

# **FLASH REPORT (GROSS)**

## **Boston Retirement System**

**July 31, 2018**

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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	Q1	Q2	July	YTD
<b>US Large Cap</b>	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-0.8%	3.4%	3.7%	6.5%
<b>US Small/Mid Cap</b>	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-0.2%	5.7%	1.9%	7.5%
<b>Int'l Developed Equity</b>	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-1.5%	-1.2%	2.5%	-0.4%
<b>Emerging Market Equity</b>	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	1.4%	-8.0%	2.2%	-4.6%
<b>US Aggregate</b>	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	-1.5%	-0.2%	0.0%	-1.6%
<b>US High Yield</b>	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-0.9%	1.0%	1.1%	1.3%
<b>US Long Treasuries</b>	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.3%	0.3%	-1.5%	-4.4%
<b>EM Local Credit</b>	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	4.4%	-10.4%	1.9%	-4.7%
<b>Global Credit</b>	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	7.4%	1.4%	-2.8%	-0.2%	-1.6%
<b>Commodities</b>	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-0.4%	0.4%	-2.1%	-2.1%
<b>BC TIPS</b>	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-0.8%	0.8%	-0.5%

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  
 Barclays Aggregate = US Aggregate  
 Barclays Long Treasury = US Long Treasuries  
 Barclays High Yield = US HY  
 Barclays Global Aggregate = Global Credit  
 GBI-EM Global Diversified = EM Local Credit  
 Bloomberg Commodity = Commodities  
 Barclays US TIPS = BC TIPS



## 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
<b>Total Composite</b>	<b>5,017,614,347</b>	<b>100.0</b>	<b>100.0</b>	<b>1.7</b>	<b>1.6</b>	<b>2.2</b>	<b>8.4</b>	<b>7.7</b>	<b>7.6</b>	<b>6.6</b>	<b>8.0</b>	<b>Aug-94</b>
Allocation Index				1.6	1.4	2.0	8.2	7.5	7.3	6.2	--	Aug-94
Policy Index				1.5	1.5	2.4	8.2	7.9	7.7	6.6	--	Aug-94
PRIT Core Fund/Teachers*	1,634,222,225	32.6		1.3	2.2	3.0	9.6	8.7	9.0	--	10.1	Jul-10
<b>Total Equity</b>	<b>2,889,342,352</b>	<b>57.6</b>	<b>52.0</b>	<b>2.7</b>	<b>1.8</b>	<b>2.4</b>	<b>11.3</b>	<b>9.8</b>	<b>9.7</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Large Cap Comp</b>	<b>1,017,937,992</b>	<b>20.3</b>	<b>17.0</b>	<b>3.4</b>	<b>7.2</b>	<b>7.5</b>	<b>18.6</b>	<b>13.5</b>	<b>14.2</b>	<b>11.4</b>	<b>9.8</b>	<b>Dec-04</b>
Rhumblin Advisors	116,707,256	2.3		3.7	6.9	6.5	16.2	12.5	13.0	10.7	10.0	Aug-94
DE Shaw Core Enhanced	201,412,822	4.0		4.1	7.6	7.1	17.8	13.3	13.7	--	14.9	Oct-09
JP Morgan 130/30	205,936,226	4.1		4.3	7.4	6.4	16.3	12.1	13.9	--	14.8	Oct-09
S&P 500				3.7	6.9	6.5	16.2	12.5	13.1	10.7	14.1	Oct-09
DE Shaw 130/30	224,088,587	4.5		4.0	7.6	6.4	19.1	14.8	15.0	--	16.3	Oct-09
Russell 1000				3.5	6.8	6.4	16.2	12.2	13.0	10.7	14.1	Oct-09
Columbia Threadneedle	112,372,668	2.2		4.6	5.4	3.9	18.3	12.8	12.6	11.2	10.1	Jan-97
Russell 1000 Value				4.0	4.8	2.2	9.5	9.5	10.0	9.0	8.4	Jan-97
Zevenbergen Capital	89,345,785	1.8		-2.7	8.3	21.4	28.3	14.5	16.6	14.0	12.2	Aug-94
Intech	68,074,648	1.4		2.5	6.3	9.0	21.9	15.1	15.7	12.0	10.1	Oct-06
Russell 1000 Growth				2.9	8.5	10.4	22.8	14.8	15.8	12.4	10.9	Oct-06
<b>Small Cap Comp</b>	<b>385,755,330</b>	<b>7.7</b>	<b>6.0</b>	<b>3.0</b>	<b>8.5</b>	<b>11.3</b>	<b>24.1</b>	<b>13.3</b>	<b>12.4</b>	<b>12.2</b>	<b>10.7</b>	<b>Dec-04</b>
Westfield Capital Management	156,297,470	3.1		2.2	6.8	12.3	27.0	11.7	12.9	12.4	11.8	Sep-03
Russell 2000 Growth				1.7	9.0	11.6	22.9	11.1	12.4	11.2	10.2	Sep-03
Bernzott	118,029,827	2.4		5.1	10.8	12.2	28.4	--	--	--	18.2	Nov-15
Russell 2000 Value				1.8	8.3	7.3	14.4	12.9	10.2	9.5	15.5	Nov-15
Aristotle	111,414,927	2.2		2.1	8.4	8.8	16.3	--	--	--	16.7	Nov-15
Russell 2000				1.7	8.7	9.5	18.7	12.0	11.3	10.4	15.7	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.



## 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
<b>Total Non-US Equity</b>	<b>1,485,649,030</b>	<b>29.6</b>	<b>29.0</b>	<b>2.2</b>	<b>-3.0</b>	<b>-2.7</b>	<b>3.8</b>	<b>6.3</b>	<b>5.8</b>	<b>4.1</b>	<b>6.5</b>	<b>Aug-94</b>
<b>International Equity</b>	<b>1,029,503,287</b>	<b>20.5</b>	<b>21.0</b>	<b>2.4</b>	<b>-1.7</b>	<b>-1.2</b>	<b>5.1</b>	<b>5.0</b>	<b>6.0</b>	<b>--</b>	<b>6.8</b>	<b>Dec-10</b>
Todd	270,300,604	5.4		2.7	0.4	1.1	6.6	--	--	--	11.5	Apr-16
MSCI ACWI ex USA Gross				2.4	-1.7	-1.1	6.4	6.5	6.1	3.6	13.0	Apr-16
Panagora Asset Management	336,559,960	6.7		2.3	-2.1	-1.2	4.6	6.4	7.4	5.5	6.3	Aug-94
Fisher	285,817,126	5.7		3.1	-1.0	-0.7	5.8	6.4	6.9	4.8	5.2	Feb-06
MSCI EAFE				2.5	-1.1	-0.4	6.4	5.0	5.9	3.4	3.8	Feb-06
Segall Bryant Hamill	136,419,672	2.7		0.7	-6.2	-6.4	--	--	--	--	-0.4	Nov-17
MSCI EAFE Small Cap				0.7	-2.3	-0.7	9.2	10.0	10.2	7.4	3.6	Nov-17
<b>Emerging Markets</b>	<b>456,145,744</b>	<b>9.1</b>	<b>8.0</b>	<b>1.9</b>	<b>-5.9</b>	<b>-6.0</b>	<b>0.6</b>	<b>8.6</b>	<b>5.3</b>	<b>--</b>	<b>3.4</b>	<b>Dec-10</b>
Vontobel	101,754,780	2.0		1.9	-4.5	-4.7	0.7	6.8	5.1	7.5	10.7	Oct-05
Polunin	112,155,415	2.2		2.2	-6.6	-7.3	0.8	12.5	--	--	8.4	Oct-13
SSgA Emerging Markets	139,477,591	2.8		2.3	-5.2	-3.4	3.6	8.6	--	--	3.2	Oct-13
MSCI Emerging Markets				2.2	-5.5	-4.6	4.4	8.9	5.3	2.9	4.4	Oct-13
Lazard	102,757,958	2.0		0.9	-7.4	-9.3	-3.6	6.5	--	--	4.0	Oct-13
MSCI Emerging Markets Small Cap				1.2	-7.4	-7.3	3.2	5.8	4.5	4.8	4.0	Oct-13
<b>Total Fixed Income</b>	<b>1,057,801,589</b>	<b>21.1</b>	<b>22.0</b>									
<b>Core Fixed Income</b>	<b>554,239,370</b>	<b>11.0</b>	<b>12.0</b>	<b>0.0</b>	<b>0.4</b>	<b>-0.5</b>	<b>0.8</b>	<b>2.4</b>	<b>3.0</b>	<b>4.8</b>	<b>4.6</b>	<b>Dec-04</b>
Wells Asset Management	116,735,540	2.3		0.0	0.7	-1.5	-0.6	1.9	2.8	5.1	5.0	May-05
BlackRock SIO	172,962,216	3.4		0.4	0.0	0.3	2.4	3.0	--	--	3.0	Aug-15
BBgBarc US Aggregate TR				0.0	0.6	-1.6	-0.8	1.5	2.2	3.7	1.5	Aug-15
IR&M	264,541,613	5.3		-0.2	0.5	-0.7	0.2	2.2	--	--	2.5	Jul-15
IR&M Custom Benchmark				-0.3	0.5	-0.9	0.4	1.6	2.3	3.8	1.7	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.



## 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
<b>Value Added Fixed Income</b>	<b>503,562,220</b>	<b>10.0</b>	<b>10.0</b>	<b>1.5</b>	<b>-0.3</b>	<b>0.1</b>	<b>2.0</b>	<b>5.5</b>	<b>3.4</b>	<b>--</b>	<b>--</b>	
<b>High Yield Income</b>	<b>307,738,346</b>	<b>6.1</b>	<b>6.0</b>	<b>1.0</b>	<b>1.3</b>	<b>2.7</b>	<b>4.5</b>	<b>6.4</b>	<b>5.7</b>	<b>8.1</b>	<b>7.2</b>	<b>Jan-06</b>
Crescent Capital	101,281,603	2.0		1.0	1.3	1.2	2.2	5.6	--	--	5.4	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				0.9	1.2	2.1	3.5	5.3	4.7	6.9	4.6	May-15
DDJ	99,947,499	2.0		1.4	1.4	3.0	5.5	9.0	--	--	7.3	May-15
75% BC HY 25% S&P Leverage Loan				1.0	1.4	1.7	3.1	5.7	--	--	4.8	May-15
GoldenTree Multi Spec Opp Credit	104,917,498	2.1		0.5	1.2	3.4	5.6	--	--	--	6.8	Dec-16
30% MLHY/ 30% S&P LSTA/ 25% HFRI / 15% JPM CI A				0.8	1.0	1.8	3.4	--	--	--	--	Dec-16
S&P/LSTA Leveraged Loan TR				0.7	1.0	2.9	4.4	4.5	3.9	5.4	5.0	Dec-16
<b>Emerging Market Debt</b>	<b>172,911,582</b>	<b>3.4</b>	<b>4.0</b>	<b>2.5</b>	<b>-3.4</b>	<b>-4.4</b>	<b>-2.2</b>	<b>3.4</b>	<b>-1.2</b>	<b>--</b>	<b>-0.5</b>	<b>Nov-11</b>
Loomis Sayles Emerging Debt & Currencies	172,911,582	3.4		2.5	-3.4	-4.4	-2.2	3.4	-1.2	--	-0.5	Nov-11
Custom EMD				2.0	-3.0	-3.9	-1.7	2.9	-1.2	2.0	-0.5	Nov-11
<b>Global Fixed Income</b>	<b>22,912,291</b>	<b>0.5</b>	<b>0.0</b>	<b>0.2</b>	<b>-1.6</b>	<b>-1.6</b>	<b>-0.3</b>	<b>3.3</b>	<b>1.9</b>	<b>3.7</b>	<b>5.1</b>	<b>Jul-95</b>
Loomis Sayles	22,912,291	0.5		0.2	-1.6	-1.6	-0.3	3.3	1.9	3.7	5.7	Nov-99
FTSE WGBI TR				-0.4	-1.9	-1.3	-0.4	2.5	0.8	2.0	4.1	Nov-99
<b>Total Alternative Assets</b>	<b>988,118,280</b>	<b>19.7</b>	<b>26.0</b>									
<b>Hedge Fund Composite</b>	<b>240,825,394</b>	<b>4.8</b>	<b>5.0</b>	<b>0.3</b>	<b>1.2</b>	<b>0.9</b>	<b>2.8</b>	<b>-0.2</b>	<b>2.0</b>	<b>2.3</b>	<b>3.4</b>	<b>Nov-04</b>
Permal	74,263,098	1.5		0.2	0.9	-2.2	-0.5	0.2	1.8	4.2	3.7	Nov-07
EnTrust Peruvian Bonds	5,225,300	0.1		-0.4	-0.9	-1.6	--	--	--	--	-1.6	Jan-18
Blackstone	76,016,613	1.5		0.7	1.3	--	--	--	--	--	--	Jan-18
Grosvenor	81,486,074	1.6		0.2	1.5	3.4	6.8	3.0	4.3	--	4.5	Jul-13
HFRI Fund of Funds Composite Index				0.2	0.5	0.9	4.3	1.9	3.3	1.7	3.4	Jul-13
Hedge Fund Transition Account	3,771,793	0.1										
<b>Real Estate Composite</b>	<b>460,779,809</b>	<b>9.2</b>	<b>10.0</b>	<b>0.0</b>	<b>3.0</b>	<b>5.1</b>	<b>10.6</b>	<b>10.4</b>	<b>11.4</b>	<b>3.8</b>	<b>--</b>	
<b>Private Equity &amp; Debt</b>	<b>286,513,077</b>	<b>5.7</b>	<b>11.0</b>	<b>0.0</b>	<b>3.6</b>	<b>6.9</b>	<b>14.7</b>	<b>8.3</b>	<b>9.0</b>	<b>6.3</b>	<b>--</b>	
<b>Cash</b>	<b>82,352,126</b>	<b>1.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>1.2</b>	<b>Oct-04</b>

- Real Estate and Private Equity & Debt report on a quarterly basis, valuations are as of 3/31/2018.

- The Hedge Fund Transition Account is an estimation of the total values redeemed from the hedge fund portfolio and is subject to change.

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, 2018								
Target Weight	Weight in Fund		Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
11%	5.8%	Private Equity & Debt IRR	\$853,795,412	\$524,775,197	\$599,008,150	3.6%	14.7%	\$286,513,077
10%	9.4%	Real Estate IRR	\$901,588,499	\$690,752,014	\$771,926,143	3.0%	10.6%	\$460,779,809



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- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- 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.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

