

FLASH REPORT (GROSS)

Boston Retirement System

July 31, 2020

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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	Jul	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	5.6%	2.4%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	5.9%	2.9%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	2.8%	-10.6%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	4.0%	-7.5%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	2.3%	-9.3%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	8.9%	-1.7%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	5.3%	-1.3%
Private Equity	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	-	-7.3%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	2.3%	8.4%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	1.7%	3.8%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	2.7%	0.0%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	4.7%	0.7%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	1.5%	7.7%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	3.2%	6.3%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	4.2%	26.3%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	6.1%	12.4%
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%	6.4%	37.0%
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%	3.0%	-4.1%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	3.7%	0.8%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	-3.3%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	5.7%	-14.8%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-3.6%	-38.0%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	4.0%	-15.4%

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 (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	5,305,569,252	100.0	100.0	3.5	8.5	-0.3	5.2	5.3	6.1	7.7	7.7	Aug-94
Allocation Index				3.2	7.5	-0.8	4.7	5.3	6.0	7.3	--	Aug-94
Policy Index				3.0	7.0	-0.7	5.0	6.0	6.6	7.8	--	Aug-94
PRIT Core Fund/Teachers*	1,703,440,060	32.1		3.1	5.7	-0.5	5.3	6.6	7.3	8.7	9.1	Jul-10
Total Equity	2,731,303,906	51.5	48.0	5.4	14.9	-2.7	5.9	5.5	6.9	--	--	Dec-04
MSCI ACWI				5.3	13.4	-1.3	7.2	7.0	7.4	8.9	6.7	Dec-04
Large Cap Comp	1,125,725,573	21.2	17.0	6.4	16.5	7.3	17.2	14.1	12.9	15.2	10.1	Dec-04
Rhumblin Advisors	320,879,447	6.0		5.6	12.9	2.4	12.0	12.0	11.4	13.8	10.0	Aug-94
DE Shaw Core Enhanced	363,004,117	6.8		5.7	13.6	3.0	13.4	13.0	12.2	14.6	14.1	Oct-09
Russell 1000				5.9	13.9	2.9	12.0	12.0	11.3	13.9	13.3	Oct-09
Aristotle Value	135,580,827	2.6		4.8	12.4	-3.9	--	--	--	--	3.2	Nov-19
Columbia Threadneedle	125,765,300	2.4		4.9	10.8	-9.5	-1.2	5.5	7.3	12.3	9.2	Jan-97
Russell 1000 Value				4.0	6.8	-12.9	-6.0	2.7	5.4	10.1	7.6	Jan-97
Zevenbergen Capital	180,121,489	3.4		11.6	40.5	69.7	74.1	38.2	25.3	22.4	14.4	Aug-94
Russell 1000 Growth				7.7	19.9	18.3	29.8	20.9	16.8	17.3	10.6	Aug-94
Small Cap Comp	376,254,704	7.1	6.0	5.8	16.9	-4.8	2.7	8.2	8.2	12.6	9.4	Dec-04
Westfield Capital Management	121,366,992	2.3		5.5	20.8	6.1	16.8	14.9	10.7	15.2	11.5	Sep-03
Russell 2000 Growth				3.4	17.6	0.3	6.0	8.8	7.5	12.6	9.2	Sep-03
Bernzott	116,287,731	2.2		7.9	19.3	-7.7	-0.9	8.7	--	--	10.2	Nov-15
Russell 2000 Value				2.1	8.0	-21.9	-15.9	-3.9	2.2	7.3	3.0	Nov-15
Aristotle Small Cap	138,446,557	2.6		4.5	12.0	-11.3	-6.1	1.6	--	--	7.0	Nov-15
Russell 2000				2.8	13.3	-10.6	-4.6	2.7	5.1	10.1	6.7	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 (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Non-US Equity	1,229,323,628	23.2	25.0	4.4	12.9	-9.9	-2.1	-1.2	2.2	4.3	5.7	Aug-94
International Equity	826,169,464	15.6	17.0	2.8	11.1	-11.6	-3.5	-1.5	1.0	--	4.3	Dec-10
Todd	234,446,487	4.4		4.1	14.0	-8.6	0.5	0.7	--	--	5.0	Apr-16
<i>MSCI ACWI ex USA</i>				4.5	12.8	-7.0	0.7	1.4	3.2	4.5	6.1	Apr-16
Panagora Asset Management	249,302,804	4.7		2.6	10.8	-10.9	-3.6	-2.0	1.6	6.0	5.4	Aug-94
State Street Transition Account	240,417,385	4.5		1.9	9.9	-10.8	--	--	--	--	-6.9	Nov-19
<i>MSCI EAFE</i>				2.3	10.4	-9.3	-1.7	0.6	2.1	5.0	-5.3	Nov-19
Segall Bryant Hamill	101,772,223	1.9		2.6	8.9	-20.7	-10.5	--	--	--	-10.0	Nov-17
<i>MSCI EAFE Small Cap</i>				3.4	12.2	-10.2	0.4	0.4	4.3	7.5	-1.4	Nov-17
Emerging Markets	403,154,164	7.6	8.0	7.9	16.7	-6.0	1.0	-0.5	4.6	--	2.4	Dec-10
Vontobel	107,593,776	2.0		9.2	18.9	-1.3	2.7	2.7	5.6	6.6	9.7	Oct-05
Polunin	110,348,783	2.1		8.2	17.6	-6.2	2.5	0.5	7.4	--	5.9	Oct-13
SSgA Emerging Markets	91,040,165	1.7		8.9	12.8	-7.8	-1.5	-1.3	3.5	--	1.1	Oct-13
<i>MSCI Emerging Markets</i>				8.9	17.8	-1.7	6.5	2.8	6.1	3.3	3.8	Oct-13
Lazard	94,171,440	1.8		5.1	17.1	-8.9	0.1	-4.3	1.9	--	1.4	Oct-13
<i>MSCI Emerging Markets Small Cap</i>				9.2	21.9	-4.7	1.1	-1.2	2.0	2.0	1.8	Oct-13
Total Fixed Income	1,424,244,770	26.8	26.0	1.7	4.2	5.9	8.2	5.2	4.4	4.3	5.0	Dec-04
Core Fixed Income	912,395,561	17.2	16.0	1.7	4.2	5.9	8.2	5.2	4.4	4.3	5.0	Dec-04
Wells Asset Management	324,369,438	6.1		1.7	3.5	8.7	11.2	6.1	4.9	4.7	5.6	May-05
BlackRock SIO	269,804,850	5.1		1.9	5.8	2.4	4.8	4.3	3.9	--	3.9	Aug-15
<i>BBgBarc US Aggregate TR</i>				1.5	2.6	7.7	10.1	5.7	4.5	3.9	4.5	Aug-15
IR&M	318,221,274	6.0		1.5	3.5	6.9	8.8	5.1	4.3	--	4.5	Jul-15
<i>IR&M Custom Benchmark</i>				1.5	2.9	6.4	8.3	4.8	3.8	3.5	3.9	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.
- Total Fixed Income Composite value includes the liquidating Loomis Sayles account.

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	511,849,208	9.6	10.0	3.7	12.1	-1.0	1.1	3.2	4.8	--	--	
High Yield Income	322,772,702	6.1	6.0	3.8	10.8	-1.3	1.0	3.4	5.0	6.4	6.6	Jan-06
Crescent Capital	108,563,067	2.0		4.2	9.0	-1.0	2.4	3.4	5.0	--	4.9	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				3.3	8.7	-1.0	1.6	3.5	4.6	5.5	4.2	May-15
DDJ	102,288,255	1.9		4.1	12.4	-1.7	-0.7	3.0	6.0	--	5.2	May-15
75% BC HY 25% S&P Leverage Loan				4.0	9.5	-0.2	2.9	4.0	5.2	--	4.7	May-15
GoldenTree Multi Sector Opp Credit	110,951,916	2.1		3.2	11.4	-1.0	1.3	3.8	--	--	4.6	Dec-16
Blended Index				2.7	7.9	-0.6	1.5	3.3	--	--	4.2	Dec-16
S&P/LSTA Leveraged Loan TR				2.0	7.0	-2.7	-0.9	2.5	3.3	4.2	3.1	Dec-16
Emerging Market Debt	189,076,507	3.6	4.0	3.5	14.3	-1.7	0.3	2.3	3.9	--	0.6	Nov-11
Aberdeen EMD Plus	189,076,193	3.6		3.5	14.3	-1.7	0.3	--	--	--	8.7	Dec-18
JP Morgan EMBI Global Diversified				3.7	13.9	0.8	3.0	4.6	6.0	6.0	10.2	Dec-18
Total Alternative Assets	1,128,910,057	21.3	26.0									
Hedge Fund Composite	246,085,992	4.6	5.0	1.7	5.6	2.1	4.1	2.5	0.8	3.1	3.2	Nov-04
EnTrust Peruvian Bonds	4,628,668	0.1		-0.1	-0.8	-1.8	-6.8	--	--	--	-4.8	Jan-18
Blackstone	116,715,094	2.2		1.1	4.6	0.5	2.5	--	--	--	4.1	Feb-18
Grosvenor	123,112,314	2.3		2.4	6.9	3.9	6.3	4.0	2.8	--	4.0	Jul-13
HFRI Fund of Funds Composite Index				2.3	6.7	0.6	2.4	2.7	1.9	2.9	3.0	Jul-13
Hedge Fund Transition Account	1,629,915	0.0										
Real Estate Composite	513,519,191	9.7	10.0	0.0	0.0	2.6	6.1	8.2	9.0	11.4	--	
Private Equity & Debt	369,304,874	7.0	11.0	0.0	-10.5	-8.2	-5.3	5.4	5.4	7.1	--	
Cash	21,110,520	0.4	0.0	0.0	0.1	0.4	1.3	0.9	0.5	0.3	1.2	Oct-04

- Real Estate and Private Equity & Debt report on a quarterly basis, valuations are as of 3/31/2020.
- 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 March 31, 2020						
	Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
Private Equity & Debt IRR	\$986,857,223	\$608,982,836	\$765,724,002	-10.5%	-5.3%	\$369,304,874
Private Equity	\$604,878,722	\$466,596,637	\$509,284,075			\$198,023,427
Private Debt	\$381,978,501	\$142,386,199	\$256,439,927			\$171,281,447
Real Estate IRR	\$1,018,213,894	\$777,602,068	\$846,592,875	0.0%	6.1%	\$513,519,191



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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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