

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	2019	Jan	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	-8.2%	-8.3%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	-8.2%	-8.1%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	-8.4%	-11.4%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	-8.4%	-10.2%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	-9.0%	-10.9%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	-5.3%	-9.7%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	-8.1%	-9.1%
Private Equity	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	11.0%	-	11.0%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	1.4%	3.5%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	1.3%	3.1%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	2.1%	4.6%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	-1.4%	-1.4%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	1.8%	3.8%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	0.7%	2.0%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	6.7%	14.0%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	2.0%	6.1%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	9.3%	19.7%
JPM GBI-EM Global Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	-3.4%	-4.7%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	-1.0%	0.5%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	0.2%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-5.0%	-12.0%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-14.0%	-18.9%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	-6.9%

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 (%)	Fiscal YTD (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	5,134,234,745	100.0	100.0	-3.9	-4.4	-1.9	4.6	6.1	5.3	7.6	7.6	Aug-94
Allocation Index				-3.9	-4.5	-2.2	4.6	6.1	5.3	7.1	--	Aug-94
Policy Index				-3.8	-4.4	-2.1	5.0	6.9	5.9	7.7	--	Aug-94
PRIT Core Fund/Teachers*	1,746,078,630	34.0		-3.2	-3.4	-1.4	6.8	8.1	6.8	--	9.2	Jul-10
Total Equity	2,445,739,413	47.6	48.0	-7.9	-9.6	-6.1	2.1	6.3	5.4	--	--	Dec-04
MSCI ACWI				-8.1	-9.1	-5.9	3.9	7.0	5.5	8.1	6.3	Dec-04
Large Cap Comp	945,529,027	18.4	17.0	-7.3	-6.9	-4.0	9.5	11.0	10.0	13.6	9.3	Dec-04
Rhumblin Advisors	245,868,314	4.8		-8.2	-8.2	-5.5	8.2	9.8	9.2	12.6	9.7	Aug-94
DE Shaw Core Enhanced	324,095,377	6.3		-8.3	-8.3	-5.6	9.1	10.6	9.8	13.2	13.4	Oct-09
Aristotle Value	127,114,257	2.5		-8.6	-9.9	-7.1	--	--	--	--	-3.4	Nov-19
Columbia Threadneedle	120,215,449	2.3		-9.6	-13.6	-10.6	-0.8	4.8	6.2	11.8	9.1	Jan-97
Russell 1000 Value				-9.7	-11.6	-9.2	0.5	3.8	5.5	10.4	7.9	Jan-97
Zevenbergen Capital	127,899,904	2.5		1.1	12.3	16.7	27.4	25.9	17.5	17.6	12.8	Aug-94
Russell 1000 Growth				-6.8	-4.7	-1.9	15.1	15.7	12.4	14.8	9.9	Aug-94
Small Cap Comp	315,538,275	6.1	6.0	-9.1	-10.7	-8.1	0.0	8.1	6.9	12.1	9.2	Dec-04
Westfield Capital Management	107,085,642	2.1		-7.1	-6.9	-4.8	8.9	12.5	8.0	13.7	10.9	Sep-03
Russell 2000 Growth				-7.2	-8.2	-6.1	-0.7	7.9	6.5	12.1	8.9	Sep-03
Bernzott	112,442,406	2.2		-10.4	-11.0	-8.1	-0.5	9.1	--	--	10.3	Nov-15
Russell 2000 Value				-9.7	-14.6	-11.6	-9.3	-0.8	3.6	8.7	5.5	Nov-15
Aristotle Small Cap	95,860,534	1.9		-9.9	-14.1	-11.5	-8.1	2.8	--	--	6.9	Nov-15
Russell 2000				-8.4	-11.4	-8.8	-4.9	3.5	5.1	10.4	7.2	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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TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Non-US Equity	1,184,672,110	23.1	25.0	-8.1	-11.4	-7.1	-2.5	2.7	1.7	4.3	5.7	Aug-94
International Equity	800,203,699	15.6	17.0	-9.0	-11.8	-8.5	-2.1	2.7	1.3	--	4.5	Dec-10
Todd	230,114,224	4.5		-6.9	-10.4	-6.6	1.5	4.4	--	--	5.0	Apr-16
<i>MSCI ACWI ex USA</i>				-7.9	-10.4	-6.5	-0.7	4.2	2.2	4.3	5.8	Apr-16
Panagora Asset Management	223,225,247	4.3		-9.5	-11.5	-8.6	-4.5	1.5	2.1	6.1	5.4	Aug-94
State Street Transition Account	236,934,259	4.6		-9.5	-12.1	-9.3	--	--	--	--	-8.3	Nov-19
<i>MSCI EAFE</i>				-9.0	-10.9	-8.0	-0.6	3.9	2.0	4.8	-7.0	Nov-19
Segall Bryant Hamill	109,767,796	2.1		-11.0	-14.8	-10.4	-7.5	--	--	--	-8.9	Nov-17
<i>MSCI EAFE Small Cap</i>				-9.8	-12.4	-8.6	-0.9	4.1	4.6	7.6	-2.7	Nov-17
Emerging Markets	384,468,411	7.5	8.0	-6.1	-10.5	-4.2	-3.2	2.7	2.4	--	2.0	Dec-10
Vontobel	99,763,992	1.9		-6.1	-8.8	-3.5	1.1	6.0	2.8	7.4	9.4	Oct-05
Polunin	101,529,743	2.0		-6.9	-14.0	-8.3	-6.9	1.9	3.6	--	4.9	Oct-13
SSgA Emerging Markets	88,338,344	1.7		-4.9	-10.5	-3.8	-6.4	2.6	1.2	--	0.7	Oct-13
<i>MSCI Emerging Markets</i>				-5.3	-9.7	-3.0	-1.9	4.9	2.7	3.2	2.6	Oct-13
Lazard	94,836,332	1.8		-6.4	-8.3	-0.4	0.3	0.3	2.3	--	1.6	Oct-13
<i>MSCI Emerging Markets Small Cap</i>				-7.1	-10.8	-5.3	-6.8	-0.5	-0.1	2.1	0.9	Oct-13
Total Fixed Income	1,527,065,428	29.7	26.0									
Core Fixed Income	983,358,101	19.2	16.0	1.1	2.5	3.1	9.6	4.7	3.7	4.5	4.9	Dec-04
Wells Asset Management	330,107,808	6.4		1.8	3.7	3.7	11.7	5.1	3.9	4.7	5.4	May-05
BlackRock SIO	326,466,322	6.4		0.3	1.0	2.2	7.7	4.5	--	--	4.0	Aug-15
<i>BBgBarc US Aggregate TR</i>				1.8	3.8	3.7	11.7	5.0	3.6	3.9	4.0	Aug-15
IR&M	326,783,970	6.4		1.2	2.9	3.3	9.5	4.3	--	--	4.0	Jul-15
<i>IR&M Custom Benchmark</i>				1.2	2.8	3.2	9.4	4.0	3.0	3.6	3.4	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 (%)	Fiscal YTD (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Value Added Fixed Income	543,707,327	10.6	10.0	-1.1	-0.1	2.2	6.6	5.0	4.5	--	--	
High Yield Income	326,300,057	6.4	6.0	-1.2	-0.4	1.9	5.1	5.0	5.2	7.2	6.9	Jan-06
Crescent Capital	108,869,364	2.1		-1.0	-0.9	0.6	6.2	4.4	--	--	5.4	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				-1.4	-1.1	0.7	4.8	4.3	4.6	6.0	4.5	May-15
DDJ	104,673,430	2.0		-1.0	0.3	3.7	4.0	5.6	--	--	6.1	May-15
75% BC HY 25% S&P Leverage Loan				-1.4	-1.2	0.6	5.4	4.6	--	--	4.9	May-15
GoldenTree Multi Sector Opp Credit	111,602,844	2.2		-1.5	-0.5	1.5	5.1	5.0	--	--	5.4	Dec-16
Blended Index				-1.0	-0.5	1.1	4.8	4.1	--	--	4.7	Dec-16
S&P/LSTA Leveraged Loan TR				-1.3	-0.8	0.8	3.5	3.7	3.9	4.7	4.1	Dec-16
Emerging Market Debt	192,720,948	3.8	4.0	-1.2	0.2	2.7	9.3	5.1	2.7	--	0.9	Nov-11
Aberdeen EMD Plus	192,720,635	3.8		-1.2	0.2	2.7	9.3	--	--	--	13.4	Dec-18
JP Morgan EMBI Global Diversified				-1.0	0.5	2.6	9.7	5.7	6.0	6.8	13.6	Dec-18
Global Fixed Income	24,686,322	0.5	0.0	0.1	1.2	2.0	6.7	4.3	3.2	3.3	5.1	Jul-95
Loomis Sayles	24,686,322	0.5		0.1	1.2	2.0	6.7	4.3	3.2	3.3	5.7	Nov-99
FTSE WGBI TR				1.0	2.6	2.9	8.2	4.5	2.9	2.1	4.2	Nov-99
Total Alternative Assets	1,115,637,032	21.7	26.0									
Hedge Fund Composite	240,892,286	4.7	5.0	-0.8	-0.4	0.7	3.5	1.9	0.3	2.7	3.1	Nov-04
EnTrust Peruvian Bonds	4,703,435	0.1		-0.3	-0.5	-3.4	-6.2	--	--	--	-5.1	Jan-18
Blackstone	116,666,925	2.3		-0.4	0.0	0.9	5.5	--	--	--	4.7	Feb-18
Grosvenor	117,436,765	2.3		-1.2	-0.9	0.6	2.8	2.8	2.2	--	3.5	Jul-13
HFRI Fund of Funds Composite Index				-1.6	-1.3	0.3	3.2	2.8	1.7	2.7	2.9	Jul-13
Hedge Fund Transition Account	2,085,161	0.0										
Real Estate Composite	503,191,711	9.8	10.0	0.0	0.0	1.9	7.1	8.4	9.2	11.1	--	
Private Equity & Debt	371,553,035	7.2	11.0	0.0	0.0	1.2	4.0	9.8	7.3	8.3	--	
Cash	45,792,872	0.9	0.0	0.1	0.2	0.3	2.2	0.8	0.5	0.3	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: 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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- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- 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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