.4%**
- International Equity Pools - 17.2%**
- Absolute Pools - 15.0%**
- Short-Term Investment Pools - 2.6%**

1. CAFR for the Fiscal Year ended Sept. 30, 2018, Page 72.

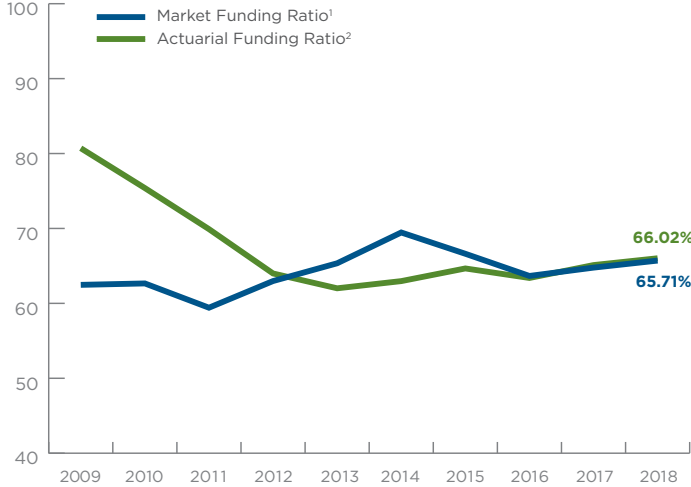
# Market And Actuarial Funding Ratios

**Pension**

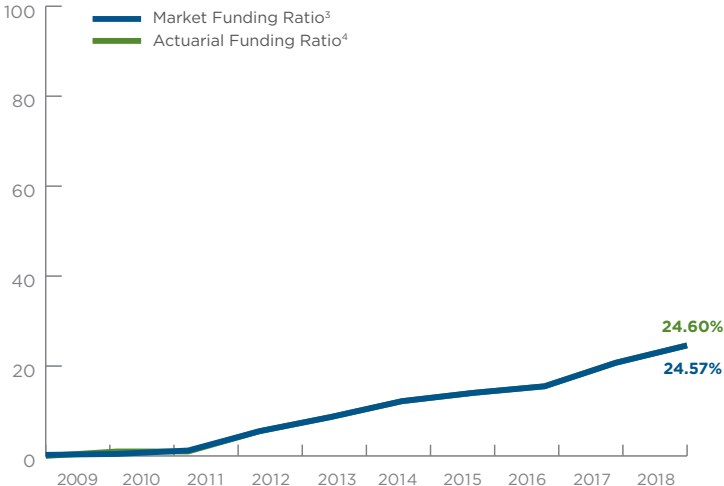
The market funding ratio is based on the market value of assets at fiscal year-end. The actuarial funding ratio is the best practice used by all pension plans nationwide. It incorporates a five-year smoothing period, which minimizes volatility in a pension system's funding requirements.

**OPEB**

Starting in fiscal year 2013, the System began pre-funding OPEB costs. 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.



1. Calculated on market value of assets.  
 2. Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2018, Page B-8.



3. Calculated on market value of assets.  
 4. OPEB Actuarial Valuation for the fiscal year ended Sept. 30, 2018, Appendix A-1.

# Member And Employer Contributions

**Employer Contributions**

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 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 AROR in addition to other actuarial assumptions. After member contributions are accounted for, the employer pays the remainder of the normal cost as shown below.

<b>Member and Employer Pension Contributions<sup>1</sup></b>	
<b>Member Contributions</b>	
Weighted Average	
Defined Benefit	1.63%
Pension Plus	4.00%
<b>Employer Contributions</b>	
Normal cost of benefits expressed as a percentage of valuation payroll	
Defined Benefit	21.61%
Pension Plus	9.22%
UAAL contribution rate expressed as a percentage of valuation payroll	
Defined Benefit	39.64%
Pension Plus	39.64%
Valuation Payroll	\$148,285,889
<small>1. Pension Actuarial Valuation for the fiscal year ended Sept. 30, 2018, Page A-1. This is the DB component of Pension Plus. There is an additional 1% employer match for the DC component.</small>	



# 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 Sept. 30, 2018<sup>1</sup>

Pension and OPEB		
Actuarial Cost Method		Entry Age, Normal
Amortization Method		Level Percent of Payroll
Payroll Growth Assumption <sup>2</sup>	2.75% Reduced to 0% by Sept. 30, 2024	
Amortization Period <sup>3</sup>	Closed Period, 18 Years Beginning Oct. 1, 2020	
Asset Valuation Method		5-Year Smoothed
Wage Inflation Rate		2.75%
OPEB		
Healthcare Cost Trend Rate	8.25% Year 1 Graded to 3.50% Year 10	
AROR—Closed Plan <sup>4</sup>		6.90%
Pension—AROR		
Legacy DB—Closed Plan		6.80%
Pension Plus—Open Plan		6.85%

1. SPRS Pension and OPEB Actuarial Valuation for the fiscal year ended Sept. 30, 2018.
2. PA 674 of 2018 enacted a gradual phase-in reduction to the payroll growth assumption to 0% in 50 basis point increments beginning with the Sept. 30, 2019, valuations. Once the 0% payroll growth assumption is fully phased-in, the amortization method for both pension and OPEB will be level-dollar.
3. PA 674 of 2018 extended the amortization period for the UAAL in the System from 2036 to 2038.
4. The OPEB plan closed to new troopers and sergeants first hired on or after June 10, 2012. These employees participate in the Personal Healthcare Fund and may become eligible for a lump sum payment of \$2,000 into a Health Reimbursement Account upon their first termination from employment (with at least 10 years of service). These employees have the option of enrolling in System's retiree healthcare at full cost at termination.

# Investment Service Providers

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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.

5 AM Ventures	BroadRiver Asset Management	Fisher Investments
Accel Partners	Brookfield Asset Management Inc.	Five Star Realty Partners
Advent International Corp.	BTIG	Flagship Ventures
AEW Capital Management	Cantor Fitzgerald	Fortress Investment Group
Affinity Equity Partners	Capital Institutional Services	Fox Paine & Company LLC
Ancora Advisors	Capri Capital Partners	Freeman, Spogli & Co.
Aon Hewitt	Carlyle Group LP	FTN Financial
Apax Partners Worldwide LLP	Carlyle Investment Management	Gateway Capital
Apollo Capital Management	Centerbridge	Genstar LLC
Apollo Global Management	Centerbridge Capital	Goldman Sachs
Apollo-Stonetower	Cerberus Capital Management LP	Greenspring Associates
Arboretum Ventures	Charlesbank Capital Partners	Grosvenor Capital Management
Arclight Capital Partners	CIE Management-BC Partners	GSO Capital Partners
Ardian	CIM Investment Advisors	H.C. Wainwright
Ares Management LLC	Citigroup Global Markets	HarbourVest Partners LLC
Ark Investments	Clarion Partners	HarbourVest TOPE LLC
Asana Partners	Clarkston Capital Partners	Harvest Partners LLC
Attucks Asset Management	Coller Capital	Heitman Capital Management
Avanath Capital Management	Columbia Management	Highbridge Principal Strategies
Axiom Asia Private Capital	CoStar Realty Information Inc.	Hilltop Securities
Bank of Montreal	Cowen & Co.	Hopen Life Sciences Ventures
Barclays Capital	Credit Suisse	HPS Investment Partners III LLC
Barings	Credit Suisse-Commercial Paper	Huron Capital Partners LLC
Basalt Infrastructure Partners	Crescent Capital Group	ICG Advisors
BB&T Capital Markets	Crescent Direct Lending	InSight Venture Partners
BC Partners	CVC Capital Partners	Invesco Ltd.
Beacon Capital Partners	Czech Asset Management	Jana Partners
Bentall Kennedy	DA Davidson	JANA Special Situations Management
Beringea	Dalmore Capital Limited	JPMorgan
Berkshire Partners LLC	Deutsche Bank	JP Morgan Asset Management
BGC Financial	Dodge & Cox	JP Morgan Private Equity Fund Services
Bivium Capital Partners	Domain Capital Advisors	Kayne Anderson
Blackrock	Domain Mercury/Ploutos	KBS Realty Advisors
BlackRock Financial Management	Drexel Hamilton	Kelso & Company
Blackstone Alternative Asset Management	Effissimo	Kensington Realty Advisors
Blackstone Group	Elegantree Fund	Kevin Miller Financial Services
BMO Capital Markets	EnCap Investments LP	Khosla Ventures
BNP Paribas	EnTrust Capital	Kohlberg, Kravis, Roberts & Co.
BNY Convergenx	Fidelity Institutional Asset Management (fka Pyramis)	L&B Realty Advisors
BOA-Merrill Lynch	FIMI Opportunity Funds	Landmark Realty Advisors
Bridgepoint Capital	FirstMark Capital	LaSalle Investment Management
		Lazard Asset Management

# Investment Service Providers, Continued

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Lead Edge Capital	PIMCO	Thomas Bravo
Leonard Green & Partners LP	Piper Jaffray	TICP Fund
LGT Capital Partners	Pitchbook	TPG Real Estate Advisors
Lightspeed Ventures	Preqin	TPG TSSP
Lombard International Life Assurance Company	Principal CMBS	TPG Inc.
Lonestar	Principal Financial Group	Tradition Securities
Loomis Sayles & Company	Pritzker Group	Transwestern Investment Management
Los Angeles Capital Management	Proprium Capital Partners	Trilantic Capital Management LLC
Lubert-Adler Management Company	Prudential	True North Management Group
Marathon Asset Management	Prudential Fixed Income	Trusted Insight
Marathon London	Public Pension Capital	TSG Consumer Partners
MarketAxess Corporation	R.W. Baird	Turnbridge Capital Management LLC
Martin Currie	Raymond James	U.S. Bank
Matlin Patterson Global Advisors	RBC Capital Markets	Veritas Capital Fund Management LLC
MBS Securities	Renaissance Venture Capital	Vida Capital Inc.
Mellon Capital Management	Rhone Capital	Visium Capital Management
Menlo Management Partners	Rialto Capital	Vista Equity Partners
Merit Energy	Ridgewood Capital Management	Warburg, Pincus LLC
Meritech Capital Partners	Ridgewood Energy	Warwick Energy Group
Mesirow Financial	Riverside	Wayne Co.
Metropolitan West Asset Management	Rohatyn Group	Wellington Trust Company
MFR Securities	RPEP Energy & RPEP Holdings	Wells Fargo
MI Growth Capital Partners SBIC	Sanford C. Bernstein Co.	Western National Group
Mischler Financial Group	Science Media LLC	
Morgan Stanley	ScotiaBank	
Morgan Stanley Smith Barney LLC	Seizert Capital Partners	
Multi Bank Securities Inc.	Shamrock Capital Advisors	
Munder Capital Management AKA	Silver Lake	
Victory Capital Management	SJC Direct Lending & Onshore	
Napier Park Global Capital	SK Capital	
Natural Gas Partners	Societe Generale	
New Leaf Venture Partners	Southwest Securities	
Nordic Capital	Sprott Resources	
Northpointe Capital	State Street Bank	
Oak Investment Partners	State Street Global Advisors	
Oaktree Capital Management LLC	Stifel	
Oppenheimer	Stockbridge Capital Group	
Orchard Global Asset Management	Stonepeak Advisors LLC	
Orion Resource Partners	Sycamore Partners	
OTA Ltd Partnership	T. Rowe Price	
Paladin Realty Partners	T. Rowe Price Trust Company	
Parallel Resource Partners	Tahquamenon	
Parthenon Capital Inc.	TH Real Estate Limited	
Peninsula Capital Partners LLC	The John Buck Company	
Permira	The Riverside Company	
	The TCW Group Inc.	



## **Office of Retirement Services**

Department of Technology, Management and Budget  
Kerrie Vanden Bosch, director

### **Our Purpose**

ORS is an innovative retirement organization driven to empower our customers for a successful today and a secure tomorrow.

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