

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
INDEPENDENT AUDITORS' REPORT ON PENSION PLAN SCHEDULES
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021

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INDEPENDENT AUDITORS' REPORT

Mr. William McNamara, Comptroller
Commonwealth of Massachusetts

Report on Schedules

We have audited the accompanying schedule of employer and nonemployer allocations of the Massachusetts State Employees' Retirement System (MSERS) as of and for the fiscal year ended June 30, 2021, and the related notes.

We have also audited the total for all entities of the columns titled net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total employer pension expense (specified column totals), included in the accompanying schedule of pension amounts by employer and nonemployer of MSERS as of and for the fiscal year ended June 30, 2021, and the related notes.

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 the schedules that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on the schedule of employer and nonemployer allocations and the specified column totals included in the schedule of pension amounts by employer and nonemployer 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 and nonemployer allocations and specified column totals included in the schedule of pension amounts by employer and nonemployer are free from material misstatement.

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

Mr. William McNamara, Comptroller
Commonwealth of Massachusetts

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

Opinions

In our opinion, the schedules referred to above present fairly, in all material respects, the employer allocations, total net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total pension expense for the total of all participating entities for MSERS as of and for the fiscal year ended June 30, 2021, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the Commonwealth of Massachusetts as of and for the fiscal year ended June 30, 2021, and our report thereon, dated April 28, 2022, expressed an unmodified opinion on those financial statements. MSERS is reported as a pension trust fund in the financial statements of the Commonwealth of Massachusetts.

Restriction on Use

Our report is intended solely for the information and use of the management of MSERS, the MSERS Board of Trustees, MSERS employers and their auditors and the Commonwealth of Massachusetts, and is not intended to be, and should not be, used by anyone other than these specified parties.

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

CliftonLarsonAllen LLP

Boston, Massachusetts
July 28, 2022

**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
Non Special Funding Situations:		
9045 - Commonwealth of Massachusetts:		
Employer contributions.....	\$ 1,091,675,665	
Total Commonwealth of Massachusetts.....	1,091,675,665	91.76820%
6070 - Massachusetts State College Building Authority:		
Employer contributions.....	203,754	
Nonemployer contributions.....	91,899	
Total Massachusetts State College Building Authority.....	295,653	0.02485%
6090 - Massachusetts Convention Center Authority:		
Employer contributions.....	1,187,874	
Nonemployer contributions.....	2,182,965	
Total Massachusetts Convention Center Authority.....	3,370,839	0.28336%
9045 - Massachusetts Department of Transportation:		
Employer contributions.....	42,610,962	
Nonemployer contributions.....	13,558,280	
Total Massachusetts Department of Transportation.....	56,169,242	4.72169%
8060 - Assabet Valley Regional Vocational School District:		
Employer contributions.....	-	
Nonemployer contributions.....	605,632	
Total Assabet Valley Regional Vocational School District.....	605,632	0.05091%
8100 - Blackstone Valley Regional Vocational School District:		
Employer contributions.....	275,973	
Nonemployer contributions.....	440,104	
Total Blackstone Valley Regional Vocational School District.....	716,077	0.06019%
8080 - Bristol/Plymouth Regional Vocational Technical School District.....		
Employer contributions.....	808,470	
Nonemployer contributions.....	(448,344)	
Total Bristol/Plymouth Regional Vocational Technical School District.....	360,126	0.03027%
8160 - Central Massachusetts Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	402,919	
Total Central Massachusetts Regional Planning Commission.....	402,919	0.03387%
8020 - Merrimack Valley Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	218,289	
Total Merrimack Valley Planning Commission.....	218,289	0.01835%

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**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
8010 - Montachusett Regional Planning Commission:		
Employer contributions.....	\$ -	
Nonemployer contributions.....	205,837	
Total Montachusett Regional Planning Commission.....	205,837	0.01730%
8090 - Montachusett Regional Vocational Technical School District:		
Employer contributions.....	730,300	
Nonemployer contributions.....	143,816	
Total Montachusett Regional Vocational Technical School District.....	874,116	0.07348%
8070 - Nashoba Associated Boards of Health:		
Employer contributions.....	-	
Nonemployer contributions.....	786,061	
Total Nashoba Associated Boards of Health.....	786,061	0.06608%
8040 - North Middlesex Council of Governments:		
Employer contributions.....	-	
Nonemployer contributions.....	177,807	
Total North Middlesex Council of Governments.....	177,807	0.01495%
8030 - Northeast Metro Regional Vocational Technical School District:		
Employer contributions.....	535,519	
Nonemployer contributions.....	-	
Total Northeast Metro Regional Vocational Technical School District.....	535,519	0.04502%
8170 - Old Colony Planning Council:		
Employer contributions.....	-	
Nonemployer contributions.....	244,182	
Total Old Colony Planning Council.....	244,182	0.02053%
8180 - Old Colony Regional Vocational Technical School District:		
Employer contributions.....	433,448	
Nonemployer contributions.....	(158,047)	
Total Old Colony Regional Vocational Technical School District.....	275,401	0.02315%
8110 - Pioneer Valley Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	606,096	
Total Pioneer Valley Planning Commission.....	606,096	0.05095%
8140 - Southeastern Regional Planning & Economic Development District:		
Employer contributions.....	-	
Nonemployer contributions.....	355,227	
Total Southeastern Regional Planning & Economic Development District.....	355,227	0.02986%

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**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
8120 - Southeastern Regional School District:		
Employer contributions.....	\$ 1,775,399	
Nonemployer contributions.....	(806,828)	
Total Southeastern Regional School District.....	968,571	0.08142%
8200 - Tri-County Regional Vocational Technical School District:		
Employer contributions.....	417,999	
Nonemployer contributions.....	61,032	
Total Tri-County Regional Vocational Technical School District.....	479,031	0.04027%
8190 - Upper Blackstone Water Pollution Abatement District:		
Employer contributions.....	477,277	
Nonemployer contributions.....	341,048	
Total Upper Blackstone Water Pollution Abatement District.....	818,325	0.06879%
8130 - Upper Cape Cod Regional Vocational Technical School District:		
Employer contributions.....	370,220	
Nonemployer contributions.....	119,475	
Total Upper Cape Cod Regional Vocational Technical School District.....	489,695	0.04116%
<u>Special Funding Situations (Educational Collaboratives):</u>		
6013 - ACCEPT Education Collaborative:		
Employer contributions.....	226,995	
Nonemployer contributions.....	837,946	
Total ACCEPT Education Collaborative.....	1,064,941	0.08952%
6022 - Assabet Valley Collaborative:		
Employer contributions.....	110,446	
Nonemployer contributions.....	250,953	
Total Assabet Valley Collaborative.....	361,399	0.03038%
6004 - Bi-County Education Collaborative:		
Employer contributions.....	223,591	
Nonemployer contributions.....	492,858	
Total Bi-County Education Collaborative.....	716,449	0.06023%
6018 - C.A.S.E. Collaborative:		
Employer contributions.....	241,562	
Nonemployer contributions.....	564,180	
Total C.A.S.E. Collaborative.....	805,742	0.06773%
6016 - Cape Cod Collaborative:		
Employer contributions.....	260,019	
Nonemployer contributions.....	583,322	
Total Cape Cod Collaborative.....	843,341	0.07089%

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**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6010 - CAPS Education Collaborative:		
Employer contributions.....	\$ 217,141	
Nonemployer contributions.....	283,490	
Total CAPS Education Collaborative.....	500,631	0.04208%
6035 - Central Massachusetts Special Education Collaborative:		
Employer contributions.....	170,631	
Nonemployer contributions.....	387,200	
Total Central Massachusetts Special Education Collaborative.....	557,831	0.04689%
6017 - Collaborative for Educational Services:		
Employer contributions.....	402,563	
Nonemployer contributions.....	897,868	
Total Collaborative for Educational Services.....	1,300,431	0.10932%
6021 - CREST Collaborative:		
Employer contributions.....	346,476	
Nonemployer contributions.....	710,281	
Total CREST Collaborative.....	1,056,757	0.08883%
6030 - EDCO Collaborative:		
Employer contributions.....	199,475	
Nonemployer contributions.....	324,417	
Total EDCO Collaborative.....	523,892	0.04404%
6019 - FLLAC Collaborative:		
Employer contributions.....	131,246	
Nonemployer contributions.....	309,892	
Total FLLAC Collaborative.....	441,138	0.03708%
6034 - LABBB Collaborative:		
Employer contributions.....	308,386	
Nonemployer contributions.....	773,266	
Total LABBB Collaborative.....	1,081,652	0.09093%
6011 - Lower Pioneer Valley Education Collaborative:		
Employer contributions.....	484,580	
Nonemployer contributions.....	1,142,922	
Total Lower Pioneer Valley Education Collaborative.....	1,627,502	0.13681%
6014 - North River Collaborative:		
Employer contributions.....	241,634	
Nonemployer contributions.....	539,295	
Total North River Collaborative.....	780,929	0.06565%

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**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6006 - North Shore Education Consortium:		
Employer contributions.....	\$ 322,046	
Nonemployer contributions.....	742,133	
Total North Shore Education Consortium.....	1,064,179	0.08946%
6007 - Pilgrim Area Collaborative:		
Employer contributions.....	101,834	
Nonemployer contributions.....	221,829	
Total Pilgrim Area Collaborative.....	323,663	0.02721%
6031 - READS Collaborative:		
Employer contributions.....	159,172	
Nonemployer contributions.....	342,287	
Total READS Collaborative.....	501,459	0.04215%
6033 - SEEMS Collaborative:		
Employer contributions.....	335,529	
Nonemployer contributions.....	875,278	
Total SEEMS Collaborative.....	1,210,807	0.10178%
6009 - Shore Education Consortium:		
Employer contributions.....	358,633	
Nonemployer contributions.....	810,832	
Total Shore Education Consortium.....	1,169,465	0.09831%
6015 - South Coast Education Collaborative:		
Employer contributions.....	352,264	
Nonemployer contributions.....	727,018	
Total South Coast Education Collaborative.....	1,079,282	0.09073%
6001 - South Shore Education Collaborative:		
Employer contributions.....	238,677	
Nonemployer contributions.....	661,098	
Total South Shore Education Collaborative.....	899,775	0.07564%
6003 - Southeastern Massachusetts Education Collaborative:		
Employer contributions.....	239,849	
Nonemployer contributions.....	519,530	
Total Southeastern Massachusetts Education Collaborative.....	759,379	0.06383%
6002 - Southern Worcester County Education Collaborative:		
Employer contributions.....	113,698	
Nonemployer contributions.....	250,620	
Total Southern Worcester County Education Collaborative.....	364,318	0.03063%

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**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6027 - The Educational Co-Op:		
Employer contributions.....	\$ 92,993	
Nonemployer contributions.....	234,966	
Total The Educational Co-Op.....	327,959	0.02757%
6020 - Valley Collaborative:		
Employer contributions.....	282,199	
Nonemployer contributions.....	630,392	
Total Valley Collaborative.....	912,591	0.07671%
<u>Special Funding Situations (Other than Educational Collaboratives):</u>		
8150 - Berkshire Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	322,476	
Total Berkshire Regional Planning Commission.....	322,476	0.02711%
8250 - Devens Enterprise Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	60,831	
Total Devens Enterprise Commission.....	60,831	0.00511%
6037 - Franklin Regional Council of Governments:		
Employer contributions.....	-	
Nonemployer contributions.....	603,106	
Total Franklin Regional Council of Governments.....	603,106	0.05070%
8210 - Massachusetts Development Finance Agency:		
Employer contributions.....	-	
Nonemployer contributions.....	330,863	
Total Massachusetts Development Finance Agency.....	330,863	0.02781%
6200 - Massachusetts Healthcare Connector Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	1,506,950	
Total Massachusetts Healthcare Connector Authority.....	1,506,950	0.12668%
8211 - Massachusetts Life Sciences Center:		
Employer contributions.....	-	
Nonemployer contributions.....	46,398	
Total Massachusetts Life Sciences Center.....	46,398	0.00390%
6100 - Massachusetts PRIM Board:		
Employer contributions.....	-	
Nonemployer contributions.....	1,440,244	
Total Massachusetts PRIM Board.....	1,440,244	0.12107%

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**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021**

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6060 - Massachusetts School Building Authority:		
Employer contributions.....	\$ -	
Nonemployer contributions.....	1,397,400	
Total Massachusetts School Building Authority.....	1,397,400	0.11747%
1080 - Massachusetts Water Resources Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	676,822	
Total Massachusetts Water Resources Authority.....	676,822	0.05689%
8050 - Metropolitan Area Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	2,310,334	
Total Metropolitan Area Planning Commission.....	2,310,334	0.19421%
Total for all entities.....	\$ 1,189,601,246	100.00000%
		(concluded)

See accompanying notes to schedules.

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
SCHEDULE OF PENSION AMOUNTS BY EMPLOYER AND NONEMPLOYER
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021

Employer/Nonemployer	Net Pension Liability	Deferred Outflows of Resources			Deferred Inflows of Resources			Pension Expense				
		Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Net Differences Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes in Proportion	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion	Total Pension Expense
Non Special Funding Situations:												
Employer:												
9045 - Commonwealth of Massachusetts.....	\$ 9,577,414,931	\$ 330,478,312	\$ 652,930,699	\$ 3,828,647	\$ 987,237,658	\$ 693,397,592	\$ 3,754,902,063	\$ 30,259,460	\$ 4,478,559,114	\$ 546,040,170	\$ 2,518,895	\$ 548,559,065
6070 - Massachusetts State College Building Authority.....	2,593,803	89,502	176,830	65,530	331,862	187,789	1,016,921	396,581	1,601,292	147,881	(100,267)	47,614
6090 - Massachusetts Convention Center Authority.....	29,572,816	1,020,440	2,016,097	329,303	3,365,840	2,141,050	11,594,259	1,865,645	15,600,953	1,686,044	(1,038,445)	647,599
9045 - Massachusetts Department of Transportation.....	492,780,186	17,003,875	33,594,797	40,070,571	90,669,243	35,676,912	193,198,410	8,053,302	236,928,624	28,095,032	(3,526,757)	24,568,275
8060 - Assabet Valley Regional Vocational School District.....	5,313,290	183,340	362,228	211,847	757,415	384,678	2,083,118	533,407	3,001,203	302,928	163,077	466,005
8100 - Blackstone Valley Regional Vocational School District.....	6,282,238	216,775	428,285	346,813	991,873	454,829	2,463,002	100,198	3,018,029	358,171	(8,275)	349,896
8080 - Bristol/Plymouth Regional Vocational Technical School District.....	3,159,433	109,019	215,391	125,382	449,792	228,741	1,238,681	788,360	2,255,782	180,130	(48,788)	131,342
8160 - Central Massachusetts Regional Planning Commission.....	3,534,862	121,974	240,986	660,909	1,023,869	255,921	1,385,871	9,739	1,651,531	201,534	323,613	525,147
8020 - Merrimack Valley Planning Commission.....	1,915,078	66,082	130,559	106,374	303,015	138,650	750,822	91,285	980,757	109,185	(18,807)	90,378
8010 - Montachusett Regional Planning Commission.....	1,805,835	62,312	123,111	309,890	495,313	130,741	707,992	214,684	1,053,417	102,957	52,725	155,682
8090 - Montachusett Regional Vocational Technical School District.....	7,668,735	264,617	522,808	1,710,547	2,497,972	555,211	3,006,589	249,652	3,811,452	437,220	285,766	722,986
8070 - Nashoba Associated Boards of Health.....	6,896,217	237,961	470,143	255,489	963,593	499,281	2,703,717	93,166	3,296,164	393,176	(319,889)	73,287
8040 - North Middlesex Council of Governments.....	1,559,924	53,827	106,346	72,881	233,054	112,937	611,581	53,778	778,296	88,936	(6,900)	82,036
8030 - Northeast Metro Regional Vocational Technical School District.....	4,698,182	162,115	320,294	62,732	545,141	340,145	1,841,960	384,945	2,567,050	267,859	(53,152)	232,707
8170 - Old Colony Planning Council.....	2,142,241	73,920	146,045	188,793	408,758	155,097	839,883	43,537	1,038,516	122,136	43,152	165,288
8180 - Old Colony Regional Vocational Technical School District.....	2,416,129	83,371	164,717	426,709	674,797	174,926	947,263	433,347	1,555,536	137,752	(9,886)	127,866
8110 - Pioneer Valley Planning Commission.....	5,317,360	183,481	362,506	456,982	1,002,969	384,973	2,084,714	62,164	2,531,850	303,160	154,560	457,720
8140 - Southeastern Regional Planning & Economic Development District	3,116,453	107,536	212,461	472,659	792,656	225,629	1,221,830	69,064	1,516,523	177,679	92,830	270,509
8120 - Southeastern Regional School District.....	8,497,401	293,211	579,302	397,430	1,269,943	615,205	3,331,474	1,826,541	5,773,221	484,465	(433,740)	50,725
8200 - Tri-County Regional Vocational Technical School District.....	4,202,602	145,015	286,508	241,152	672,675	304,265	1,647,664	27,780	1,979,709	239,604	76,744	316,348
8190 - Upper Blackstone Water Pollution Abatement District.....	7,179,273	247,728	489,440	545,171	1,282,339	519,774	2,814,692	54,669	3,389,134	409,314	161,098	570,412
8130 - Upper Cape Cod Regional Vocational Technical School District.....	4,296,159	148,243	292,886	694,989	1,136,118	311,039	1,684,343	23,303	2,018,685	244,938	167,837	412,775
Special Funding Situations:												
Nonemployer (Commonwealth) attributable to:												
6013 - ACCEPT Education Collaborative.....	9,342,868									532,668	55,381	588,049
6022 - Assabet Valley Collaborative.....	3,170,601									180,766	18,794	199,560
6004 - Bi-County Education Collaborative.....	6,285,502									358,357	37,258	395,615
6018 - C.A.S.E. Collaborative.....	7,068,881									403,020	41,902	444,922
6016 - Cape Cod Collaborative.....	7,398,742									421,827	43,857	465,684
6010 - CAPS Education Collaborative.....	4,392,102									250,408	26,035	276,443
6035 - Central Massachusetts Special Education Collaborative.....	4,893,925									279,019	29,010	308,029
6017 - Collaborative for Educational Services.....	11,408,853									650,457	67,628	718,085
6021 - CREST Collaborative.....	9,271,069									528,574	54,956	583,530
6030 - EDCO Collaborative.....	4,596,174									262,043	27,245	289,288
6019 - FLLAC Collaborative.....	3,870,162									220,651	22,941	243,592
6034 - LABBB Collaborative.....	9,489,476									541,026	56,250	597,276
6011 - Lower Pioneer Valley Education Collaborative.....	14,278,290									814,053	84,637	898,690
6014 - North River Collaborative.....	6,851,193									390,609	40,612	431,221
6006 - North Shore Education Consortium.....	9,336,183									532,287	55,342	587,629
6007 - Pilgrim Area Collaborative.....	2,839,538									161,891	16,832	178,723
6031 - READS Collaborative.....	4,399,366									250,822	26,078	276,900
6033 - SEEMS Collaborative.....	10,622,570									605,628	62,967	668,595
6009 - Shore Education Consortium.....	10,259,871									584,949	60,817	645,766
6015 - South Coast Education Collaborative.....	9,468,684									539,841	56,127	595,968
6001 - South Shore Education Collaborative.....	7,893,845									450,054	46,792	496,846
6003 - Southeastern Massachusetts Education Collaborative.....	6,662,132									379,830	39,491	419,321
6002 - Southern Worcester County Education Collaborative.....	3,196,210									182,227	18,946	201,173
6027 - The Educational Co-Op.....	2,877,228									164,040	17,055	181,095
6020 - Valley Collaborative.....	8,006,281									456,465	47,459	503,924
8150 - Berkshire Regional Planning Commission.....	2,829,125									161,298	16,770	178,068
8250 - Devens Enterprise Commission.....	533,678									30,427	3,163	33,590
6037 - Franklin Regional Council of Governments.....	5,291,129									301,665	31,364	333,029
8210 - Massachusetts Development Finance Agency.....	2,902,705									165,493	17,206	182,699
6200 - Massachusetts Healthcare Connector Authority.....	13,220,672									753,754	78,368	832,122
8211 - Massachusetts Life Sciences Center.....	407,056									23,208	2,413	25,621
6100 - Massachusetts PRIM Board.....	12,635,451									720,389	74,899	795,288
6060 - Massachusetts School Building Authority.....	12,259,575									698,959	72,671	771,630
1080 - Massachusetts Water Resources Authority.....	5,937,849									338,536	35,198	373,734
8050 - Metropolitan Area Planning Commission.....	20,268,866									1,155,595	120,147	1,275,742
Total nonemployer (Commonwealth of Massachusetts).....	254,165,852	8,770,251	17,327,502	24,383,764	50,481,517	18,401,415	99,647,753	30,329,957	148,379,126	14,490,836	1,506,611	15,997,447
Totals.....	\$ 10,436,529,000	\$ 360,122,907	\$ 711,499,941	\$ 75,964,564	\$ 1,147,587,412	\$ 755,596,800	\$ 4,091,724,600	\$ 75,964,564	\$ 4,923,285,964	\$ 595,021,107	\$ -	\$ 595,021,107

See accompanying notes to schedules.

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
NOTES TO SCHEDULES
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021

NOTE 1 - PLAN DESCRIPTION

The Massachusetts State Employees' Retirement System (MSERS) is a public employee retirement system (PERS), that administers a cost-sharing, multiple employer defined benefit pension plan as defined by Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans*, covering substantially all employees of the Commonwealth and certain employees of independent authorities and agencies. The former Massachusetts Turnpike Authority (MTA) employees and retirees became members of MSERS upon the creation of the Massachusetts Department of Transportation (MassDOT). Other employees who transferred to MassDOT have been, and remain, members of MSERS. The assets and liabilities of the former MTA have been transferred to MSERS. MSERS is reported as a pension trust fund in the Commonwealth's Annual Comprehensive Financial Report and does not issue a stand-alone audited financial report.

Management of MSERS is vested in the Massachusetts State Retirement Board (the MSRB) which consists of five members—two elected by current and active MSERS members, one who is appointed by the State Treasurer, the State Treasurer, who serves as ex-officio and is the Chair of the MSRB, and one by the remaining members of the MSRB.

Benefits provided. MSERS provides retirement, disability, survivor and death benefits to members and their beneficiaries. Massachusetts General Laws (MGL) establishes uniform benefit and contribution requirements for all contributory PERS. These requirements provide for superannuation retirement allowance benefits up to a maximum of 80% of a member's highest three-year average annual rate of regular compensation. For employees hired after April 1, 2012, retirement allowances are calculated on the basis of the last five years or any five consecutive years, whichever is greater in terms of compensation. Benefit payments are based upon a member's age, length of creditable service, group creditable service, and group classification. The authority for amending these provisions rests with the Legislature.

Members become vested after ten years of creditable service. A superannuation retirement allowance may be received upon the completion of twenty years of creditable service or upon reaching the age of 55 with ten years of service. Normal retirement for most employees occurs at age 65; for certain hazardous duty and public safety positions, normal retirement is at age 55. Most employees who joined the system after April 1, 2012 cannot retire prior to age 60.

The MSERS' funding policies have been established by Chapter 32 of the MGL. The Legislature has the authority to amend these policies. The annuity portion of the MSERS retirement allowance is funded by employees, who contribute a percentage of their regular compensation. Costs of administering the plan are funded out of plan assets.

Member contributions for MSERS vary depending on the most recent date of membership:

Hire Date	% of Compensation
Prior to 1975.....	5% of regular compensation
1975 - 1983.....	7% of regular compensation
1984 to 6/30/1996.....	8% of regular compensation
7/1/1996 to present.....	9% of regular compensation except for State Police which is 12% of regular compensation
1979 to present.....	An additional 2% of regular compensation in excess of \$30,000

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
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In addition, members of Group 1 who join the system on or after April 2, 2012 will have their withholding rate reduced to 6% after achieving 30 years of creditable service.

NOTE 2 - BASIS OF PRESENTATION

The schedule of employer and nonemployer allocations and schedule of pension amounts by employer and nonemployer (the Schedules) present amounts that are elements of the financial statements of the MSERS or of its participating employers and nonemployers. Accordingly, they do not purport to be a complete presentation of the financial position or changes in financial position of the MSERS or its participating employers and nonemployers. The amounts presented in the Schedules were prepared in accordance with U.S. generally accepted accounting principles. Such preparation requires management of the MSERS to make a number of estimates and assumptions related to the reported amounts. Actual results could differ from those estimates.

The schedule of employer and nonemployer allocations are based on actual contributions adjusted for any nonemployer contributions.

The MGLs governing employer contribution requirements to MSERS are varied and vary among employers to such an extent that there is no uniform contribution method. Consequently, MSERS developed an effective contribution methodology which allocates total actual contributions amongst the employers in a consistent manner (based on an employer's share of total covered payroll). Any differences between the effective contribution and an employer's actual contributions are considered a nonemployer contribution from the Commonwealth. According to MGL, certain nonemployer contributions are the legal responsibility of the Commonwealth and have accordingly been reflected on the schedule of employer and nonemployer allocations as special funding situations.

The schedule of pension amounts presents each employer in sufficient detail to permit each contributing employer as well as each employer considered to be in a special funding situation to derive the necessary information for the preparation of their individual financial statements.

For entities considered to be in a 100% special funding situation there is no net pension liability, deferred outflows, and deferred inflows recognized. However, the notes to the financial statements for these entities must disclose the portion of the nonemployer contributing entity's total proportionate share of the net pension liability as well its portion of pension expense as both revenue and pension expense.

The special funding situations created by MGL are described below.

Educational Collaboratives

Collaboratives contribute amounts equal to the normal cost of employees' benefits at a rate established by the Public Employees' Retirement Administration Commission (PERAC), currently 6.1% of covered payroll. Legally, the collaboratives are only responsible for contributing the annual normal cost of their employees' benefits (i.e., the present value of the benefits earned by those employees in any given year) and are not legally responsible for the past service cost attributable to those employees or previously retired employees of the collaboratives. The Commonwealth as a nonemployer is legally responsible for the entire past service cost related to the collaboratives and therefore has a 100% special funding situation.

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
NOTES TO SCHEDULES
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021

Other Special Funding Situations

MGLs established certain entities whose employees are members of MSERS. However, MGL does not provide an employer funding mechanism for these entities. Consequently, the Commonwealth is considered the nonemployer contributor and is considered legally responsible to make all actuarially determined employer contributions on behalf of these entities. Therefore, these entities are also considered to be in a 100% special funding situation as defined by GASB.

NOTE 3 - COLLECTIVE NET PENSION LIABILITY

Components of the collective net pension liability at June 30, 2021 are as follows (amounts in thousands):

Total pension liability.....	\$ 46,476,000
Less:	
Plan fiduciary net position.....	<u>36,039,471</u>
Employers/nonemployers' net pension liability....	<u><u>\$ 10,436,529</u></u>
Plan fiduciary net position as a percentage of total pension liability.....	<u><u>77.54%</u></u>

Actuarial Assumptions

The total pension liability for the June 30, 2021 measurement date was determined by an actuarial valuation as of January 1, 2021 rolled forward to June 30, 2021, using the following actuarial assumptions:

1. (a) 7.00% investment rate of return, (b) 3.50% interest rate credited to the annuity savings fund and (c) 3.00% cost of living increase on the first \$13,000 of allowance each year.
2. Salary increases are based on analyses of past experience but range from 4.00% to 9.00% depending on group and length of service.
3. Mortality rates were as follows:
 - Pre-retirement - reflects RP-2014 Blue Collar Employees Table projected generationally with Scale MP-2020, set forward 1 year for females
 - Post-retirement - reflects RP-2014 Blue Collar Healthy Annuitant Table projected generationally with Scale MP-2020, set forward 1 year for females
 - Disability - the morality rate reflects the post-retirement mortality described above, set forward 1 year.
4. Experience studies were performed as follows:
 - Dated February 27, 2014 and encompasses the period January 1, 2006 to December 31, 2011, updated to reflect actual experience from 2012 through 2020 for post-retirement mortality.

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
NOTES TO SCHEDULES
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021

Investment assets of MSERS are with the Pension Reserves Investment Trust (PRIT) Fund. The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future rates of return by the target asset allocation percentage. Best estimates of geometric rates of return for each major asset class included in the PRIT Fund's target asset allocation as of June 30, 2021 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity.....	39.0%	4.8%
Core Fixed Income.....	15.0%	0.3%
Private Equity.....	13.0%	7.8%
Portfolio Completion Strategies.....	11.0%	2.9%
Real Estate.....	10.0%	3.7%
Value Added Fixed Income.....	8.0%	3.9%
Timberland/Natural Resources....	4.0%	4.3%
Total.....	<u>100.0%</u>	

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rates and the Commonwealth's contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rates. Based on those assumptions, the net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity Analysis

The following illustrates the sensitivity of the collective net pension liability to changes in the discount rate as of June 30, 2021. In particular, the table presents the MSERS collective net pension liability assuming it was calculated using a single discount rate that is one-percentage-point lower or one-percentage-point higher than the current discount rate (amounts in thousands):

1% Decrease to 6.00%	Current Discount Rate 7.00%	1% Increase to 8.00%
<u>\$ 15,974,650</u>	<u>\$ 10,436,529</u>	<u>\$ 5,884,626</u>

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
NOTES TO SCHEDULES
AS OF AND FOR THE FISCAL YEAR ENDED JUNE 30, 2021

NOTE 4 - DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

The following table summarizes the changes in both deferred outflows and deferred inflows of resources excluding employer specific amounts (change in proportion) (amounts in thousands):

	Year of Deferral	Amortization Period	Balance July 1, 2020	Additions	Deletions	Balance June 30, 2021
Deferred Outflows of Resources:						
Difference between expected and actual experience.....	2016	5.4 years	\$ 43,632	\$ -	\$ (43,632)	\$ -
	2018	5.3 years	44,267	-	(19,246)	25,021
	2019	5.2 years	186,502	-	(58,282)	128,220
	2020	5.2 years	271,532	-	(64,650)	206,882
Subtotal.....			545,933	-	(185,810)	360,123
Change of assumptions.....	2017	5.4 years	78,815	-	(56,296)	22,519
	2018	5.3 years	269,925	-	(117,359)	152,566
	2019	5.2 years	267,076	-	(83,461)	183,615
	2020	5.2 years	357,000	-	(85,000)	272,000
	2021	5.0 years	-	101,000	(20,200)	80,800
Subtotal.....			972,816	101,000	(362,316)	711,500
Total deferred outflows of resources.....			<u>\$ 1,518,749</u>	<u>\$ 101,000</u>	<u>\$ (548,126)</u>	<u>\$ 1,071,623</u>
Deferred Inflows of Resources:						
Difference between expected and actual experience.....	2017	5.4 years	\$ (111,023)	\$ -	\$ 79,302	\$ (31,721)
	2021	5.0 years	-	(904,845)	180,969	(723,876)
Subtotal.....			(111,023)	(904,845)	260,271	(755,597)
Net difference between projected and actual earnings on plan investments.....	2017	5.0 years	(246,627)	-	246,627	-
	2018	5.0 years	(230,884)	-	115,443	(115,441)
	2019	5.0 years	264,274	-	(88,092)	176,182
	2020	5.0 years	1,156,403	-	(289,101)	867,302
	2021	5.0 years	-	(6,274,710)	1,254,942	(5,019,768)
Subtotal.....			943,166	(6,274,710)	1,239,819	(4,091,725)
Total deferred inflows of resources.....			<u>\$ 832,143</u>	<u>\$ (7,179,555)</u>	<u>\$ 1,500,090</u>	<u>\$ (4,847,322)</u>

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM
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Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in the collective pension expense as follows (amounts in thousands):

<u>Fiscal Year Ending June 30</u>	
2022.....	\$ (735,163)
2023.....	(706,143)
2024.....	(948,611)
2025.....	<u>(1,385,782)</u>
Total.....	<u>\$ (3,775,699)</u>

NOTE 5 - COLLECTIVE PENSION EXPENSE

The following table shows the components of pension expense, excluding employer specific pension expense for changes in proportion, as of June 30, 2021 (amounts in thousands):

Service cost.....	\$ 968,648
Interest on the total pension liability.....	3,243,594
Employee contributions.....	(652,911)
Projected earnings on plan investments.....	(1,957,707)
Transfers and reimbursements from other systems.....	(29,708)
Member make up, redeposits and payments from rollovers.....	(10,889)
Cost of living adjustment reimbursements.....	14,556
Other reimbursements.....	(32,282)
Administrative expense.....	21,685
Other expenses that do not reduce the total pension liability.....	(18,000)
Recognition (amortization) of deferred outflows and inflows of resources:	
Differences between expected and actual experience.....	(74,462)
Differences between projected and actual earnings on plan investments.....	(1,239,819)
Changes of assumptions.....	<u>362,316</u>
Pension expense.....	<u>\$ 595,021</u>

The employer/nonemployer proportionate share of the collective pension expense is equal to the collective pension expense multiplied by the employer/nonemployer proportionate share percentage for the fiscal year ending June 30, 2021 as shown in the schedule of employer and nonemployer allocations.