FLASH REPORT (GROSS)

Boston Retirement System

November 30, 2018

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CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	Q1	Q2	Q3	Oct	Nov	YTD
US Large Cap	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-0.8%	3.4%	7.7%	-6.8%	2.0%	3.0%
US Small/Mid Cap	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-0.2%	5.7%	4.7%	-10.2%	1.9%	-0.8%
Int'l Developed Equity	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-1.5%	-1.2%	1.4%	-8.0%	-0.1%	-9.3%
Emerging Market Equity	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	1.4%	-8.0%	-1.1%	-8.7%	4.1%	-15.7%
US Aggregate	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	-1.5%	-0.2%	0.0%	-0.8%	0.6%	-2.4%
US High Yield	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-0.9%	1.0%	2.4%	-1.6%	-0.9%	0.9%
US Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.3%	0.3%	-2.9%	-3.0%	1.9%	-8.7%
EM Local Credit	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	4.4%	-10.4%	-1.8%	-2.0%	2.8%	-9.9%
Global Credit	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	7.4%	1.4%	-2.8%	-0.9%	-1.1%	0.3%	-3.5%
Commodities	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-0.4%	0.4%	-2.0%	-2.2%	-0.6%	-4.1%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-0.8%	0.8%	-0.8%	-1.4%	0.5%	-2.3%

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse

S&P 500 = US Large Cap
Russell 2500 = US Small/Mid Cap
MSCI EAFE = International Developed Equity
MSCI EM = Emerging Market Equity
Bloomberg Barclays Aggregate = US Aggregate
Bloomberg Barclays High Yield = US HY
Bloomberg Barclays Long Treasury = US Long Treasuries
GBI-EM Global Diversified = EM Local Credit
Barclays Global Aggregate = Global Credit
Bloomberg Commodity = Commodities
Barclays US TIPS = BC TIPS

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Composite	**4,641,868,553**	**100.0**	**100.0**	**0.5**	**-4.3**	**-2.1**	**-0.6**	**7.0**	**5.6**	**8.9**	**7.7**	**Aug-94**
Allocation Index				*0.9*	*-3.9*	*-1.5*	*-0.1*	*7.1*	*5.5*	*8.4*	*--*	*Aug-94*
Policy Index				*0.8*	*-3.1*	*-0.6*	*0.9*	*7.6*	*5.9*	*8.9*	*--*	*Aug-94*
PRIT Core Fund/Teachers*	1,537,481,580	33.1		0.7	-2.6	0.8	2.7	8.4	7.4	--	9.4	Jul-10
Total Equity	**2,451,622,752**	**52.8**	**52.0**	**1.2**	**-7.7**	**-5.1**	**-3.6**	**8.5**	**6.3**	**--**	**--**	**Dec-04**
Large Cap Comp	**812,872,677**	**17.5**	**17.0**	**1.7**	**-6.5**	**4.1**	**5.3**	**12.6**	**11.5**	**15.6**	**9.3**	**Dec-04**
Rhumbline Advisors	108,972,909	2.3		2.0	-4.5	5.0	6.2	12.1	11.0	14.3	9.8	Aug-94
DE Shaw Core Enhanced	82,515,868	1.8		1.8	-5.1	5.2	6.4	12.7	11.6	--	14.1	Oct-09
JP Morgan 130/30	198,497,116	4.3		1.9	-6.1	2.8	4.4	11.3	11.1	--	13.8	Oct-09
S&P 500				*2.0*	*-4.4*	*5.1*	*6.3*	*12.2*	*11.1*	*14.3*	*13.4*	*Oct-09*
DE Shaw 130/30	213,864,360	4.6		1.3	-6.8	1.8	2.8	12.8	11.9	--	15.1	Oct-09
Russell 1000				*2.0*	*-4.8*	*4.8*	*5.9*	*11.9*	*10.9*	*14.5*	*13.4*	*Oct-09*
Columbia Threadneedle	106,812,033	2.3		2.1	-5.3	-1.1	0.8	11.7	9.8	15.3	9.7	Jan-97
Russell 1000 Value				*3.0*	*-2.2*	*1.5*	*3.0*	*9.8*	*8.7*	*12.5*	*8.3*	*Jan-97*
Zevenbergen Capital	50,129,663	1.1		0.4	-13.0	16.1	17.1	14.8	12.3	19.1	11.8	Aug-94
Intech	52,080,728	1.1		1.0	-7.7	6.6	5.8	14.2	13.0	16.5	9.6	Oct-06
Russell 1000 Growth				*1.1*	*-7.5*	*7.8*	*8.6*	*14.0*	*13.0*	*16.5*	*10.3*	*Oct-06*
Small Cap Comp	**310,293,140**	**6.7**	**6.0**	**0.4**	**-10.1**	**4.3**	**4.8**	**12.4**	**8.8**	**15.9**	**9.9**	**Dec-04**
Westfield Capital Management	94,507,928	2.0		1.0	-11.2	3.3	5.0	11.3	8.9	16.6	10.9	Sep-03
Russell 2000 Growth				*1.6*	*-13.4*	*2.7*	*2.8*	*10.0*	*8.2*	*15.5*	*9.4*	*Sep-03*
Bernzott	111,628,899	2.4		-1.4	-8.4	8.0	7.9	14.8	--	--	14.7	Nov-15
Russell 2000 Value				*1.6*	*-9.8*	*-0.9*	*-1.8*	*10.1*	*6.7*	*12.5*	*10.8*	*Nov-15*
Aristotle	104,156,226	2.2		1.7	-10.4	1.9	1.4	11.5	--	--	12.3	Nov-15
Russell 2000				*1.6*	*-11.6*	*1.0*	*0.6*	*10.1*	*7.5*	*14.0*	*10.9*	*Nov-15*

- J&W Seligman is now named Columbia Threadneedle.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

Boston Retirement System

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Non-US Equity	**1,328,456,936**	**28.6**	**29.0**	**1.0**	**-7.9**	**-12.9**	**-11.1**	**4.9**	**1.9**	**8.0**	**6.0**	**Aug-94**
International Equity	**915,170,176**	**19.7**	**21.0**	**-0.4**	**-8.6**	**-12.1**	**-10.9**	**3.3**	**1.5**	**--**	**5.0**	**Dec-10**
Todd	239,921,950	5.2		0.3	-8.1	-10.2	-9.6	--	--	--	5.3	Apr-16
MSCI ACWI ex USA				*0.9*	*-6.8*	*-10.1*	*-8.1*	*5.4*	*1.8*	*7.7*	*7.0*	*Apr-16*
Panagora Asset Management	303,265,337	6.5		-0.5	-7.4	-11.0	-9.2	4.3	3.0	9.4	5.8	Aug-94
Fisher	253,921,615	5.5		0.1	-9.1	-11.5	-11.1	4.5	2.5	9.7	4.2	Feb-06
MSCI EAFE				*-0.1*	*-7.3*	*-9.4*	*-7.9*	*4.1*	*1.8*	*7.5*	*3.0*	*Feb-06*
Segall Bryant Hamill	117,664,634	2.5		-2.4	-11.6	-19.3	-17.0	--	--	--	-13.1	Nov-17
MSCI EAFE Small Cap				*-0.7*	*-10.9*	*-12.2*	*-9.9*	*6.3*	*4.9*	*12.0*	*-7.8*	*Nov-17*
Emerging Markets	**413,286,760**	**8.9**	**8.0**	**4.1**	**-6.2**	**-14.7**	**-11.9**	**8.1**	**2.6**	**--**	**2.0**	**Dec-10**
Vontobel	93,637,818	2.0		5.6	-4.4	-12.0	-9.7	6.3	3.5	11.8	9.7	Oct-05
Polunin	103,378,714	2.2		4.2	-5.5	-14.0	-10.1	12.7	5.8	--	6.3	Oct-13
SSgA Emerging Markets	127,750,622	2.8		2.6	-6.8	-11.5	-8.7	9.4	1.3	--	1.2	Oct-13
MSCI Emerging Markets				*4.1*	*-5.5*	*-12.2*	*-9.1*	*9.4*	*1.9*	*9.1*	*2.5*	*Oct-13*
Lazard	88,519,606	1.9		4.8	-8.2	-21.9	-20.1	3.6	0.3	--	0.8	Oct-13
MSCI Emerging Markets Small Cap				*5.5*	*-8.8*	*-17.3*	*-14.2*	*4.3*	*1.2*	*11.4*	*1.5*	*Oct-13*
Total Fixed Income	**1,184,570,408**	**25.5**	**22.0**									
Core Fixed Income	**692,033,728**	**14.9**	**12.0**	**0.3**	**-0.7**	**-0.8**	**-0.2**	**2.3**	**2.8**	**4.9**	**4.5**	**Dec-04**
Wells Asset Management	206,484,976	4.4		0.6	-0.8	-1.6	-1.2	1.7	2.5	5.2	4.8	May-05
BlackRock SIO	221,958,150	4.8		-0.2	-0.4	0.0	0.6	3.1	--	--	2.6	Aug-15
BBgBarc US Aggregate TR				*0.6*	*-0.8*	*-1.8*	*-1.3*	*1.3*	*2.0*	*3.7*	*1.3*	*Aug-15*
IR&M	263,590,602	5.7		0.4	-1.0	-1.0	-0.5	2.0	--	--	2.1	Jul-15
IR&M Custom Benchmark				*0.5*	*-1.5*	*-1.8*	*-1.1*	*1.2*	*1.9*	*3.6*	*1.3*	*Jul-15*

- IR&M Custom Benchmark reflects BC Agg since inception through 04/30/2017, as of 05/01/2017 forward it reflects 40% BC Agg/60% BC US TIPS.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

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TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Value Added Fixed Income	**492,536,680**	**10.6**	**10.0**	**-0.8**	**-0.8**	**-1.8**	**-1.0**	**5.7**	**2.7**	**--**	**--**	
High Yield Income	**305,379,022**	**6.6**	**6.0**	**-0.9**	**-1.0**	**2.1**	**2.7**	**6.9**	**5.0**	**11.1**	**7.0**	**Jan-06**
Crescent Capital	100,897,812	2.2		-0.6	-0.8	1.1	1.3	5.8	--	--	4.9	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				*-0.9*	*-1.1*	*1.6*	*1.9*	*6.2*	*4.1*	*10.4*	*4.0*	*May-15*
DDJ	99,719,218	2.1		-0.7	-0.7	2.8	3.7	9.8	--	--	6.5	May-15
75% BC HY 25% S&P Leverage Loan				*-0.9*	*-1.5*	*0.8*	*1.1*	*6.7*	*--*	*--*	*4.1*	*May-15*
GoldenTree Multi Spec Opp Credit	103,721,418	2.2		-1.4	-1.4	2.2	3.0	--	--	--	5.1	Dec-16
Blended Index				*-0.6*	*-0.9*	*1.2*	*1.7*	*--*	*--*	*--*	*4.0*	*Dec-16*
S&P/LSTA Leveraged Loan TR				*-0.9*	*-0.3*	*3.1*	*3.5*	*5.4*	*3.7*	*8.5*	*4.2*	*Dec-16*
Emerging Market Debt	**164,656,744**	**3.5**	**4.0**	**-0.8**	**-0.4**	**-8.8**	**-7.5**	**3.5**	**-1.9**	**--**	**-1.2**	**Nov-11**
Loomis Sayles Emerging Debt & Currencies	46	0.0		-0.1	0.2	-8.1	-6.8	3.8	-1.7	--	-1.1	Nov-11
Custom EMD				*1.2*	*1.2*	*-6.6*	*-5.4*	*4.1*	*-1.6*	*4.1*	*-0.9*	*Nov-11*
Aberdeen EMD Plus	164,656,698	3.5										
JP Morgan EMBI Global Diversified				*-0.4*	*-1.1*	*-5.5*	*-4.8*	*4.2*	*4.6*	*8.8*	*--*	*Nov-18*
Global Fixed Income	**22,500,914**	**0.5**	**0.0**	**0.3**	**-1.3**	**-3.1**	**-2.8**	**3.2**	**1.2**	**4.9**	**5.0**	**Jul-95**
Loomis Sayles	22,500,914	0.5		0.3	-1.3	-3.1	-2.8	3.2	1.2	4.9	5.5	Nov-99
FTSE WGBI TR				*0.5*	*-1.6*	*-3.2*	*-3.0*	*2.2*	*0.1*	*2.0*	*3.9*	*Nov-99*
Total Alternative Assets	**993,963,115**	**21.4**	**26.0**									
Hedge Fund Composite	**236,138,697**	**5.1**	**5.0**	**-1.0**	**-1.8**	**-0.8**	**0.1**	**0.7**	**0.8**	**3.8**	**3.1**	**Nov-04**
Permal	72,108,529	1.6		-1.7	-2.9	-5.1	-3.6	0.4	0.4	5.5	3.3	Nov-07
EnTrust Peruvian Bonds	5,188,834	0.1		0.2	-0.4	-2.2	--	--	--	--	-2.2	Jan-18
Blackstone	75,965,483	1.6		-0.3	0.0	--	--	--	--	--	2.3	Feb-18
Grosvenor	79,279,508	1.7		-1.2	-2.9	0.6	1.7	2.9	2.7	--	3.7	Jul-13
HFRI Fund of Funds Composite Index				*-0.4*	*-3.5*	*-2.3*	*-1.4*	*1.8*	*2.0*	*3.1*	*2.6*	*Jul-13*
Hedge Fund Transition Account	3,596,342	0.1										
Real Estate Composite	**458,979,448**	**9.9**	**10.0**	**0.0**	**1.7**	**6.9**	**9.9**	**9.5**	**10.9**	**4.1**	**--**	
Private Equity & Debt	**298,844,970**	**6.4**	**11.0**	**0.0**	**4.6**	**11.8**	**15.6**	**7.9**	**9.3**	**7.2**	**--**	
Cash	**11,712,278**	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**1.1**	**Oct-04**

- Real Estate and Private Equity & Debt report on a quarterly basis, valuations are as of 6/30/2018.
- The Hedge Fund Transition Account is an estimation of the total values redeemed from the hedge fund portfolio and is subject to change.
- The Blended Index Benchmark consists of 30% ML HY II/ 30% S&P LSTA / 25% HFRI RV FI/ 15% BAML ABS.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

Boston Retirement System

TOTAL FUND PERFORMANCE DETAIL

PE/RE Summary Quarter Ending June 30, 2018								
Target Weight	Weight in Fund		Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
11%	5.9%	Private Equity & Debt IRR	$853,759,223	$539,907,969	$613,330,128	4.6%	15.6%	$298,844,970
10%	9.1%	Real Estate IRR	$900,283,614	$701,587,013	$773,023,469	1.7%	9.9%	$458,979,448

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- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
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