

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM

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

June 30, 2017

(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, 2017, 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, 2017, 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 schedule 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, 2017 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
March 16, 2018

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM

SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS

As of and for the fiscal year ended June 30, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
<u>Non Special Funding Situations:</u>		
9045 - Commonwealth of Massachusetts:		
Employer contributions.....	719,839,637	
Total Commonwealth of Massachusetts.....	719,839,637	92.07322%
6070 - Massachusetts State College Building Authority:		
Employer contributions.....	115,941	
Nonemployer contributions.....	117,428	
Total Massachusetts State College Building Authority.....	233,369	0.02985%
6090 - Massachusetts Convention Center Authority:		
Employer contributions.....	754,322	
Nonemployer contributions.....	1,666,075	
Total Massachusetts Convention Center Authority.....	2,420,397	0.30959%
9045 - Massachusetts Department of Transportation:		
Employer contributions.....	25,518,901	
Nonemployer contributions.....	9,184,815	
Total Massachusetts Department of Transportation.....	34,703,716	4.43888%
8060 - Assabet Valley Regional Vocational School District:		
Employer contributions.....	-	
Nonemployer contributions.....	390,938	
Total Assabet Valley Regional Vocational School District.....	390,938	0.05000%
8100 - Blackstone Valley Regional Vocational School District:		
Employer contributions.....	-	
Nonemployer contributions.....	442,712	
Total Blackstone Valley Regional Vocational School District.....	442,712	0.05663%
8080 - Bristol/Plymouth Regional Vocational Technical School District.....		
Employer contributions.....	273,645	
Nonemployer contributions.....	-	
Total Bristol/Plymouth Regional Vocational Technical School District.....	273,645	0.03500%
8160 - Central Massachusetts Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	178,891	
Total Central Massachusetts Regional Planning Commission.....	178,891	0.02288%
8020 - Merrimack Valley Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	146,549	
Total Merrimack Valley Planning Commission.....	146,549	0.01874%

(continued)

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM

SCHEDULE OF EMPLOYER AND NONEMPLOYER ALLOCATIONS

As of and for the fiscal year ended June 30, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
8010 - Montachusett Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	135,713	
Total Montachusett Regional Planning Commission.....	135,713	0.01736%
8090 - Montachusett Regional Vocational Technical School District:		
Employer contributions.....	207,998	
Nonemployer contributions.....	281,641	
Total Montachusett Regional Vocational Technical School District.....	489,639	0.06263%
8070 - Nashoba Associated Boards of Health:		
Employer contributions.....	-	
Nonemployer contributions.....	503,230	
Total Nashoba Associated Boards of Health.....	503,230	0.06437%
8040 - North Middlesex Council of Governments:		
Employer contributions.....	-	
Nonemployer contributions.....	111,781	
Total North Middlesex Council of Governments.....	111,781	0.01430%
8030 - Northeast Metro Regional Vocational Technical School District:		
Employer contributions.....	-	
Nonemployer contributions.....	371,579	
Total Northeast Metro Regional Vocational Technical School District.....	371,579	0.04753%
8170 - Old Colony Planning Council:		
Employer contributions.....	-	
Nonemployer contributions.....	144,370	
Total Old Colony Planning Council.....	144,370	0.01847%
8180 - Old Colony Regional Vocational Technical School District:		
Employer contributions.....	119,299	
Nonemployer contributions.....	66,231	
Total Old Colony Regional Vocational Technical School District.....	185,530	0.02373%
8110 - Pioneer Valley Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	370,970	
Total Pioneer Valley Planning Commission.....	370,970	0.04745%
8140 - Southeastern Regional Planning & Economic Development District:		
Employer contributions.....	-	
Nonemployer contributions.....	212,186	
Total Southeastern Regional Planning & Economic Development District.....	212,186	0.02714%

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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, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
8120 - Southeastern Regional School District:		
Employer contributions.....	410,622	
Nonemployer contributions.....	274,888	
Total Southeastern Regional School District.....	685,510	0.08768%
8200 - Tri-County Regional Vocational Technical School District:		
Employer contributions.....	291,180	
Nonemployer contributions.....	-	
Total Tri-County Regional Vocational Technical School District.....	291,180	0.03724%
8190 - Upper Blackstone Water Pollution Abatement District:		
Employer contributions.....	419,300	
Nonemployer contributions.....	84,555	
Total Upper Blackstone Water Pollution Abatement District.....	503,855	0.06445%
8130 - Upper Cape Cod Regional Vocational Technical School District:		
Employer contributions.....	-	
Nonemployer contributions.....	256,953	
Total Upper Cape Cod Regional Vocational Technical School District.....	256,953	0.03287%
<u>Special Funding Situations (Educational Collaboratives):</u>		
6013 - ACCEPT Education Collaborative:		
Employer contributions.....	132,617	
Nonemployer contributions.....	223,490	
Total ACCEPT Education Collaborative.....	356,107	0.04555%
6022 - Assabet Valley Collaborative:		
Employer contributions.....	82,968	
Nonemployer contributions.....	113,458	
Total Assabet Valley Collaborative.....	196,426	0.02512%
6004 - Bi-County Education Collaborative:		
Employer contributions.....	169,576	
Nonemployer contributions.....	245,655	
Total Bi-County Education Collaborative.....	415,231	0.05311%
6018 - C.A.S.E. Collaborative:		
Employer contributions.....	338,159	
Nonemployer contributions.....	455,393	
Total C.A.S.E. Collaborative.....	793,552	0.10150%
6016 - Cape Cod Collaborative:		
Employer contributions.....	209,060	
Nonemployer contributions.....	292,512	
Total Cape Cod Collaborative.....	501,572	0.06416%

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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, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6010 - CAPS Education Collaborative:		
Employer contributions.....	98,982	
Nonemployer contributions.....	265,162	
Total CAPS Education Collaborative.....	364,144	0.04658%
6035 - Central Massachusetts Special Education Collaborative:		
Employer contributions.....	138,806	
Nonemployer contributions.....	208,778	
Total Central Massachusetts Special Education Collaborative.....	347,584	0.04446%
6012 - CHARMS Collaborative:		
Employer contributions.....	21,523	
Nonemployer contributions.....	55,635	
Total CHARMS Collaborative.....	77,158	0.00987%
6017 - Collaborative for Educational Services:		
Employer contributions.....	286,308	
Nonemployer contributions.....	471,217	
Total Collaborative for Educational Services.....	757,525	0.09689%
6021 - CREST Collaborative:		
Employer contributions.....	323,960	
Nonemployer contributions.....	482,535	
Total CREST Collaborative.....	806,495	0.10316%
6030 - EDCO Collaborative:		
Employer contributions.....	232,052	
Nonemployer contributions.....	280,065	
Total EDCO Collaborative.....	512,117	0.06550%
6019 - FLLAC Collaborative:		
Employer contributions.....	81,280	
Nonemployer contributions.....	119,161	
Total FLLAC Collaborative.....	200,441	0.02564%
6034 - LABBB Collaborative:		
Employer contributions.....	358,162	
Nonemployer contributions.....	364,446	
Total LABBB Collaborative.....	722,608	0.09243%
6011 - Lower Pioneer Valley Education Collaborative:		
Employer contributions.....	416,428	
Nonemployer contributions.....	648,459	
Total Lower Pioneer Valley Education Collaborative.....	1,064,887	0.13621%

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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, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6014 - North River Collaborative:		
Employer contributions.....	207,644	
Nonemployer contributions.....	466,776	
Total North River Collaborative.....	674,420	0.08626%
6006 - North Shore Education Consortium:		
Employer contributions.....	252,774	
Nonemployer contributions.....	365,266	
Total North Shore Education Consortium.....	618,040	0.07905%
6007 - Pilgrim Area Collaborative:		
Employer contributions.....	84,491	
Nonemployer contributions.....	122,091	
Total Pilgrim Area Collaborative.....	206,582	0.02642%
6031 - READS Collaborative:		
Employer contributions.....	140,895	
Nonemployer contributions.....	203,905	
Total READS Collaborative.....	344,800	0.04410%
6033 - SEEMS Collaborative:		
Employer contributions.....	325,726	
Nonemployer contributions.....	513,657	
Total SEEMS Collaborative.....	839,383	0.10736%
6009 - Shore Education Consortium:		
Employer contributions.....	407,346	
Nonemployer contributions.....	563,854	
Total Shore Education Consortium.....	971,200	0.12422%
6015 - South Coast Education Collaborative:		
Employer contributions.....	216,401	
Nonemployer contributions.....	410,870	
Total South Coast Education Collaborative.....	627,271	0.08023%
6001 - South Shore Education Collaborative:		
Employer contributions.....	229,284	
Nonemployer contributions.....	269,143	
Total South Shore Education Collaborative.....	498,427	0.06375%
6003 - Southeastern Massachusetts Education Collaborative:		
Employer contributions.....	247,281	
Nonemployer contributions.....	349,871	
Total Southeastern Massachusetts Education Collaborative.....	597,152	0.07638%

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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, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6002 - Southern Worcester County Education Collaborative:		
Employer contributions.....	108,111	
Nonemployer contributions.....	159,429	
Total Southern Worcester County Education Collaborative.....	267,540	0.03422%
6027 - The Educational Co-Op:		
Employer contributions.....	73,663	
Nonemployer contributions.....	103,268	
Total The Educational Co-Op.....	176,931	0.02263%
6020 - Valley Collaborative:		
Employer contributions.....	205,532	
Nonemployer contributions.....	429,125	
Total Valley Collaborative.....	634,657	0.08118%
<u>Special Funding Situations (Other than Educational Collaboratives):</u>		
8150 - Berkshire Regional Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	166,787	
Total Berkshire Regional Planning Commission.....	166,787	0.02133%
8250 - Devens Enterprise Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	36,678	
Total Devens Enterprise Commission.....	36,678	0.00469%
6037 - Franklin Regional Council of Governments:		
Employer contributions.....	-	
Nonemployer contributions.....	345,687	
Total Franklin Regional Council of Governments.....	345,687	0.04422%
8210 - Massachusetts Development Finance Agency:		
Employer contributions.....	-	
Nonemployer contributions.....	240,493	
Total Massachusetts Development Finance Agency.....	240,493	0.03076%
6200 - Massachusetts Healthcare Connector Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	910,430	
Total Massachusetts Healthcare Connector Authority.....	910,430	0.11645%
8211 - Massachusetts Life Sciences Center:		
Employer contributions.....	-	
Nonemployer contributions.....	43,865	
Total Massachusetts Life Sciences Center.....	43,865	0.00561%

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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, 2017

Employer/Nonemployer	Actual Contributions	Employer/ Nonemployer Allocation Percentage
6100 - Massachusetts PRIM Board:		
Employer contributions.....	-	
Nonemployer contributions.....	775,095	
Total Massachusetts PRIM Board.....	775,095	0.09914%
6060 - Massachusetts School Building Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	754,632	
Total Massachusetts School Building Authority.....	754,632	0.09652%
1080 - Massachusetts Water Resources Authority:		
Employer contributions.....	-	
Nonemployer contributions.....	803,910	
Total Massachusetts Water Resources Authority.....	803,910	0.10283%
8050 - Metropolitan Area Planning Commission:		
Employer contributions.....	-	
Nonemployer contributions.....	1,269,955	
Total Metropolitan Area Planning Commission.....	1,269,955	0.16244%
Total for all entities.....	781,812,132	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, 2017

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 Change in Proportion	Total Employer Pension Expense
Non Special Funding Situations:												
Employer:												
9045 - Commonwealth of Massachusetts.....	\$ 11,808,177,393	\$ 456,552,005	\$ 1,228,821,027	\$ 40,443,293	\$ 1,725,816,325	\$ 321,270,653	\$ 140,694,516	\$ 4,209,309	\$ 466,174,478	\$ 1,471,925,806	\$ 8,756,155	\$ 1,480,681,961
6070 - Massachusetts State College Building Authority.....	3,828,162	148,012	398,379	462,095	1,008,486	104,155	45,613	186,946	336,713	477,192	65,036	542,228
6090 - Massachusetts Convention Center Authority.....	39,703,950	1,535,116	4,131,802	444,399	6,111,317	1,080,244	473,073	1,883,696	3,437,013	4,949,220	(170,663)	4,778,557
9045 - Massachusetts Department of Transportation.....	569,276,285	22,010,529	59,241,884	5,170,076	86,422,489	15,488,568	6,782,931	44,590,939	66,862,438	70,962,048	(9,307,993)	61,654,055
8060 - Assabet Valley Regional Vocational School District.....	6,412,908	247,949	667,361	720,155	1,635,465	174,479	76,410	-	250,889	799,389	211,676	1,011,065
8100 - Blackstone Valley Regional Vocational School District.....	7,262,203	280,786	755,743	135,548	1,172,077	197,586	86,529	439,636	723,751	905,256	(67,003)	838,253
8080 - Bristol/Plymouth Regional Vocational Technical School District.....	4,488,845	173,557	467,133	516,136	1,156,826	122,130	53,485	319,609	495,224	559,548	20,584	580,132
8160 - Central Massachusetts Regional Planning Commission.....	2,934,510	113,460	305,381	279,942	698,783	79,841	34,965	218,339	333,144	365,796	(15,222)	350,574
8020 - Merrimack Valley Planning Commission.....	2,403,975	92,947	250,170	53,836	396,953	65,406	28,643	141,758	235,807	299,663	(17,840)	281,823
8010 - Montachusett Regional Planning Commission.....	2,226,222	86,075	231,672	315,477	633,224	60,570	26,525	147,247	234,342	277,506	19,402	296,908
8090 - Montachusett Regional Vocational Technical School District.....	8,031,989	310,549	835,851	384,335	1,530,735	218,530	95,701	859,067	1,173,298	1,001,212	(99,692)	901,520
8070 - Nashoba Associated Boards of Health.....	8,254,935	319,169	859,052	223,813	1,402,034	224,596	98,358	1,618,110	1,941,064	1,029,003	(459,624)	569,379
8040 - North Middlesex Council of Governments.....	1,833,644	70,896	190,819	17,811	279,526	49,889	21,848	133,238	204,975	228,569	(26,120)	202,449
8030 - Northeast Metro Regional Vocational Technical School District.....	6,095,345	235,671	634,314	214,918	1,084,903	165,839	72,626	742,049	980,514	759,804	(205,399)	554,405
8170 - Old Colony Planning Council.....	2,368,231	91,565	246,451	30,027	368,043	64,434	28,217	79,317	171,968	295,207	(5,604)	289,603
8180 - Old Colony Regional Vocational Technical School District.....	3,043,416	117,671	316,714	295,927	730,312	82,804	36,262	177,402	296,468	379,371	27,843	407,214
8110 - Pioneer Valley Planning Commission.....	6,085,355	235,284	633,274	218,096	1,086,654	165,567	72,507	202,297	440,371	758,558	(44,608)	713,950
8140 - Southeastern Regional Planning & Economic Development District.....	3,480,678	134,577	362,218	29,013	525,808	94,700	41,472	97,979	234,152	433,877	(28,258)	405,619
8120 - Southeastern Regional School District.....	11,245,037	434,779	1,170,218	79,419	1,684,416	305,949	133,985	1,257,278	1,697,212	1,401,729	(369,041)	1,032,688
8200 - Tri-County Regional Vocational Technical School District.....	4,776,488	184,678	497,066	748,519	1,430,263	129,956	56,912	146,702	333,570	595,404	223,693	819,097
8190 - Upper Blackstone Water Pollution Abatement District.....	8,265,187	319,566	860,119	226,078	1,405,763	224,875	98,480	406,997	1,030,281	65,677	1,095,958	
8130 - Upper Cape Cod Regional Vocational Technical School District.....	4,215,031	162,970	438,638	65,100	666,708	114,680	50,222	269,537	434,439	525,417	(44,059)	481,358
Special Funding Situations:												
Nonemployer (Commonwealth) attributable to:												
6013 - ACCEPT Education Collaborative.....	5,841,544									728,166	27,688	755,854
6022 - Assabet Valley Collaborative.....	3,222,152									401,651	15,273	416,924
6004 - Bi-County Education Collaborative.....	6,811,408									849,063	32,285	881,348
6018 - C.A.S.E. Collaborative.....	13,017,348									1,622,653	61,701	1,684,354
6016 - Cape Cod Collaborative.....	8,227,737									1,025,613	38,998	1,064,611
6010 - CAPS Education Collaborative.....	5,973,382									744,600	28,313	772,913
6035 - Central Massachusetts Special Education Collaborative.....	5,701,733									710,739	27,025	737,764
6012 - CHARMS Collaborative.....	1,265,692									157,772	5,999	163,771
6017 - Collaborative for Educational Services.....	12,426,364									1,548,985	58,899	1,607,884
6021 - CREST Collaborative.....	13,229,663									1,649,118	62,707	1,711,825
6030 - EDCO Collaborative.....	8,400,716									1,047,175	39,818	1,086,993
6019 - FLLAC Collaborative.....	3,288,014									409,861	15,585	425,446
6034 - LABBB Collaborative.....	11,853,589									1,477,587	56,185	1,533,772
6011 - Lower Pioneer Valley Education Collaborative.....	17,468,300									2,177,478	82,798	2,260,276
6014 - North River Collaborative.....	11,063,118									1,379,052	52,438	1,431,490
6006 - North Shore Education Consortium.....	10,138,266									1,263,766	48,054	1,311,820
6007 - Pilgrim Area Collaborative.....	3,388,750									422,418	16,062	438,480
6031 - READS Collaborative.....	5,656,065									705,046	26,809	731,855
6033 - SEEMS Collaborative.....	13,769,155									1,716,368	65,264	1,781,632
6009 - Shore Education Consortium.....	15,931,468									1,985,907	75,513	2,061,420
6015 - South Coast Education Collaborative.....	10,289,691									1,282,642	48,772	1,331,414
6001 - South Shore Education Collaborative.....	8,176,147									1,019,182	38,754	1,057,936
6003 - Southeastern Massachusetts Education Collaborative.....	9,795,622									1,221,055	46,430	1,267,485
6002 - Southern Worcester County Education Collaborative.....	4,388,699									547,065	20,802	567,867
6027 - The Educational Co-Op.....	2,902,358									361,788	13,757	375,545
6020 - Valley Collaborative.....	10,410,850									1,297,745	49,346	1,347,091
8150 - Berkshire Regional Planning Commission.....	2,735,957									341,046	12,968	354,014
8250 - Devens Enterprise Commission.....	601,662									74,999	2,852	77,851
6037 - Franklin Regional Council of Governments.....	5,670,615									706,860	26,878	733,738
8210 - Massachusetts Development Finance Agency.....	3,945,023									491,759	18,699	510,458
6200 - Massachusetts Healthcare Connector Authority.....	14,934,603									1,861,644	70,788	1,932,432
8211 - Massachusetts Life Sciences Center.....	719,557									89,695	3,411	93,106
6100 - Massachusetts PRIM Board.....	12,714,581									1,584,912	60,265	1,645,177
6060 - Massachusetts School Building Authority.....	12,378,908									1,543,069	58,674	1,601,743
1080 - Massachusetts Water Resources Authority.....	13,187,259									1,643,833	62,506	1,706,339
8050 - Metropolitan Area Planning Commission.....	20,832,215									2,596,800	98,742	2,695,542
Total nonemployer (Commonwealth of Massachusetts).....	310,358,211	11,999,706	32,297,509	21,701,998	65,999,213	8,444,062	3,697,920	14,971,914	27,113,897	38,687,112	1,471,058	40,158,170
Totals.....	\$ 12,824,768,000	\$ 495,857,517	\$ 1,334,612,795	\$ 72,776,011	\$ 1,903,246,323	\$ 348,929,513	\$ 152,807,200	\$ 72,776,011	\$ 574,512,724	\$ 1,598,646,968	\$ -	\$ 1,598,646,968

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

MASSACHUSETTS STATE EMPLOYEES' RETIREMENT SYSTEM

Notes to the Schedule of Employer and Nonemployer Allocations and the Schedule of Pension Amounts by Employer and Nonemployer

June 30, 2017

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 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, 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

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 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 - COLLECTIVE NET PENSION LIABILITY

Components of the collective net pension liability at June 30, 2017 are as follows (amounts in thousands):

Total pension liability.....	\$ 39,107,000
Less:	
Plan fiduciary net position.....	<u>26,282,232</u>
Employers/nonemployers' net pension liability....	<u>\$ 12,824,768</u>
Plan fiduciary net position as a percentage of total pension liability.....	<u>67.21%</u>

Actuarial Assumptions

The total pension liability for the June 30, 2017 measurement date was determined by an actuarial valuation as of January 1, 2017 rolled forward to June 30, 2017. 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 on the first \$13,000 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.

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3. Mortality rates were as follows:
 - Pre-retirement - reflects RP-2014 Blue Collar Employees Table projected generationally with Scale MP-2016 and set forward 1 year for females
 - Post-retirement - reflects RP-2014 Blue Collar Healthy Annuitant Table projected generationally with Scale MP-2016 set forward 1 year for females
 - 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)
4. 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. 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, 2017 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity.....	40.0%	5.0%
Portfolio Completion Strategies.....	13.0%	3.6%
Core Fixed Income.....	12.0%	1.1%
Private Equity.....	11.0%	6.6%
Value Added Fixed Income.....	10.0%	3.8%
Real Estate.....	10.0%	3.6%
Timber/Natural Resources.....	4.0%	3.2%
Hedge Funds.....	0.0%	3.6%
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.

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Sensitivity Analysis

The following illustrates the sensitivity of the collective net pension liability to changes in the discount rate as of June 30, 2017. 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 %
\$ 17,466,800	\$ 12,824,768	\$ 9,085,500

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, 2016	Additions	Deletions	Balance June 30, 2017
Deferred Outflows of Resources:						
Difference between expected and actual experience.....	2015	5.5 years	\$ 175,000	\$ -	\$ (50,000)	\$ 125,000
	2016	5.4 years	479,933	-	(109,075)	370,858
Subtotal.....			654,933	-	(159,075)	495,858
Change of assumptions.....	2014	5.5 years	46,363	-	(18,546)	27,817
	2015	5.5 years	1,482,728	-	(423,636)	1,059,092
	2017	5.4 years	-	304,000	(56,296)	247,704
Subtotal.....			1,529,091	304,000	(498,478)	1,334,613
Total deferred outflows of resources.....			<u>\$ 2,184,024</u>	<u>\$ 304,000</u>	<u>\$ (657,553)</u>	<u>\$ 1,830,471</u>
Deferred Inflows of Resources:						
Difference between expected and actual experience.....	2017	5.4 years	\$ -	\$ (428,232)	\$ 79,302	\$ (348,930)
Net difference between projected and actual earnings on plan investments.....	2014	5 years	(761,893)	-	380,948	(380,945)
	2015	5 years	611,809	-	(203,937)	407,872
	2016	5 years	1,075,704	-	(268,926)	806,778
	2017	5 years	-	(1,233,139)	246,627	(986,512)
Subtotal.....			925,620	(1,233,139)	154,712	(152,807)
Total deferred inflows of resources.....			<u>\$ 925,620</u>	<u>\$ (1,661,371)</u>	<u>\$ 234,014</u>	<u>\$ (501,737)</u>

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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):

Fiscal Year Ending June 30	
2018.....	\$ 423,539
2019.....	795,214
2020.....	345,186
2021.....	(226,002)
2022.....	<u>(9,203)</u>
Total.....	<u>\$ 1,328,734</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, 2017 (amounts in thousands):

Service cost.....	\$ 855,440
Interest on the total pension liability.....	2,813,374
Employee contributions.....	(604,772)
Projected earnings on plan investments.....	(1,754,493)
Transfers and reimbursements from other systems.....	(55,282)
Member make up, redeposits and payments from rollovers.....	(86,393)
Cost of living adjustment reimbursements.....	(27,759)
Other reimbursements.....	(63,114)
Administrative expense.....	30,030
Other expenses that do not reduce the total pension liability.....	58,077
Recognition (amortization) of deferred outflows and inflows of resources:	
Differences between expected and actual experience.....	79,773
Differences between projected and actual earnings on plan investments...	(154,712)
Changes of assumptions.....	498,478
Change in benefit terms.....	<u>10,000</u>
Pension expense.....	<u>\$ 1,598,647</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, 2017 as shown in the schedule of employer and nonemployer allocations.