

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%	0.0%	0.0%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	0.1%	0.1%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	-3.2%	-3.2%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	-2.0%	-2.0%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	-2.1%	-2.1%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	-4.7%	-4.7%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	-1.1%	-1.1%
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%	2.1%	2.1%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	1.8%	1.8%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	2.5%	2.5%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	0.0%	0.0%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	1.9%	1.9%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	1.3%	1.3%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	6.8%	6.8%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	4.1%	4.1%
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%	9.5%	9.5%
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%	-1.3%	-1.3%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	1.5%	1.5%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	9.3%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-7.4%	-7.4%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-5.6%	-5.6%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	1.2%	1.2%

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	5,346,153,898	100.0	100.0	-0.6	3.5	10.5	8.2	6.7	8.2	7.8	Aug-94
Allocation Index				-0.6	3.0	10.6	8.2	6.7	7.6	--	Aug-94
Policy Index				-0.6	3.0	10.9	8.9	7.3	8.2	--	Aug-94
PRIT Core Fund/Teachers*	1,820,263,925	34.0		-0.1	3.0	11.8	9.8	7.9	--	9.6	Jul-10
Total Equity	2,658,392,614	49.7	48.0	-1.8	5.0	13.7	10.3	8.3	--	--	Dec-04
MSCI ACWI				-1.1	4.9	16.0	11.0	8.5	9.1	7.0	Dec-04
Large Cap Comp	1,020,558,254	19.1	17.0	0.4	8.1	22.1	15.3	13.1	14.9	9.9	Dec-04
Rhumblin Advisors	267,861,637	5.0		0.0	6.7	21.6	14.5	12.3	13.9	10.1	Aug-94
DE Shaw Core Enhanced	353,399,474	6.6		0.0	7.0	23.0	15.3	13.0	14.5	14.5	Oct-09
Aristotle Value	139,175,537	2.6		-1.4	5.7	--	--	--	--	5.7	Nov-19
Columbia Threadneedle	133,084,043	2.5		-4.4	2.9	11.5	9.7	9.9	13.5	9.6	Jan-97
Russell 1000 Value				-2.2	3.6	14.9	8.6	8.7	11.9	8.4	Jan-97
Zevenbergen Capital	126,661,834	2.4		11.0	24.5	36.4	27.0	18.6	17.8	12.8	Aug-94
Russell 1000 Growth				2.2	10.0	27.9	20.0	15.5	16.0	10.2	Aug-94
Small Cap Comp	347,722,093	6.5	6.0	-1.7	7.2	14.6	12.8	10.4	13.7	9.9	Dec-04
Westfield Capital Management	115,329,209	2.2		0.3	12.0	22.6	16.9	11.5	15.2	11.5	Sep-03
Russell 2000 Growth				-1.1	7.1	13.9	11.5	9.6	13.4	9.5	Sep-03
Bernzott	125,662,558	2.4		-0.7	8.2	14.6	13.9	--	--	13.4	Nov-15
Russell 2000 Value				-5.4	0.2	4.4	3.1	6.7	10.3	8.2	Nov-15
Aristotle Small Cap	106,580,648	2.0		-4.7	1.3	6.8	7.5	--	--	9.6	Nov-15
Russell 2000				-3.2	3.7	9.2	7.3	8.2	11.9	9.6	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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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 Non-US Equity	1,290,112,266	24.1	25.0	-3.6	2.1	8.0	6.4	4.5	5.1	6.1	Aug-94
International Equity	880,473,505	16.5	17.0	-3.1	2.1	9.8	6.5	4.6	--	5.6	Dec-10
Todd	247,548,805	4.6		-3.8	3.0	11.1	7.4	--	--	7.1	Apr-16
<i>MSCI ACWI ex USA</i>				-2.7	2.4	9.9	7.6	5.0	5.2	8.2	Apr-16
Panagora Asset Management	246,984,002	4.6		-2.1	1.8	6.7	5.6	5.3	7.1	5.9	Aug-94
State Street Transition Account	261,735,303	4.9		-2.9	1.3	--	--	--	--	1.3	Nov-19
<i>MSCI EAFE</i>				-2.1	2.2	12.1	7.8	5.1	5.8	2.2	Nov-19
Segall Bryant Hamill	123,488,594	2.3		-4.2	2.7	5.4	--	--	--	-4.3	Nov-17
<i>MSCI EAFE Small Cap</i>				-2.9	3.6	12.3	8.6	8.2	8.5	1.7	Nov-17
Emerging Markets	409,638,762	7.7	8.0	-4.7	2.2	4.4	6.1	4.2	--	2.7	Dec-10
Vontobel	106,364,954	2.0		-2.8	3.0	8.7	9.7	4.4	8.2	10.0	Oct-05
Polunin	109,115,604	2.0		-7.6	0.1	2.3	5.1	5.9	--	6.2	Oct-13
SSgA Emerging Markets	92,870,431	1.7		-5.9	0.5	-1.8	5.5	2.8	--	1.5	Oct-13
<i>MSCI Emerging Markets</i>				-4.7	2.3	3.8	7.9	4.5	3.8	3.6	Oct-13
Lazard	101,287,772	1.9		-2.0	5.5	9.7	4.2	3.9	--	2.7	Oct-13
<i>MSCI Emerging Markets Small Cap</i>				-4.0	1.3	1.6	3.7	1.8	2.9	2.0	Oct-13
Total Fixed Income	1,523,286,498	28.5	26.0								
Core Fixed Income	973,086,761	18.2	16.0	1.4	1.9	8.6	4.6	3.3	4.4	4.9	Dec-04
Wells Asset Management	324,536,081	6.1		1.9	1.9	9.9	4.8	3.3	4.6	5.3	May-05
BlackRock SIO	325,734,720	6.1		0.7	1.9	7.7	4.7	--	--	4.0	Aug-15
<i>BBgBarc US Aggregate TR</i>				1.9	1.8	9.6	4.6	3.0	3.8	3.7	Aug-15
IR&M	322,815,961	6.0		1.6	2.0	8.3	4.1	--	--	3.8	Jul-15
<i>IR&M Custom Benchmark</i>				1.5	1.9	8.1	3.8	2.5	3.5	3.2	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	550,199,736	10.3	10.0	1.1	3.5	9.2	5.9	4.8	--	--	
High Yield Income	330,526,380	6.2	6.0	0.8	3.8	7.9	5.8	5.9	7.3	7.0	Jan-06
Crescent Capital	110,174,070	2.1		0.2	2.4	8.9	5.2	--	--	5.7	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				0.3	2.6	8.0	5.1	5.3	6.2	4.9	May-15
DDJ	105,913,155	2.0		1.3	5.3	6.1	6.5	--	--	6.4	May-15
75% BC HY 25% S&P Leverage Loan				0.2	2.5	8.7	5.5	--	--	5.3	May-15
GoldenTree Multi Sector Opp Credit	113,271,195	2.1		1.0	3.6	8.7	5.7	--	--	6.1	Dec-16
Blended Index				0.5	2.3	7.3	4.7	--	--	5.2	Dec-16
S&P/LSTA Leveraged Loan TR				0.6	2.8	6.5	4.3	4.5	4.9	4.7	Dec-16
Emerging Market Debt	195,008,040	3.6	4.0	1.4	3.4	12.0	6.3	2.7	--	1.1	Nov-11
Aberdeen EMD Plus	195,007,727	3.6		1.4	3.4	12.0	--	--	--	15.6	Dec-18
JP Morgan EMBI Global Diversified				1.5	3.1	11.9	6.7	6.4	7.0	15.5	Dec-18
Global Fixed Income	24,665,316	0.5	0.0	1.1	1.1	6.2	4.4	3.0	3.3	5.1	Jul-95
Loomis Sayles	24,665,316	0.5		1.1	1.1	6.2	4.4	3.0	3.3	5.7	Nov-99
FTSE WGBI TR				1.6	0.7	6.1	4.3	2.4	2.0	4.2	Nov-99
Total Alternative Assets	1,117,609,475	20.9	26.0								
Hedge Fund Composite	242,864,729	4.5	5.0	0.3	2.2	4.8	2.4	1.0	2.9	3.2	Nov-04
EnTrust Peruvian Bonds	4,717,776	0.1		-0.2	-3.2	-6.1	--	--	--	-5.2	Jan-18
Blackstone	117,186,059	2.2		0.4	1.8	6.3	--	--	--	5.1	Feb-18
Grosvenor	118,884,583	2.2		0.3	2.8	4.5	3.4	2.8	--	3.7	Jul-13
HFRI Fund of Funds Composite Index				0.4	2.9	6.1	3.7	2.4	2.9	3.2	Jul-13
Hedge Fund Transition Account	2,076,311	0.0									
Real Estate Composite	503,191,711	9.4	10.0	0.0	1.9	7.1	8.4	9.2	11.1	--	
Private Equity & Debt	371,553,035	6.9	11.0	0.0	1.2	4.0	9.8	7.3	8.3	--	
Cash	46,865,312	0.9	0.0	0.1	0.3	2.3	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: 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

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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