

Michigan State Employees' Retirement System

A Fiduciary Component Unit of the State of Michigan

Schedule of Employer Allocations and Schedules of Pension and Other Postemployment Benefit Amounts by Employer for Fiscal Year Ended September 30, 2021



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

Prepared by
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Table of Contents

Independent Auditor's Report.....	3
Schedule of Employer Allocations	5
Schedule of Pension Amounts by Employer.....	6
Schedule of Other Postemployment Benefit Amounts by Employer	8
Notes to the Schedule of Employer Allocations and Schedules of Pension and Other Postemployment Benefit Amounts by Employer	10



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Office of the Auditor General

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Doug A. Ringler, CPA, CIA
Auditor General

Independent Auditor's Report

Mr. David A. Berridge, Chair
State of Michigan Retirement Board
Stevens T. Mason Building
and
Ms. Michelle Lange, Acting Director
Department of Technology, Management, and Budget
Elliott-Larsen Building
and
Mr. Anthony J. Estell, Director
Office of Retirement Services
Stevens T. Mason Building
Lansing, Michigan

Dear Mr. Berridge, Ms. Lange, and Mr. Estell:

Report on the Schedules

We audited the accompanying schedule of employer allocations and the related notes of the Michigan State Employees' Retirement System as of and for the fiscal year ended September 30, 2021. We also audited the respective totals by employer for the following columns, hereafter referred to as the specified column totals:

- September 30, 2021 net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total employer pension expense included in the accompanying schedule of pension amounts by employer as of and for the fiscal year ended September 30, 2021.
- September 30, 2021 net OPEB liability, total deferred outflows of resources, total deferred inflows of resources, and total employer OPEB expense included in the accompanying schedule of other postemployment benefit (OPEB) amounts by employer as of and for the fiscal year ended September 30, 2021.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of these schedules 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 schedules that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer are free from material misstatement.



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Mr. David A. Berridge, Chair
Ms. Michelle Lange, Acting Director
Mr. Anthony J. Estell, Director
Page 2

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer, 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer 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 schedule of employer allocations and the specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer.

We believe that the audit evidence we obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the schedules referred to in the first paragraph present fairly, in all material respects, the employers' pension and OPEB allocations and the respective employers' specified column totals included in the schedule of pension amounts by employer and the schedule of OPEB amounts by employer for the Michigan State Employees' Retirement System as of and for the fiscal year ended September 30, 2021 in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We audited, 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, the financial statements of the System as of and for the fiscal year ended September 30, 2021, and our report thereon, dated February 16, 2022, expressed an unmodified opinion on those financial statements.

Restriction on Use

Our report is intended solely for the information and use of the State of Michigan Retirement Board, the Department of Technology, Management, and Budget, the Office of Retirement Services, and the System's participating employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

Sincerely,

Doug Ringler
Auditor General
September 22, 2022

Michigan State Employees' Retirement System
Schedule Of Employer Allocations
As Of And For The Fiscal Year Ended September 30, 2021

Employer Name	Total Required Employer Pension Contributions	Pension Proportionate Share	Total Required Employer OPEB Contributions	OPEB Proportionate Share
GOVERNMENTAL ACTIVITIES				
State of Michigan	\$ 608,811,638	0.926848985	\$ 713,893,544	0.9266311330
State Building Authority	57,902	0.000088150	62,302	0.0000808673
BUSINESS TYPE ACTIVITIES				
Information Technology Fund	28,651,107	0.043618170	33,713,708	0.0437602657
State Lottery Fund	2,848,399	0.004336375	3,350,076	0.0043483857
Liquor Purchase Revolving Fund	1,475,562	0.002246382	1,702,104	0.0022093241
Office Services Revolving Fund	1,388,779	0.002114263	1,607,244	0.0020861971
Correctional Industries Revolving Fund	589,184	0.000896968	667,342	0.0008662070
Motor Transport Fund	439,292	0.000668774	504,670	0.0006550598
Attorney Discipline System	83,000	0.000126358	118,112	0.0001533093
Risk Management Fund	110,379	0.000168040	128,271	0.0001664957
COMPONENT UNITS				
Michigan State Housing Development Authority	3,854,246	0.005867667	4,463,583	0.0057937139
Michigan Strategic Fund	600,547	0.000914267	699,917	0.0009084896
Michigan Economic Development Corporation	1,262,300	0.001921714	1,450,043	0.0018821502
Michigan Finance Authority	814,207	0.001239540	942,591	0.0012234801
Mackinac Bridge Authority	807,372	0.001229136	967,904	0.0012563356
Mackinac Island State Park Commission	238,073	0.000362440	283,775	0.0003683383
Michigan Education Trust	250,312	0.000381072	279,869	0.0003632689
State Land Bank Authority	176,004	0.000267947	213,576	0.0002772209
State Bar of Michigan	37,565	0.000057189	176,165	0.0002286616
Michigan Veterans' Facility Authority	4,365,874	0.006646564	5,193,464	0.0067410963
Total	\$ 656,861,742	1.000000000	\$ 770,418,260	1.0000000001

Employer-level results may not add to System-wide results due to rounding.
The accompanying notes are an integral part of this schedule.

Michigan State Employees' Retirement System
Schedule Of Pension Amounts By Employer
As Of And For The Fiscal Year Ended September 30, 2021
Page 1 of 2

Employer Name	September 30, 2021 Net Pension Liability	Deferred Outflows of Resources					Total Deferred Outflows of Resources
		Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Pension Contributions and Proportionate Share of Contributions		
GOVERNMENTAL ACTIVITIES							
State Of Michigan	\$ 3,767,810,605	\$ -	\$ -	\$ -	\$ -	\$ -	
State Building Authority	358,344	-	-	-	-	-	
BUSINESS TYPE ACTIVITIES							
Information Technology Fund	177,315,835	-	-	-	-	-	
State Lottery Fund	17,628,158	-	-	-	-	-	
Liquor Purchase Revolving Fund	9,131,954	-	-	-	-	-	
Office Services Revolving Fund	8,594,867	-	-	-	-	-	
Correctional Industries Revolving Fund	3,646,339	-	-	-	-	-	
Motor Transport Fund	2,718,687	-	-	-	-	-	
Attorney Discipline System	513,668	-	-	-	-	-	
Risk Management Fund	683,111	-	-	-	-	-	
COMPONENT UNITS							
Michigan State Housing Development Authority	23,853,140	-	-	-	-	-	
Michigan Strategic Fund	3,716,662	-	-	-	-	-	
Michigan Economic Development Corporation	7,812,117	-	-	-	-	-	
Michigan Finance Authority	5,038,958	-	-	-	-	-	
Mackinac Bridge Authority	4,996,663	-	-	-	-	-	
Mackinac Island State Park Commission	1,473,387	-	-	-	-	-	
Michigan Education Trust	1,549,129	-	-	-	-	-	
State Land Bank Authority	1,089,252	-	-	-	-	-	
State Bar Of Michigan	232,483	-	-	-	-	-	
Michigan Veterans' Facility Authority	27,019,499	-	-	-	-	-	
Total	\$ 4,065,182,856	\$ -	\$ -	\$ -	\$ -	\$ -	

Employer-level results may not add to System-wide results due to rounding.
The accompanying notes are an integral part of this schedule.

Michigan State Employees' Retirement System
Schedule Of Pension Amounts By Employer
As Of And For The Fiscal Year Ended September 30, 2021
Page 2 of 2

Deferred Inflows of Resources					Pension Expense		
Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Pension Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Pension Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
\$ -	\$ 1,670,457,472	\$ -	\$ -	\$ 1,670,457,472	\$ (187,983,138)	\$ (50,545,824)	\$ (238,528,962)
-	158,872	-	-	158,872	(17,878)	137,208	119,330
-	78,612,912	-	-	78,612,912	(8,846,620)	1,986,719	(6,859,901)
-	7,815,438	-	-	7,815,438	(879,502)	240,165	(639,337)
-	4,048,648	-	-	4,048,648	(455,610)	1,340,908	885,298
-	3,810,531	-	-	3,810,531	(428,814)	17,118	(411,696)
-	1,616,603	-	-	1,616,603	(181,923)	(103,000)	(284,923)
-	1,205,329	-	-	1,205,329	(135,640)	(744,858)	(880,498)
-	227,734	-	-	227,734	(25,628)	(257,776)	(283,404)
-	302,857	-	-	302,857	(34,082)	(34,220)	(68,302)
-	10,575,281	-	-	10,575,281	(1,190,078)	377,523	(812,555)
-	1,647,781	-	-	1,647,781	(185,431)	(3,258,412)	(3,443,843)
-	3,463,499	-	-	3,463,499	(389,761)	2,255,622	1,865,861
-	2,234,020	-	-	2,234,020	(251,403)	(299,321)	(550,724)
-	2,215,269	-	-	2,215,269	(249,293)	278,753	29,460
-	653,225	-	-	653,225	(73,510)	52,281	(21,229)
-	686,806	-	-	686,806	(77,289)	(204,623)	(281,912)
-	482,919	-	-	482,919	(54,345)	313,366	259,021
-	103,071	-	-	103,071	(11,599)	(18,876)	(30,475)
-	11,979,085	-	-	11,979,085	(1,348,053)	44,694,946	43,346,893
\$ -	\$ 1,802,297,352	\$ -	\$ -	\$ 1,802,297,352	\$ (202,819,597)	\$ (3,772,301)	\$ (206,591,898)

Employer-level results may not add to System-wide results due to rounding.
The accompanying notes are an integral part of this schedule.

Michigan State Employees' Retirement System
Schedule Of Other Postemployment Benefit (OPEB) Amounts By Employer
As Of And For The Fiscal Year Ended September 30, 2021
Page 1 of 2

Employer Name	September 30, 2021 Net OPEB Liability	Deferred Outflows of Resources				
		Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on OPEB Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer OPEB Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources
GOVERNMENTAL ACTIVITIES						
State Of Michigan	\$ 3,535,441,881	\$ -	\$ -	\$ 952,579,848	\$ 25,198,253	\$ 977,778,101
State Building Authority	308,539	-	-	83,132	183,690	266,822
BUSINESS TYPE ACTIVITIES						
Information Technology Fund	166,961,664	-	-	44,985,697	3,519,371	48,505,068
State Lottery Fund	16,590,706	-	-	4,470,155	570,628	5,040,783
Liquor Purchase Revolving Fund	8,429,392	-	-	2,271,192	1,762,376	4,033,568
Office Services Revolving Fund	7,959,617	-	-	2,144,617	420,288	2,564,905
Correctional Industries Revolving Fund	3,304,901	-	-	890,464	52,796	943,260
Motor Transport Fund	2,499,296	-	-	673,404	330,499	1,003,903
Attorney Discipline System	584,932	-	-	157,602	95,515	253,117
Risk Management Fund	635,243	-	-	171,158	422,094	593,252
COMPONENT UNITS						
Michigan State Housing Development Authority	22,105,170	-	-	5,955,957	650,133	6,606,090
Michigan Strategic Fund	3,466,225	-	-	933,930	2,586,448	3,520,378
Michigan Economic Development Corporation	7,181,102	-	-	1,934,857	2,424,496	4,359,353
Michigan Finance Authority	4,668,031	-	-	1,257,742	85,304	1,343,046
Mackinac Bridge Authority	4,793,387	-	-	1,291,517	114,303	1,405,820
Mackinac Island State Park Commission	1,405,347	-	-	378,653	37,114	415,767
Michigan Education Trust	1,386,006	-	-	373,442	191,537	564,979
State Land Bank Authority	1,057,701	-	-	284,984	769,502	1,054,486
State Bar Of Michigan	872,429	-	-	235,065	203,255	438,320
Michigan Veterans' Facility Authority	25,719,786	-	-	6,929,869	41,778,975	48,708,844
Total	\$ 3,815,371,355	\$ -	\$ -	\$ 1,028,003,285	\$ 81,396,577	\$ 1,109,399,862

Employer-level results may not add to System-wide results due to rounding.
The accompanying notes are an integral part of this schedule.

Michigan State Employees' Retirement System
Schedule Of Other Postemployment Benefit (OPEB) Amounts by Employer
As Of And For The Fiscal Year Ended September 30, 2021
Page 2 of 2

Deferred Inflows of Resources					OPEB Expense		
Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on OPEB Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer OPEB Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources	Proportionate Share of OPEB Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer OPEB Contributions and Proportionate Share of Contributions	Total Employer OPEB Expense
\$ 2,787,356,989	\$ 484,740,473	\$ 170,058,489	\$ 60,900,529	\$ 3,503,056,480	\$ (263,598,854)	\$ (13,511,945)	\$ (277,110,799)
243,253	42,303	14,841	150,035	450,432	(23,004)	(11,542)	(34,546)
131,633,266	22,891,927	8,031,032	20,333,647	182,889,872	(12,448,487)	(4,635,120)	(17,083,607)
13,080,181	2,274,733	798,030	774,542	16,927,486	(1,236,986)	(63,233)	(1,300,219)
6,645,767	1,155,744	405,463	1,262,727	9,469,701	(628,487)	(389,316)	(1,017,803)
6,275,395	1,091,334	382,866	1,148,455	8,898,050	(593,461)	(548,232)	(1,141,693)
2,605,598	453,131	158,969	793,085	4,010,783	(246,410)	(261,977)	(508,387)
1,970,456	342,676	120,219	578,355	3,011,706	(186,345)	7,154	(179,191)
461,163	80,199	28,136	51,992	621,490	(43,612)	3,676	(39,936)
500,828	87,097	30,556	22,061	640,542	(47,363)	122,300	74,937
17,427,807	3,030,815	1,063,282	4,270,452	25,792,356	(1,648,138)	(1,347,850)	(2,995,988)
2,732,786	475,250	166,729	2,981,772	6,356,537	(258,438)	275,121	16,683
5,661,610	984,593	345,419	2,761,969	9,753,591	(535,415)	(583,019)	(1,118,434)
3,680,295	640,028	224,537	483,407	5,028,267	(348,044)	(103,515)	(451,559)
3,779,126	657,216	230,567	864,518	5,531,427	(357,390)	(230,296)	(587,686)
1,107,982	192,686	67,599	372,853	1,741,120	(104,781)	(132,381)	(237,162)
1,092,733	190,034	66,668	329,505	1,678,940	(103,339)	12,855	(90,484)
833,896	145,020	50,877	274,077	1,303,870	(78,861)	239,564	160,703
687,827	119,618	41,965	61,447	910,857	(65,047)	41,910	(23,137)
20,277,585	3,526,411	1,237,149	39,219	25,080,364	(1,917,640)	9,181,442	7,263,802
\$ 3,008,054,543	\$ 523,121,288	\$ 183,523,393	\$ 98,454,647	\$ 3,813,153,871	\$ (284,470,102)	\$ (11,934,404)	\$ (296,404,506)

Employer-level results may not add to System-wide results due to rounding.
The accompanying notes are an integral part of this schedule.

Michigan State Employees' Retirement System
Notes to the Schedule of Employer Allocations and
Schedules of Pension and OPEB Amounts by Employer

Note 1: Plan Description

Organization

The Michigan State Employees' Retirement System (System) is a single-employer, state-wide, defined benefit public employee retirement plan governed by the State of Michigan (State) and created under Public Act 240 of 1943, as amended. Section 2 of this act established the board's authority to promulgate or amend the provisions of the System. Executive Order 2015-13 signed by the Governor on October 27, 2015 established the State of Michigan Retirement Board. The executive order establishes the board's authority to promulgate or amend the provision of the System.

The System is administered by the Office of Retirement Services (ORS) within the Michigan Department of Technology, Management & Budget. 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.

Plan Membership

The System's pension and Other Postemployment Benefit (OPEB) plans were established by the State to provide retirement, survivor and disability benefits to state employees. Members are eligible to receive a monthly benefit when they meet certain age and service requirements. In addition, the System's OPEB plan provides all retirees with the option of receiving health, dental, and vision coverages under the Michigan State Employees' Retirement Act as well as eligible Special Duty Officers from the Military Retirement Provisions (MRP).

Effective March 31, 1997, Public Act 487 of 1996 closed the pension plan to new entrants. All new employees become members of the defined contribution plan. The Public Act allows returning employees and members who left State employment on or before March 31, 1997, to elect the defined benefit plan instead of the defined contribution plan.

Public Act 185 of 2010 established a pension supplement. Members who retired under the retirement incentive of the legislation agreed to forfeit accumulated leave balances, excluding banked leave time; in exchange they receive a pension supplement for 60 months to their retirement allowance payments equal to 1/60 of the amount forfeited from funds, beginning January 1, 2011.

Public Act 264 of 2011 closed the premium subsidy component of the OPEB plan to new employees hired on or after January 1, 2012. These employees become participants in the Personal Healthcare Fund (PHF). Former nonvested members of the premium subsidy component of the OPEB plan who are reemployed by the State on or after January 1, 2014, are not eligible for the premium subsidy benefit but will become participants in the PHF. Both groups of employees are eligible for a credit into a health reimbursement account at termination if they terminated with at least 10 years of service. The credit will be \$2,000 for participants who are at least 60 years old or \$1,000 for participants who are less than 60 years old at termination.

The System's financial statements are available on the ORS website at Michigan.gov/ORSSStateDB.

Note 2: Summary of Significant Accounting Policies

Governmental Accounting Standards Board (GASB) Statements 68 and 75

Employers participating in the System are required to report pension information in their financial statements for fiscal periods beginning on or after June 15, 2014, in accordance with Governmental Accounting Standards Board (GASB) Statement No. 68, *Accounting and Financial Reporting for Pensions*.

Employers participating in the System are required to report information about OPEB in their financial statements for fiscal periods beginning on or after June 15, 2017, in accordance with Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*.

The requirements of GASB 68 and 75 incorporate provisions intended to reflect the effects of transactions and events related to pensions and OPEB in the measurement of employer liabilities and recognition of expense and deferred outflows of resources and deferred inflows of resources related to pensions and OPEB.

The Schedule of Employer Allocations recognizes the employers' proportionate share of net pension and OPEB liabilities determined in conformity with GASB 68 and 75. The Schedule of Pension Amounts by Employer recognizes the pension expense, including ending net pension liability, deferred inflows of resources and deferred outflows of resources related to the System's pension plan. The Schedule of OPEB Amounts by Employer recognizes the OPEB expense, including ending net OPEB liability, deferred inflows of resources and deferred outflows of resources related to the System's OPEB plan. These schedules were prepared by ORS with assistance from its third-party actuaries and provide employers with the required information for financial reporting related to the System's pension and OPEB plans as of and for the fiscal year ended September 30, 2021 (the measurement period).

Basis of Accounting and Presentation

The System's financial statements are prepared using the accrual basis of accounting, in accordance with accounting principles generally accepted in the United States (GAAP). Employer contributions 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.

The Schedule of Employer Allocations, Schedule of Pension Amounts by Employer, and Schedule of OPEB Amounts by Employer were prepared in conformity with GAAP. The preparation of these schedules required management to make estimates and assumptions that affect certain amounts and disclosures. Actual results could differ from those estimates.

The schedules present elements of the financial statements of the System and its participating employers and are not a complete financial presentation of the System or its participating employers.

Proportionate Share Allocation Methodology

The primary government and certain component units participate in the System, which is classified for financial reporting purposes as a single-employer. However, GASB 68 and 75 require that, in stand-alone financial statements, each government should account for and report its participation in the single-employer plan as if it was a cost-sharing employer. Therefore, these allocations are to identify the primary government activities, business-type activities, and component units' proportionate shares of the collective net pension and OPEB liabilities.

In determining the proportionate share allocation, GASB 68 and 75 require that the proportion for each employer be consistent with the determination of the System's contributions. The System has determined that utilizing the statutorily required employer pension and OPEB contributions based on reportable compensation during the System's fiscal year is an appropriate allocation methodology. Each employer's proportionate share allocation is determined by dividing each employer's statutorily required contributions to the system during the measurement period by the percent of pension and OPEB contributions required from all applicable employers during the measurement period.

In December 2003, a settlement was reached between the State Employees Retirement System, the State Bar of Michigan, the Attorney Grievance Commission, and the Attorney Discipline Board. Based on the settlement agreement, State Bar of Michigan and Attorney Discipline System pay retiree premiums for eligible former employees who qualify for the premium subsidy benefit. Because the agreement was determined before the System began prefunding OPEB benefits, the original funding process remains in place. The sum of the retiree premiums invoiced to these employers for the applicable fiscal year comprises their statutorily required contributions for the proportionate share calculation in this report.

The Schedule of Employer Allocations has been rounded and presents the first ten decimal places.

Note 3: Net Pension and OPEB Liability

The System's net pension liability is measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this is the accrued liability less the market value of assets.

Net Pension Liability As of September 30, 2020

Total Pension Liability	\$ 18,773,136,271
Fiduciary Net Position	(12,027,536,294)
Net Pension Liability*	\$ 6,745,599,977

Fiduciary Net Position as a Percentage of Total Pension Liability	64.07%
Net Pension Liability as a Percentage of Covered Payroll	199.55%

Net Pension Liability As of September 30, 2021

Total Pension Liability	\$ 18,546,770,523
Fiduciary Net Position	(14,481,587,667)
Net Pension Liability*	\$ 4,065,182,856

Fiduciary Net Position as a Percentage of Total Pension Liability	78.08%
Net Pension Liability as a Percentage of Covered Payroll	121.42%

* Employer-level results may not add to System-wide results due to rounding.

The System's net OPEB liability is measured as the total OPEB liability, less the amount of the OPEB plan's fiduciary net position. In actuarial terms, this is the accrued liability less the market value of assets.

Net OPEB Liability As of September 30, 2020

Total OPEB Liability	\$ 9,460,694,652
Fiduciary Net Position	(3,622,218,832)
Net OPEB Liability*	\$ 5,838,475,820

Fiduciary Net Position as a Percentage of Total OPEB Liability	38.29%
Net OPEB Liability as a Percentage of Covered Payroll	172.72%

Net OPEB Liability As of September 30, 2021

Total OPEB Liability	\$ 8,897,632,929
Fiduciary Net Position	(5,082,261,574)
Net OPEB Liability*	\$ 3,815,371,355

Fiduciary Net Position as a Percentage of Total OPEB Liability	57.12%
Net OPEB Liability as a Percentage of Covered Payroll	113.96%

* Employer-level results may not add to System-wide results due to rounding.

Discount Rate

A discount rate of 6.70% was used to measure the total pension liability and 6.90% to measure the total OPEB liability. This discount rate was based on the expected rate of return on pension and OPEB plan investments of 6.70% and 6.90% respectively. 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 fiduciary net positions of both the pension and OPEB plans were 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 and OPEB plan investments was applied to all periods of projected benefit payments to determine the total pension and OPEB liabilities.

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

As required by GASB Statement No. 68, the following presents the System's net pension liability, as well as what the System's net pension liability would be if it were calculated using a discount rate that is one percent lower or one percent higher.

	1% Decrease 5.7%	Current Discount Rate 6.7%	1% Increase 7.7%
Total Pension Liability	\$ 20,360,957,682	\$ 18,546,770,523	\$ 17,001,480,486
Fiduciary Net Position	(14,481,587,667)	(14,481,587,667)	(14,481,587,667)
Net Pension Liability	<u>\$ 5,879,370,015</u>	<u>\$ 4,065,182,856</u>	<u>\$ 2,519,892,819</u>

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

As required by GASB Statement No. 75, the following presents the System's net OPEB liability, as well as what the System's net OPEB liability would be if it were calculated using a discount rate that is one percent lower or one percent higher.

	1% Decrease 5.9%	Current Discount Rate 6.9%	1% Increase 7.9%
Total OPEB Liability	\$ 9,906,067,650	\$ 8,897,632,929	\$ 8,047,625,041
Fiduciary Net Position	(5,082,261,574)	(5,082,261,574)	(5,082,261,574)
Net OPEB Liability	<u>\$ 4,823,806,076</u>	<u>\$ 3,815,371,355</u>	<u>\$ 2,965,363,467</u>

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

As required by GASB Statement No. 75, the following presents the System's net OPEB liability calculated using assumed trend rates, as well as what the System's net OPEB liability would be if it were calculated using a trend rate that is one percent lower or one percent higher.

	1% Decrease	Current Healthcare Cost Trend Rate	1% Increase
Total OPEB Liability	\$ 8,000,799,206	\$ 8,897,632,929	\$ 9,930,478,372
Fiduciary Net Position	(5,082,261,574)	(5,082,261,574)	(5,082,261,574)
Net OPEB Liability	<u>\$ 2,918,537,632</u>	<u>\$ 3,815,371,355</u>	<u>\$ 4,848,216,798</u>

Timing of the Pension and OPEB Valuations

Actuarial valuations to determine the total pension liability and total OPEB liability are required to be performed every two years. The System's pension and OPEB valuations are performed every year. If the actuarial valuations are not calculated as of the System's fiscal year end, the total pension liability or total OPEB liability is required to be rolled forward from the actuarial valuation date to the System's fiscal year end.

The total pension and OPEB liabilities as of September 30, 2021, are based on the results of an actuarial valuation date of September 30, 2020 and rolled forward using generally accepted actuarial procedures.

Actuarial Valuations and Assumptions

Actuarial valuations for 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 and mortality.

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.

In the fall of 2017, the Department of Technology, Management, and Budget Director and the State of Michigan Retirement Board adopted a dedicated gains policy to lower the discount rate in years where investment returns exceed the current assumption based on a schedule determined by the plan actuary. Excess investment gains in the 2021 fiscal year were sufficient to reduce the discount rate for the System's pension plan from 6.70% to 6.00%; and to reduce the System's OPEB plan discount rate from 6.90% to 6.20% beginning with the September 30, 2021 actuarial valuations.

Additional information as of the latest actuarial valuation follows:

Summary of Actuarial Assumptions

Valuation Date:	September 30, 2020
Actuarial Cost Method:	Entry-Age, Normal
Wage Inflation Rate:	2.75%
Projected Salary Increases:	2.75% – 11.75%, including wage inflation at 2.75%
Investment Rate of Return:	
– Pension Plan	6.70% net of investment expenses
– OPEB Plan	6.90% net of investment expenses
Healthcare Cost Trend Rate:	Pre-65: 7.50% year 1 graded to 3.50% year 15; 3.00% Year 120 Post-65: 6.25% Year 1 graded to 3.50% Year 15; 3.00% Year 120

Mortality:

Retirees	RP-2014 Male and Female Healthy Annuitant Mortality Table scaled by 93% for males and 98% for females and adjusted for mortality improvements using projection scale MP-2017 from 2006.
Active	RP-2014 Male and Female Employee Annuitant Mortality Table scaled by 100% for males and 100% for females and adjusted for mortality improvements using projection scale MP-2017 from 2006.

Notes:

- Assumption changes as a result of an experience study for the periods 2012 through 2017 have been adopted by the System for use in the determination of the total pension and OPEB liabilities beginning with the September 30, 2018 valuation.
- Recognition period for pension liabilities is the average of the expected remaining service lives of all employees in years is 1.0000.
- Recognition period for pension assets in years is 5.0000
- Recognition period for OPEB liabilities is the average of the expected remaining service lives of all employees in years is 5.5461.
- Recognition period for OPEB assets in years is 5.0000
- Full actuarial assumptions are available in the 2021 State Employees' Retirement System ACFR available on the ORS website at [Michigan.gov/ORSStateDB](https://www.michigan.gov/ORSStateDB).

Note 4: Pension and OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions and OPEB

Pension Plan

The following table provides details of the System's pension expense for the fiscal year ended September 30, 2021.

Expense	Total
Service Cost	\$ 55,445,057
Interest on the Total Pension Liability	1,210,742,941
Current-Period Benefit Changes	-
Employee Contributions (shown as negative for addition here)	(23,881,406)
Projected Earnings on Plan Investments (shown as negative for addition here)	(782,629,855)
Pension Plan Administrative Expense	5,924,583
Other Changes in Plan Fiduciary Net Position	(44,808,879)
Recognition of Outflow (Inflow) of Resources due to Liabilities	(32,416,477)
Recognition of Outflow (Inflow) of Resources due to Assets	(591,195,561)
Total Pension Expense*	\$ (202,819,597)

*Employer-level results may not add to System-wide results due to rounding.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in future years' pension expense as follows:

Fiscal Year Ending September 30	Net Deferred (Inflows) and Outflows of Resources
2022	\$ (479,974,819)
2023	(397,308,303)
2024	(443,183,490)
2025	(481,830,740)
2026	-
Thereafter	-
Total	\$ (1,802,297,352)

OPEB Plan

The following table provides details of the System's OPEB expense for the fiscal year ended September 30, 2021.

Expense	Total
Service Cost	\$ 96,326,516
Interest on the Total OPEB Liability	645,483,140
Current-Period Benefit Changes	-
Employee Contributions (shown as negative for addition here)	-
Projected Earnings on Plan Investments (shown as negative for addition here)	(268,364,295)
OPEB Plan Administrative Expense	1,184,539
Other Changes in Plan Fiduciary Net Position	(19,386,280)
Recognition of Outflow (Inflow) of Resources due to Liabilities	(589,064,522)
Recognition of Outflow (Inflow) of Resources due to Assets	(150,649,201)
Total OPEB Expense*	\$ (284,470,103)

*Employer-level results may not add to System-wide results due to rounding.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in future years' OPEB expense as follows:

Fiscal Year Ending September 30	Net Deferred (Inflows) and Outflows of Resources
2022	\$ (721,686,146)
2023	(674,231,886)
2024	(664,565,210)
2025	(528,061,039)
2026	(98,151,659)
Thereafter	-
Total	\$ (2,686,695,940)