

**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**

Schedule of Employer and Nonemployer Allocations and  
Schedule of Pension Amounts by Employer and Nonemployer

June 30, 2016

(With Independent Auditors' Report Thereon)



KPMG LLP  
Two Financial Center  
60 South Street  
Boston, MA 02111

## Independent Auditors' Report

Mr. Thomas G. Shack III, Comptroller  
Commonwealth of Massachusetts:

We have audited the accompanying schedule of employer and nonemployer allocations of the Massachusetts State Employees' Retirement System (MSERS) as of and for the year ended June 30, 2016, 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 year ended June 30, 2016, 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 U.S. generally accepted accounting principles; 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 the 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 the 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 included 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 the 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 the specified column totals included in the schedule of pension amounts by employer and nonemployer.

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 and nonemployer allocations and net pension liability, total deferred outflows of resources, total deferred inflows of resources, and total employer pension expense for the total of all participating entities for MSERS as of and for the year ended June 30, 2016 in accordance with U.S. generally accepted accounting principles.

***Restriction on Use***

Our report is intended solely for information and use of MSERS management and its board, 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.

**KPMG LLP**

Boston, Massachusetts  
May 4, 2017

**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS**  
As of and for the fiscal year ended June 30, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
<b>Non Special Funding Situations:</b>		
9045 - Commonwealth of Massachusetts:		
Employer contributions.....	\$ 659,610,272	
Total Commonwealth of Massachusetts.....	659,610,272	91.85903%
6070 - Massachusetts State College Building Authority:		
Employer contributions.....	115,955	
Nonemployer contributions.....	72,178	
Total Massachusetts State College Building Authority.....	188,133	0.02620%
6090 - Massachusetts Convention Center Authority:		
Employer contributions.....	596,735	
Nonemployer contributions.....	1,752,270	
Total Massachusetts Convention Center Authority.....	2,349,005	0.32713%
9045 - Massachusetts Department of Transportation:		
Employer contributions.....	24,890,974	
Nonemployer contributions.....	8,701,445	
Total Massachusetts Department of Transportation.....	33,592,418	4.67817%
8060 - Assabet Valley Regional Vocational School District:		
Employer contributions.....	-	
Nonemployer contributions.....	339,269	
Total Assabet Valley Regional Vocational School District.....	339,269	0.04725%
8100 - Blackstone Valley Regional Vocational School District:		
Employer contributions.....	-	
Nonemployer contributions.....	430,486	
Total Blackstone Valley Regional Vocational School District.....	430,486	0.05995%
8080 - Bristol/Plymouth Regional Vocational Technical School District.....		
Employer contributions.....	-	
Nonemployer contributions.....	215,358	
Total Bristol/Plymouth Regional Vocational Technical School District.....	215,358	0.02999%
8160 - Central Massachusetts Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	173,146	
Total Central Massachusetts Regional Planning Commission.....	173,146	0.02411%
8020 - Merrimack Valley Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	145,205	
Total Merrimack Valley Planning Commission.....	145,205	0.02022%

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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, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
8010 - Montachusett Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	98,614	
<b>Total Montachusett Regional Planning Commission.....</b>	<b>98,614</b>	<b>0.01373%</b>
8090 - Montachusett Regional Vocational Technical School District:		
Employer contributions.....	-	
Nonemployer contributions.....	510,806	
<b>Total Montachusett Regional Vocational Technical School District.....</b>	<b>510,806</b>	<b>0.07114%</b>
8070 - Nashoba Associated Boards of Health:		
Employer contributions.....	-	
Nonemployer contributions.....	495,224	
<b>Total Nashoba Associated Boards of Health.....</b>	<b>495,224</b>	<b>0.06897%</b>
8040 - North Middlesex Council of Governments:		
Employer contributions.....	-	
Nonemployer contributions.....	109,367	
<b>Total North Middlesex Council of Governments.....</b>	<b>109,367</b>	<b>0.01523%</b>
8030 - Northeast Metro Regional Vocational Technical School District:		
Employer contributions.....	-	
Nonemployer contributions.....	340,977	
<b>Total Northeast Metro Regional Vocational Technical School District.....</b>	<b>340,977</b>	<b>0.04749%</b>
8170 - Old Colony Planning Council:		
Employer contributions.....	-	
Nonemployer contributions.....	135,116	
<b>Total Old Colony Planning Council.....</b>	<b>135,116</b>	<b>0.01882%</b>
8180 - Old Colony Regional Vocational Technical School District:		
Employer contributions.....	-	
Nonemployer contributions.....	150,711	
<b>Total Old Colony Regional Vocational Technical School District.....</b>	<b>150,711</b>	<b>0.02099%</b>
8110 - Pioneer Valley Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	329,220	
<b>Total Pioneer Valley Planning Commission.....</b>	<b>329,220</b>	<b>0.04585%</b>
8140 - Southeastern Regional Planning & Economic Development District:		
Employer contributions.....	-	
Nonemployer contributions.....	194,453	
<b>Total Southeastern Regional Planning &amp; Economic Development District.....</b>	<b>194,453</b>	<b>0.02708%</b>

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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, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
<b>8120 - Southeastern Regional School District:</b>		
Employer contributions.....	-	
Nonemployer contributions.....	638,412	
Total Southeastern Regional School District.....	638,412	0.08891%
<b>8200 - Tri-County Regional Vocational Technical School District:</b>		
Employer contributions.....	-	
Nonemployer contributions.....	272,501	
Total Tri-County Regional Vocational Technical School District.....	272,501	0.03795%
<b>8190 - Upper Blackstone Water Pollution Abatement District:</b>		
Employer contributions.....	413,831	
Nonemployer contributions.....	54,157	
Total Upper Blackstone Water Pollution Abatement District.....	467,989	0.06517%
<b>8130 - Upper Cape Cod Regional Vocational Technical School District:</b>		
Employer contributions.....	-	
Nonemployer contributions.....	257,156	
Total Upper Cape Cod Regional Vocational Technical School District.....	257,156	0.03581%
<b><u>Special Funding Situations (Educational Collaboratives):</u></b>		
<b>6013 - ACCEPT Education Collaborative:</b>		
Employer contributions.....	124,880	
Nonemployer contributions.....	162,609	
Total ACCEPT Education Collaborative.....	287,489	0.04004%
<b>6022 - Assabet Valley Collaborative:</b>		
Employer contributions.....	82,647	
Nonemployer contributions.....	107,616	
Total Assabet Valley Collaborative.....	190,263	0.02650%
<b>6004 - Bi-County Education Collaborative:</b>		
Employer contributions.....	161,401	
Nonemployer contributions.....	209,390	
Total Bi-County Education Collaborative.....	370,790	0.05164%
<b>6018 - C.A.S.E. Collaborative:</b>		
Employer contributions.....	327,698	
Nonemployer contributions.....	426,703	
Total C.A.S.E. Collaborative.....	754,401	0.10506%
<b>6016 - Cape Cod Collaborative:</b>		
Employer contributions.....	185,163	
Nonemployer contributions.....	241,105	
Total Cape Cod Collaborative.....	426,268	0.05936%

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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, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6010 - CAPS Education Collaborative:		
Employer contributions.....	124,165	
Nonemployer contributions.....	161,678	
<b>Total CAPS Education Collaborative.....</b>	<b>285,843</b>	0.03981%
6035 - Central Massachusetts Special Education Collaborative:		
Employer contributions.....	121,185	
Nonemployer contributions.....	157,798	
<b>Total Central Massachusetts Special Education Collaborative.....</b>	<b>278,983</b>	0.03885%
6012 - CHARMS Collaborative:		
Employer contributions.....	34,344	
Nonemployer contributions.....	44,720	
<b>Total CHARMS Collaborative.....</b>	<b>79,064</b>	0.01101%
6017 - Collaborative for Educational Services:		
Employer contributions.....	298,923	
Nonemployer contributions.....	389,234	
<b>Total Collaborative for Educational Services.....</b>	<b>688,157</b>	0.09583%
6021 - CREST Collaborative:		
Employer contributions.....	261,428	
Nonemployer contributions.....	338,761	
<b>Total CREST Collaborative.....</b>	<b>600,189</b>	0.08358%
6030 - EDCO Collaborative:		
Employer contributions.....	229,444	
Nonemployer contributions.....	243,282	
<b>Total EDCO Collaborative.....</b>	<b>472,726</b>	0.06583%
6019 - FLLAC Collaborative:		
Employer contributions.....	83,638	
Nonemployer contributions.....	108,907	
<b>Total FLLAC Collaborative.....</b>	<b>192,545</b>	0.02681%
6034 - LABBB Collaborative:		
Employer contributions.....	142,659	
Nonemployer contributions.....	543,582	
<b>Total LABBB Collaborative.....</b>	<b>686,241</b>	0.09557%
6011 - Lower Pioneer Valley Education Collaborative:		
Employer contributions.....	447,767	
Nonemployer contributions.....	583,049	
<b>Total Lower Pioneer Valley Education Collaborative.....</b>	<b>1,030,816</b>	0.14355%

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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, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6014 - North River Collaborative:		
Employer contributions.....	252,000	
Nonemployer contributions.....	<u>380,787</u>	
Total North River Collaborative.....	<u>632,787</u>	0.08812%
6006 - North Shore Education Consortium:		
Employer contributions.....	228,033	
Nonemployer contributions.....	<u>296,927</u>	
Total North Shore Education Consortium.....	<u>524,960</u>	0.07311%
6007 - Pilgrim Area Collaborative:		
Employer contributions.....	86,128	
Nonemployer contributions.....	<u>112,149</u>	
Total Pilgrim Area Collaborative.....	<u>198,277</u>	0.02761%
6031 - READS Collaborative:		
Employer contributions.....	138,177	
Nonemployer contributions.....	<u>179,924</u>	
Total READS Collaborative.....	<u>318,101</u>	0.04430%
6033 - SEEMS Collaborative:		
Employer contributions.....	294,171	
Nonemployer contributions.....	<u>383,047</u>	
Total SEEMS Collaborative.....	<u>677,218</u>	0.09431%
6009 - Shore Education Consortium:		
Employer contributions.....	398,238	
Nonemployer contributions.....	<u>518,555</u>	
Total Shore Education Consortium.....	<u>916,793</u>	0.12767%
6015 - South Coast Education Collaborative:		
Employer contributions.....	244,712	
Nonemployer contributions.....	<u>318,646</u>	
Total South Coast Education Collaborative.....	<u>563,358</u>	0.07845%
6001 - South Shore Education Collaborative:		
Employer contributions.....	270,010	
Nonemployer contributions.....	<u>351,586</u>	
Total South Shore Education Collaborative.....	<u>621,595</u>	0.08656%
6003 - Southeastern Massachusetts Education Collaborative:		
Employer contributions.....	222,012	
Nonemployer contributions.....	<u>289,087</u>	
Total Southeastern Massachusetts Education Collaborative.....	<u>511,099</u>	0.07118%

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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, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6002 - Southern Worcester County Education Collaborative:		
Employer contributions.....	136,045	
Nonemployer contributions.....	177,148	
Total Southern Worcester County Education Collaborative.....	313,193	0.04362%
6027 - The Educational Co-Op:		
Employer contributions.....	67,752	
Nonemployer contributions.....	88,221	
Total The Educational Co-Op.....	155,973	0.02172%
6020 - Valley Collaborative:		
Employer contributions.....	238,217	
Nonemployer contributions.....	310,188	
Total Valley Collaborative.....	548,406	0.07637%
<b>Special Funding Situations (Other than Educational Collaboratives):</b>		
8150 - Berkshire Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	144,299	
Total Berkshire Regional Planning Commission.....	144,299	0.02010%
8250 - Devens Enterprise Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	33,446	
Total Devens Enterprise Commission.....	33,446	0.00466%
6037 - Franklin Regional Council of Governments:		
Employer contributions.....	-	
Nonemployer contributions.....	312,205	
Total Franklin Regional Council of Governments.....	312,205	0.04348%
8210 - Massachusetts Development Finance Agency:		
Employer contributions.....	-	
Nonemployer contributions.....	218,162	
Total Massachusetts Development Finance Agency.....	218,162	0.03038%
6200 - Massachusetts Healthcare Connector Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	821,536	
Total Massachusetts Healthcare Connector Authority.....	821,536	0.11441%
8211 - Massachusetts Life Sciences Center:		
Employer contributions.....	-	
Nonemployer contributions.....	39,886	
Total Massachusetts Life Sciences Center.....	39,886	0.00555%

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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, 2016

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6100 - Massachusetts PRIM Board:		
Employer contributions.....	-	
Nonemployer contributions.....	<u>563,141</u>	
Total Massachusetts PRIM Board.....	<u>563,141</u>	0.07842%
6060 - Massachusetts School Building Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	<u>616,258</u>	
Total Massachusetts School Building Authority.....	<u>616,258</u>	0.08582%
1080 - Massachusetts Water Resources Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	<u>824,366</u>	
Total Massachusetts Water Resources Authority.....	<u>824,366</u>	0.11480%
8050 - Metropolitan Area Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	<u>1,125,302</u>	
Total Metropolitan Area Planning Commission.....	<u>1,125,302</u>	0.15671%
Total for all entities.....	<u>\$ 718,067,973</u>	100.00000%

See accompanying notes to schedule of employer and nonemployer allocations and schedule of pension amounts by employer and nonemployer.

**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**  
**SCHEDULE OF PENSION AMOUNTS BY EMPLOYER AND NONEMPLOYER**  
As of and for the fiscal year ended June 30, 2016

Employer/Nonemployer	Deferred Outflows of Resources					Deferred Inflows of Resources		Pension Expense			
	Net Pension Liability	Differences Between Expected and Actual Experience	Net Differences Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion	Total Deferred Outflows of Resources	Changes in Proportion	Total Deferred Inflows of Resources	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Change in Proportion	Total Employer Pension Expense
<b>Non Special Funding Situations:</b>											
<b>Employer:</b>											
9045 - Commonwealth of Massachusetts.....	\$ 12,666,298,287	\$ 601,615,337	\$ 850,264,999	\$ 1,404,608,072	\$ 28,218,269	\$ 2,884,706,677	\$ 6,102,368	\$ 6,102,368	\$ 1,739,747,896	\$ 4,520,184	\$ 1,744,268,080
6070 - Massachusetts State College Building Authority.....	3,612,661	171,592	242,511	400,620	202,303	1,017,026	251,890	251,890	496,208	(7,144)	489,064
6090 - Massachusetts Convention Center Authority.....	45,107,233	2,142,473	3,027,964	5,002,091	740,665	10,913,193	477,448	477,448	6,195,592	176,221	6,371,813
9045 - Massachusetts Department of Transportation.....	645,065,138	30,638,871	43,302,021	71,533,425	7,585,248	153,059,565	30,760,350	30,760,350	88,601,318	(4,575,816)	84,025,502
8060 - Assabet Valley Regional Vocational School District.....	6,514,880	309,439	437,332	722,457	637,445	2,106,673	-	-	894,835	157,160	1,051,995
8100 - Blackstone Valley Regional Vocational School District.....	8,266,499	392,637	554,915	916,700	189,768	2,054,020	205,856	205,856	1,135,424	(1,262)	1,134,162
8080 - Bristol/Plymouth Regional Vocational Technical School District.....	4,135,451	196,423	277,605	458,594	129,532	1,062,154	447,453	447,453	568,015	(78,496)	489,519
8160 - Central Massachusetts Regional Planning Commission.....	3,324,869	157,922	223,192	368,706	363,208	1,113,028	185,353	185,353	456,679	9,125	465,804
8020 - Merrimack Valley Planning Commission.....	2,788,334	132,438	187,176	309,208	70,501	699,323	18,541	18,541	382,985	11,368	394,353
8010 - Montachusett Regional Planning Commission.....	1,893,658	89,944	127,118	209,994	-	427,056	199,545	199,545	260,099	(52,298)	207,801
8090 - Montachusett Regional Vocational Technical School District.....	9,808,847	465,894	658,450	1,087,736	500,404	2,712,484	166,307	166,307	1,347,270	68,553	1,415,823
8070 - Nashoba Associated Boards of Health.....	9,509,629	451,682	638,364	1,054,554	313,338	2,457,938	1,676,124	1,676,124	1,306,171	(368,673)	937,498
8040 - North Middlesex Council of Governments.....	2,100,151	99,752	140,979	232,893	29,685	503,309	71,586	71,586	288,461	(7,467)	280,994
8030 - Northeast Metro Regional Vocational Technical School District.....	6,547,681	310,997	439,534	726,094	301,794	1,778,419	1,038,869	1,038,869	899,340	(206,240)	693,100
8170 - Old Colony Planning Council.....	2,594,598	123,236	174,171	287,724	50,045	635,176	67,495	67,495	356,375	1,330	357,705
8180 - Old Colony Regional Vocational Technical School District.....	2,894,053	137,460	320,931	83,083	735,746	229,579	229,579	397,506	397,506	(26,391)	371,115
8110 - Pioneer Valley Planning Commission.....	6,321,921	300,274	424,379	701,059	101,844	1,527,556	301,733	301,733	868,332	(76,289)	792,043
8140 - Southeastern Regional Planning & Economic Development District.....	3,734,017	177,356	250,658	414,078	33,506	875,598	137,170	137,170	512,877	(29,515)	483,362
8120 - Southeastern Regional School District.....	12,259,232	582,281	820,939	1,359,467	132,365	2,897,052	1,548,475	1,548,475	1,683,836	(344,821)	1,339,015
8200 - Tri-County Regional Vocational Technical School District.....	5,232,746	248,541	351,264	580,277	1,043,061	2,223,143	142,270	142,270	718,731	237,634	956,365
8190 - Upper Blackstone Water Pollution Abatement District.....	8,986,644	603,257	996,559	314,298	426,842	2,340,956	28,638	28,638	1,234,338	80,038	1,314,376
8130 - Upper Cape Cod Regional Vocational Technical School District.....	4,938,085	234,546	331,484	547,601	88,100	1,201,731	22,003	22,003	678,258	14,199	692,457
<b>Special Funding Situations:</b>											
Nonemployer (Commonwealth) attributable to:											
6013 - ACCEPT Education Collaborative.....	5,520,573								758,265	8,422	766,687
6022 - Assabet Valley Collaborative.....	3,653,358								501,825	5,574	507,399
6004 - Bi-County Education Collaborative.....	7,120,179								977,974	10,863	988,837
6018 - C.A.S.E. Collaborative.....	14,486,536								1,989,762	22,101	2,011,863
6016 - Cape Cod Collaborative.....	8,185,506								1,124,300	12,488	1,136,788
6010 - CAPS Education Collaborative.....	5,488,951								753,921	8,374	762,295
6035 - Central Massachusetts Special Education Collaborative.....	5,357,234								735,830	8,173	744,003
6012 - CHARMS Collaborative.....	1,518,235								208,533	2,316	210,849
6017 - Collaborative for Educational Services.....	13,214,468								1,815,040	20,160	1,835,200
6021 - CREST Collaborative.....	11,525,248								1,583,022	17,583	1,600,605
6030 - EDCO Collaborative.....	9,077,617								1,246,834	13,849	1,260,683
6019 - FLLAC Collaborative.....	3,697,382								507,845	5,641	513,486
6034 - LABBB Collaborative.....	13,177,680								1,809,987	20,104	1,830,091
6011 - Lower Pioneer Valley Education Collaborative.....	19,794,449								2,718,817	30,199	2,749,016
6014 - North River Collaborative.....	12,151,223								1,669,001	18,538	1,687,539
6006 - North Shore Education Consortium.....	10,080,646								1,384,602	15,379	1,399,981
6007 - Pilgrim Area Collaborative.....	3,807,459								522,964	5,809	528,773
6031 - READS Collaborative.....	6,108,396								839,004	9,319	848,323
6033 - SEEMS Collaborative.....	13,004,413								1,786,189	19,840	1,806,029
6009 - Shore Education Consortium.....	17,604,801								2,418,077	26,858	2,444,935
6015 - South Coast Education Collaborative.....	10,818,003								1,485,880	16,504	1,502,384
6001 - South Shore Education Collaborative.....	11,936,310								1,639,482	18,210	1,657,692
6003 - Southeastern Massachusetts Education Collaborative.....	9,814,472								1,348,042	14,973	1,363,015
6002 - Southern Worcester County Education Collaborative.....	6,014,160								826,060	9,175	835,235
6027 - The Educational Co-Op.....	2,995,106								411,385	4,569	415,954
6020 - Valley Collaborative.....	10,530,873								1,446,442	16,066	1,462,508
8150 - Berkshire Regional Planning Commission.....	2,770,921								380,593	4,227	384,820
8250 - Devens Enterprise Commission.....	642,249								88,215	980	89,195
6037 - Franklin Regional Council of Governments.....	5,995,176								823,453	9,146	832,599
8210 - Massachusetts Development Finance Agency.....	4,189,308								575,412	6,391	581,803
6200 - Massachusetts Healthcare Connector Authority.....	15,775,710								2,166,833	24,068	2,190,901
8211 - Massachusetts Life Sciences Center.....	765,923								105,201	1,168	106,369
6100 - Massachusetts PRIM Board.....	10,813,819								1,485,305	16,498	1,501,803
6060 - Massachusetts School Building Authority.....	11,833,814								1,625,404	18,054	1,643,458
1080 - Massachusetts Water Resources Authority.....	15,830,054								2,174,298	24,150	2,198,448
8050 - Metropolitan Area Planning Commission.....	21,608,834								2,968,028	32,967	3,000,995
<b>Total nonemployer (Commonwealth of Massachusetts).....</b>	<b>326,909,386</b>	<b>15,527,322</b>	<b>21,944,816</b>	<b>36,252,069</b>	<b>15,759,604</b>	<b>89,483,811</b>	<b>12,809,013</b>	<b>12,809,013</b>	<b>44,901,825</b>	<b>498,736</b>	<b>45,400,561</b>
<b>Totals.....</b>	<b>\$ 13,788,844,000</b>	<b>\$ 654,933,259</b>	<b>\$ 925,619,400</b>	<b>\$ 1,529,090,909</b>	<b>\$ 56,888,066</b>	<b>\$ 3,166,531,634</b>	<b>\$ 56,888,066</b>	<b>\$ 56,888,066</b>	<b>\$ 1,893,932,371</b>	<b>\$ -</b>	<b>\$ 1,893,932,371</b>

See accompanying notes to schedule of employer and nonemployer allocations and schedule of pension amounts by employer and nonemployer.

**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**  
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**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 part of the Commonwealth's reporting entity 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 by the remaining members of the MSRB, one who is appointed by the State Treasurer and the State Treasurer, who serves as ex-officio and is the Chair 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, and 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.

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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

**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 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 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.

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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 5.6% 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.

*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 - RECONCILIATION TO FINANCIAL STATEMENTS**

*Employer and nonemployer contributions*

The current year employer and nonemployer contributions used in the schedule of employer and nonemployer allocations is a component of the MSERS' Pension Trust Fund financial statements contained in the Commonwealth's CAFR. The reconciliation of employer and nonemployer contributions is as follows (amounts in thousands):

Employer and nonemployer contributions reported in the Statement of Changes in Fiduciary Net Position per the audited CAFR:	
Employer and nonemployer contributions - Commonwealth and MassDOT...	\$ 711,741
Employer and nonemployer contributions - other.....	<u>16,642</u>
Subtotal employer and nonemployer contributions.....	728,383
Less:	
Other.....	<u>(10,315)</u>
Total employer and nonemployer contributions per Schedule of Employer and Nonemployer Allocations.....	<u><u>\$ 718,068</u></u>

**MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM**  
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**NOTE 4 - COLLECTIVE NET PENSION LIABILITY**

Components of the collective net pension liability at June 30, 2016 are as follows (amounts in thousands):

Total pension liability.....	\$ 37,760,000
Less:	
Plan fiduciary net position.....	23,971,156
Employers/nonemployers' net pension liability....	\$ 13,788,844
Plan fiduciary net position as a percentage of total pension liability.....	63.48%

***Actuarial Assumptions***

The total pension liability for the June 30, 2016 measurement date was determined by an actuarial valuation as of January 1, 2016 rolled forward to June 30, 2016. This valuation used the following assumptions:

1. (a) 7.50% investment rate of return, (b) 3.50% interest rate credited to the annuity savings fund and (c) 3.00% cost of living increase per 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. Chapter 176 of the Acts of 2011 created a one-time election for eligible members of the Optional Retirement Plan (ORP) to transfer to the State Employees' Retirement System (SERS) and purchase service for the period while members of the ORP. As a result, the total pension liability of SERS has increased by approximately \$400 million as of June 30, 2016.
4. Mortality rates were as follows:
  - Pre-retirement - reflects RP-2000 Employees table projected generationally with Scale BB and a base year of 2009 (gender distinct)
  - Post-retirement - reflects RP-2000 Healthy Annuitant table projected generationally with Scale BB and a base year of 2009 (gender distinct)
  - Disability - the mortality rate is assumed to be in accordance with the RP-2000 Healthy Annuitant Table projected generationally with Scale BB and a base year of 2015 (gender distinct)
5. Experience studies were performed as follows:
  - Dated February 27, 2014 and encompasses the period January 1, 2006 to December 31, 2011.

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.

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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, 2016 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity.....	40.0%	6.9%
Core Fixed Income.....	13.0%	1.6%
Private Equity.....	10.0%	8.7%
Real Estate.....	10.0%	4.6%
Value Added Fixed Income.....	10.0%	4.8%
Hedge Funds.....	9.0%	4.0%
Portfolio Completion Strategies.....	4.0%	3.6%
Timber/Natural Resources.....	4.0%	5.4%
Total.....	<u>100.0%</u>	

***Discount Rate***

The discount rate used to measure the total pension liability was 7.50%. 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, 2016. 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 6.50%	Current Discount Rate 7.50%	1% Increase to 8.50%
\$ 17,969,000	\$ 13,788,844	\$ 10,246,000



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**NOTE 5 - DEFERRED OUTFLOW AND INFLOW 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, 2015	Additions	Deletions	Balance June 30, 2016
<b>Deferred Outflows of Resources:</b>						
Difference between expected and actual experience.....	2015	5.5 years	\$ 225,000	\$ -	\$ (50,000)	\$ 175,000
	2016	5.4 years	-	589,009	(109,076)	479,933
Subtotal.....			<u>225,000</u>	<u>589,009</u>	<u>(159,076)</u>	<u>654,933</u>
Net difference between projected and actual earnings on plan investments.....	2014	5 years	(1,142,841)	-	380,948	(761,893)
	2015	5 years	815,746	-	(203,937)	611,809
	2016	5 years	-	1,344,630	(268,926)	1,075,704
Subtotal.....			<u>(327,095)</u>	<u>1,344,630</u>	<u>(91,915)</u>	<u>925,620</u>
Change of assumptions.....	2014	5.5 years	64,909	-	(18,546)	46,363
	2015	5.5 years	1,906,364	-	(423,636)	1,482,728
Subtotal.....			<u>1,971,273</u>	<u>-</u>	<u>(442,182)</u>	<u>1,529,091</u>
Total deferred outflows of resources.....			<u>\$ 1,869,178</u>	<u>\$ 1,933,639</u>	<u>\$ (693,173)</u>	<u>\$ 3,109,644</u>

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):

Fiscal Year Ending June 30	
2017.....	\$ 693,173
2018.....	693,173
2019.....	1,064,847
2020.....	614,820
2021.....	<u>43,631</u>
Total.....	<u>\$ 3,109,644</u>

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**NOTE 6 - 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, 2016 (amounts in thousands):

Service cost.....	\$ 813,975
Interest on the total pension liability.....	2,638,929
Employer contributions.....	(591,948)
Projected earnings on plan investments.....	(1,767,568)
Transfers and reimbursements from other systems.....	(194,250)
Member make up, redeposits and payments from rollovers.....	(138,873)
Cost of living adjustment reimbursements.....	(25,235)
Other reimbursements.....	(38,720)
Administrative expense.....	20,624
Other expenses that do not reduce the total pension liability.....	83,825
Recognition (amortization) of deferred outflows and inflows of resources:	
Differences between expected and actual experience.....	159,076
Differences between projected and actual earnings on plan investments.....	91,915
Changes of assumptions.....	442,182
Change in benefit terms.....	400,000
	<hr/>
Pension expense.....	<u>\$ 1,893,932</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, 2016 as shown in the schedule of employer and nonemployer allocations.