

FLASH REPORT (GROSS)

Boston Retirement System

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Dec	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	3.0%	31.3%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	2.9%	31.3%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	2.9%	25.4%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	2.1%	27.6%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	3.2%	21.9%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	7.5%	18.3%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	3.5%	26.5%
Private Equity	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	-	12.4%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	0.4%	8.4%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	0.3%	7.5%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	0.3%	10.6%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	2.0%	14.3%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	-0.1%	8.7%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	0.6%	6.8%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	-2.8%	14.8%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	0.1%	23.3%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	-4.2%	20.8%
JPM GBI-EM Global Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	4.1%	13.4%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	2.0%	15.0%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	-	5.7%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	5.0%	7.7%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	8.5%	6.5%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	-0.6%	25.9%

Source: FactSet, Barclays, Thomson One

*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



Boston Retirement System

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	5,381,550,800	100.0	100.0	2.6	5.7	16.7	9.2	6.8	8.0	7.9	Aug-94
Allocation Index				2.4	5.2	16.6	9.0	6.8	7.5	--	Aug-94
Policy Index				2.4	5.3	16.7	9.7	7.4	8.1	--	Aug-94
PRIT Core Fund/Teachers*	1,680,514,757	31.2		2.1	4.6	16.7	10.5	8.1	--	9.7	Jul-10
Total Equity	2,708,787,591	50.3	48.0	3.9	10.1	25.9	12.3	8.4	--	--	Dec-04
MSCI ACWI				3.5	9.0	26.6	12.4	8.4	8.8	7.1	Dec-04
Large Cap Comp	1,016,310,813	18.9	17.0	3.2	10.1	32.2	16.1	12.4	14.5	10.0	Dec-04
Rhumblin Advisors	267,955,081	5.0		3.0	9.1	31.4	15.2	11.6	13.5	10.1	Aug-94
DE Shaw Core Enhanced	353,471,059	6.6		3.0	9.3	32.1	16.0	12.4	14.0	14.6	Oct-09
Aristotle Value	141,217,944	2.6		3.1	--	--	--	--	--	7.3	Nov-19
Columbia Threadneedle	139,234,414	2.6		3.5	10.5	27.5	11.5	9.8	13.8	9.9	Jan-97
Russell 1000 Value				2.8	7.4	26.5	9.7	8.3	11.8	8.5	Jan-97
Zevenbergen Capital	114,081,999	2.1		4.0	16.7	44.6	25.8	15.8	15.9	12.4	Aug-94
Russell 1000 Growth				3.0	10.6	36.4	20.5	14.6	15.2	10.2	Aug-94
Small Cap Comp	353,644,560	6.6	6.0	2.9	10.9	29.3	14.7	10.0	13.5	10.1	Dec-04
Westfield Capital Management	115,024,768	2.1		2.2	14.2	35.7	18.6	10.8	14.8	11.5	Sep-03
Russell 2000 Growth				2.3	11.4	28.5	12.5	9.3	13.0	9.6	Sep-03
Bernzott	126,575,107	2.4		3.3	11.4	27.7	15.8	--	--	13.8	Nov-15
Russell 2000 Value				3.5	8.5	22.4	4.8	7.0	10.6	9.8	Nov-15
Aristotle Small Cap	111,895,023	2.1		3.1	7.1	25.0	9.7	--	--	11.1	Nov-15
Russell 2000				2.9	9.9	25.5	8.6	8.2	11.8	10.6	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.



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	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Non-US Equity	1,338,832,219	24.9	25.0	4.8	9.8	21.1	9.2	5.2	5.1	6.3	Aug-94
International Equity	908,936,243	16.9	17.0	3.8	9.4	22.7	8.9	5.3	--	6.1	Dec-10
Todd	257,281,079	4.8		4.2	10.8	27.5	10.3	--	--	8.4	Apr-16
<i>MSCI ACWI ex USA</i>				4.3	8.9	21.5	9.9	5.5	5.0	9.2	Apr-16
Panagora Asset Management	252,357,122	4.7		3.3	7.9	17.6	7.4	5.8	6.9	6.0	Aug-94
State Street Transition Account	269,560,310	5.0		3.1	--	--	--	--	--	4.4	Nov-19
<i>MSCI EAFE</i>				3.2	8.2	22.0	9.6	5.7	5.5	4.4	Nov-19
Segall Bryant Hamill	129,016,398	2.4		5.1	12.3	18.9	--	--	--	-2.6	Nov-17
<i>MSCI EAFE Small Cap</i>				4.4	11.5	25.0	10.9	8.9	8.7	3.2	Nov-17
Emerging Markets	429,895,976	8.0	8.0	7.1	10.6	17.7	9.8	5.2	--	3.3	Dec-10
Vontobel	109,554,076	2.0		5.8	7.3	19.7	12.2	5.8	8.0	10.2	Oct-05
Polunin	118,208,639	2.2		6.6	12.7	18.4	11.2	7.6	--	7.6	Oct-13
SSgA Emerging Markets	98,728,527	1.8		7.5	10.0	12.9	9.5	3.8	--	2.5	Oct-13
<i>MSCI Emerging Markets</i>				7.5	11.8	18.4	11.6	5.6	3.7	4.4	Oct-13
Lazard	103,404,734	1.9		8.6	12.3	20.5	6.1	3.9	--	3.0	Oct-13
<i>MSCI Emerging Markets Small Cap</i>				6.1	9.5	11.5	6.7	3.0	2.9	2.7	Oct-13
Total Fixed Income	1,504,147,678	28.0	26.0	0.5	0.9	8.4	4.2	3.4	4.4	4.8	Dec-04
Core Fixed Income	959,723,923	17.8	16.0	0.5	0.9	8.4	4.2	3.4	4.4	4.8	Dec-04
Wells Asset Management	318,384,466	5.9		0.0	0.3	8.9	4.2	3.4	4.6	5.2	May-05
BlackRock SIO	323,657,196	6.0		1.2	1.8	8.4	4.6	--	--	3.9	Aug-15
<i>BBgBarc US Aggregate TR</i>				-0.1	0.2	8.7	4.0	3.0	3.7	3.3	Aug-15
IR&M	317,682,261	5.9		0.4	0.7	7.8	3.7	--	--	3.5	Jul-15
<i>IR&M Custom Benchmark</i>				0.4	0.7	7.6	3.3	2.6	3.5	2.9	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 (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Value Added Fixed Income	544,423,755	10.1	10.0	2.3	2.6	11.7	6.1	4.7	--	--	
High Yield Income	327,769,866	6.1	6.0	2.3	2.7	9.9	6.0	5.8	7.3	7.0	Jan-06
Crescent Capital	109,966,296	2.0		1.5	2.4	11.7	5.4	--	--	5.7	May-15
<i>50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield</i>				1.8	2.2	11.5	5.4	5.3	6.3	4.9	May-15
DDJ	104,512,041	1.9		3.4	3.0	7.6	6.8	--	--	6.2	May-15
<i>75% BC HY 25% S&P Leverage Loan</i>				1.9	2.4	12.9	5.9	--	--	5.3	May-15
GoldenTree Multi Sector Opp Credit	112,123,574	2.1		2.0	2.6	10.4	5.7	--	--	5.9	Dec-16
<i>Blended Index</i>				1.6	1.8	9.8	4.8	--	--	5.2	Dec-16
<i>S&P/LSTA Leveraged Loan TR</i>				1.6	1.7	8.6	4.3	4.4	5.0	4.6	Dec-16
Emerging Market Debt	192,259,066	3.6	4.0	2.5	2.6	15.7	6.5	2.4	--	0.9	Nov-11
Aberdeen EMD Plus	192,258,752	3.6		2.5	2.6	15.7	--	--	--	15.4	Dec-18
<i>JP Morgan EMBI Global Diversified</i>				2.0	1.8	15.0	6.7	6.2	6.9	15.2	Dec-18
Global Fixed Income	24,394,823	0.5	0.0	0.8	0.7	7.4	4.6	2.8	3.2	5.1	Jul-95
Loomis Sayles	24,394,823	0.5		0.8	0.7	7.4	4.6	2.8	3.2	5.7	Nov-99
<i>FTSE WGBI TR</i>				0.3	-0.4	5.9	4.1	2.0	1.9	4.1	Nov-99
Total Alternative Assets	1,116,889,771	20.8	26.0								
Hedge Fund Composite	242,145,025	4.5	5.0	1.1	2.3	6.2	2.5	0.8	2.9	3.2	Nov-04
EnTrust Peruvian Bonds	4,729,613	0.1		-2.9	-3.2	-6.0	--	--	--	-5.3	Jan-18
Blackstone	116,874,452	2.2		0.9	1.8	8.0	--	--	--	5.2	Feb-18
Grosvenor	118,477,897	2.2		1.5	3.0	6.2	3.6	2.6	--	3.7	Jul-13
<i>HFRI Fund of Funds Composite Index</i>				1.6	3.1	8.4	3.9	2.4	2.8	3.2	Jul-13
Hedge Fund Transition Account	2,063,063	0.0									
Real Estate Composite	503,191,711	9.4	10.0	1.9	1.9	7.1	8.4	9.2	11.1	--	
Private Equity & Debt	371,553,035	6.9	11.0	1.2	1.2	4.0	9.8	7.3	8.3	--	
Cash	51,725,760	1.0	0.0	0.1	0.4	2.3	0.8	0.5	0.2	1.2	Oct-04

- Real Estate and Private Equity & Debt report on a quarterly basis, valuations are as of 9/30/2019.
- 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 September 30, 2019						
	Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
Private Equity & Debt IRR	\$986,353,224	\$589,018,278	\$704,307,734	1.2%	4.0%	\$371,553,035
Private Equity	\$604,374,723	\$458,808,002	\$493,304,715			\$202,796,591
Private Debt	\$381,978,501	\$130,210,276	\$211,003,019			\$168,756,444
Real Estate IRR	\$988,122,165	\$759,110,306	\$830,460,349	1.9%	7.1%	\$503,191,711



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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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