



# MONTHLY GROSS PERFORMANCE REPORT

BOSTON RETIREMENT SYSTEM

NOVEMBER 30, 2021

Mike Manning, CFA, CAIA, Managing Partner  
Will Forde, CFA, CAIA, Principal  
Kiley Fischer, Analyst



PROPRIETARY & CONFIDENTIAL

# CALENDAR YEAR INDEX PERFORMANCE

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Nov	YTD
<b>S&amp;P 500</b>	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%	-0.7%	23.2%
<b>Russell 1000</b>	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%	-1.3%	21.5%
<b>Russell 2000</b>	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	20.0%	-4.2%	12.3%
<b>Russell 2500</b>	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	20.0%	-4.2%	14.4%
<b>MSCI EAFE</b>	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	7.8%	-4.7%	5.8%
<b>MSCI EM</b>	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	18.3%	-4.1%	-4.3%
<b>MSCI ACWI</b>	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	16.3%	-2.4%	14.0%
<b>Private Equity</b>	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	38.2%	-	23.2%
<b>BBG TIPS</b>	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	11.0%	0.9%	5.6%
<b>BBG Municipal</b>	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	5.2%	0.9%	1.4%
<b>BBG Muni High Yield</b>	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	4.9%	1.3%	7.5%
<b>BBG US Corporate HY</b>	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	7.1%	-1.0%	3.3%
<b>BBG US Agg Bond</b>	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	7.5%	0.3%	-1.3%
<b>BBG Global Agg</b>	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	9.2%	-0.3%	-4.6%
<b>BBG Long Treasuries</b>	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	17.7%	2.7%	-3.3%
<b>BBG US Long Credit</b>	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	13.3%	0.4%	-0.8%
<b>BBG US STRIPS 20+ Yr</b>	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	24.0%	3.8%	-3.0%
<b>JPM GBI-EM Global Div</b>	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	2.7%	-2.7%	-10.1%
<b>JPM EMBI Glob Div</b>	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	5.3%	-1.8%	-3.2%
<b>CS Hedge Fund</b>	0.5%	5.9%	10.0%	5.4%	0.2%	-0.6%	7.2%	-1.1%	6.3%	4.1%	1.3%	12.7%
<b>BBG Commodity</b>	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-3.1%	-7.3%	22.8%
<b>Alerian Midstream</b>	-	-	-	16.4%	-37.3%	33.8%	-2.4%	-13.3%	24.0%	-23.4%	-7.1%	36.9%
<b>FTSE NAREIT Equity REITs</b>	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	-0.7%	31.6%

\*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag  
Source: FactSet, Barclays, Thomson One



# Boston Retirement System

## TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund</b>	<b>6,579,462,037</b>	<b>100.0</b>	<b>100.0</b>	<b>-1.9</b>	<b>-0.9</b>	<b>9.7</b>	<b>13.9</b>	<b>11.6</b>	<b>10.2</b>	<b>8.9</b>	<b>8.1</b>	<b>Aug-94</b>
Allocation Index				-1.5	-0.2	10.0	14.6	11.6	10.2	8.6	--	Aug-94
Policy Index				-2.0	-0.2	9.7	14.5	12.0	10.7	9.0	--	Aug-94
PRIT Core Fund/Teachers*	2,139,812,834	32.5		-0.2	2.0	16.0	21.1	14.1	12.4	10.5	10.6	Jul-10
<b>Total Equity</b>	<b>3,279,667,102</b>	<b>49.8</b>	<b>48.0</b>	<b>-3.4</b>	<b>-3.4</b>	<b>11.1</b>	<b>17.2</b>	<b>15.0</b>	<b>13.4</b>	<b>11.6</b>	<b>--</b>	<b>Dec-04</b>
MSCI ACWI				-2.4	-1.7	14.0	19.3	16.0	14.0	11.4	8.0	Dec-04
<b>Large Cap Comp</b>	<b>1,206,705,658</b>	<b>18.3</b>	<b>17.0</b>	<b>-1.8</b>	<b>0.0</b>	<b>18.1</b>	<b>23.5</b>	<b>22.1</b>	<b>19.2</b>	<b>17.3</b>	<b>11.5</b>	<b>Dec-04</b>
Rhumblin Advisors	300,794,040	4.6		-0.7	1.3	23.2	27.9	20.4	17.9	16.1	10.9	Aug-94
DE Shaw Core Enhanced	384,685,862	5.8		-0.7	1.3	21.7	26.8	20.8	18.4	16.8	15.7	Oct-09
S&P 500				-0.7	1.3	23.2	27.9	20.4	17.9	16.2	15.1	Oct-09
Aristotle Value	169,756,617	2.6		-1.1	-1.5	20.8	26.6	--	--	--	21.0	Nov-19
Columbia Threadneedle	181,010,833	2.8		-3.1	0.3	20.9	25.5	14.7	13.2	14.7	10.3	Jan-97
Russell 1000 Value				-3.5	-2.2	17.7	22.2	11.5	10.4	12.5	8.7	Jan-97
Zevenbergen Capital	169,966,136	2.6		-5.6	-4.1	-1.6	5.2	41.0	34.4	23.7	14.7	Aug-94
Russell 1000 Growth				0.6	3.2	25.0	30.7	29.2	25.1	19.5	11.6	Aug-94
<b>Small Cap Comp</b>	<b>473,860,598</b>	<b>7.2</b>	<b>6.0</b>	<b>-4.3</b>	<b>-3.2</b>	<b>11.3</b>	<b>20.0</b>	<b>15.4</b>	<b>15.5</b>	<b>14.3</b>	<b>10.8</b>	<b>Dec-04</b>
Westfield Capital Management	145,778,746	2.2		-5.0	-2.1	12.7	22.0	23.0	20.5	16.4	12.8	Sep-03
Russell 2000 Growth				-4.9	-4.2	2.4	11.9	16.1	14.7	14.1	10.5	Sep-03
Bernzott	130,270,320	2.0		-5.8	-5.6	5.8	13.5	12.0	14.1	--	13.1	Nov-15
Russell 2000 Value				-3.4	-1.7	23.2	33.0	11.5	9.1	11.8	11.2	Nov-15
Aristotle Small Cap	197,542,457	3.0		-2.9	-2.3	14.5	23.5	11.5	11.8	--	11.9	Nov-15
Russell 2000				-4.2	-3.0	12.3	22.0	14.2	12.1	13.1	12.5	Nov-15

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Non-US Equity</b>	<b>1,599,100,846</b>	<b>24.3</b>	<b>25.0</b>	<b>-4.3</b>	<b>-5.7</b>	<b>6.0</b>	<b>12.1</b>	<b>9.4</b>	<b>8.6</b>	<b>6.6</b>	<b>6.3</b>	<b>Aug-94</b>
<b>International Equity</b>	<b>1,094,098,052</b>	<b>16.6</b>	<b>17.0</b>	<b>-4.3</b>	<b>-4.9</b>	<b>8.0</b>	<b>13.6</b>	<b>9.4</b>	<b>8.5</b>	<b>7.3</b>	<b>6.2</b>	<b>Dec-10</b>
Todd	324,592,207	4.9		-4.7	-2.9	8.1	13.9	12.1	10.2	--	8.8	Apr-16
MSCI ACWI ex USA				-4.5	-5.4	3.5	9.1	9.9	9.3	6.7	8.6	Apr-16
Panagora Asset Management	321,193,225	4.9		-4.8	-5.3	8.1	13.8	8.9	8.2	8.4	6.1	Aug-94
Walter Scott International Equity	316,109,715	4.8		-2.8	-4.8	7.5	11.8	--	--	--	16.5	Oct-20
MSCI EAFE				-4.7	-5.1	5.8	10.8	9.8	9.2	7.4	19.3	Oct-20
Segall Bryant Hamill	131,976,311	2.0		-5.9	-9.0	7.8	15.7	4.8	--	--	-0.4	Nov-17
MSCI EAFE Small Cap				-5.6	-7.5	5.5	12.7	11.5	10.7	10.1	6.0	Nov-17
<b>Emerging Markets</b>	<b>505,002,793</b>	<b>7.7</b>	<b>8.0</b>	<b>-4.4</b>	<b>-7.4</b>	<b>2.0</b>	<b>8.9</b>	<b>9.5</b>	<b>8.8</b>	<b>5.1</b>	<b>4.0</b>	<b>Dec-10</b>
ABS Emerging Markets Strategic Portfolio	112,194,555	1.7		-2.3	--	--	--	--	--	--	-2.3	Nov-21
Columbia Emerging Markets Equity	110,907,915	1.7		-5.7	-10.3	--	--	--	--	--	--	Aug-21
Polunin	141,955,067	2.2		-6.4	-9.0	2.1	11.0	12.2	11.0	--	8.4	Oct-13
MSCI Emerging Markets				-4.1	-7.0	-4.3	2.7	9.3	9.5	5.2	4.9	Oct-13
Lazard	139,945,256	2.1		-2.9	-5.5	12.5	18.6	10.3	6.8	--	4.1	Oct-13
MSCI Emerging Markets Small Cap				-2.9	-4.7	14.0	22.8	14.3	10.5	6.8	6.0	Oct-13
<b>Total Fixed Income</b>	<b>1,717,516,938</b>	<b>26.1</b>	<b>26.0</b>									
<b>Core Fixed Income</b>	<b>1,096,146,698</b>	<b>16.7</b>	<b>16.0</b>	<b>0.0</b>	<b>-0.5</b>	<b>0.9</b>	<b>1.8</b>	<b>6.2</b>	<b>4.5</b>	<b>3.8</b>	<b>4.8</b>	<b>Dec-04</b>
AFL-CIO H.I.T.	50,000,000	0.8		--	--	--	--	--	--	--	--	Dec-21
BlackRock SIO	366,615,414	5.6		-0.4	-0.8	1.2	2.5	5.8	4.8	--	4.1	Aug-15
Wells Asset Management	346,782,819	5.3		0.2	-0.7	-1.1	-0.9	6.2	4.1	3.8	5.1	May-05
Bloomberg US Aggregate TR				0.3	-0.6	-1.3	-1.2	5.5	3.7	3.0	4.1	May-05
IR&M	332,748,464	5.1		0.3	-0.1	2.8	3.7	6.8	4.5	--	4.3	Jul-15
IR&M Custom Benchmark				0.3	0.0	2.4	3.2	6.3	4.1	3.3	3.7	Jul-15

- IR&M Custom Benchmark reflects Bloomberg Agg since inception through 04/30/2017, from 05/01/2017 to 9/30/2021 reflects 40% Bloomberg Agg/60% Bloomberg Intermediate TIPS and as of 10/1/2021 reflects 60% Bloomberg Agg/40% Bloomberg Intermediate TIPS.

- AFL-CIO H.I.T. funded in 11/2021.

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 (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Value Added Fixed Income</b>	<b>621,370,240</b>	<b>9.4</b>	<b>10.0</b>	<b>-1.4</b>	<b>-2.4</b>	<b>2.1</b>	<b>4.5</b>	<b>6.7</b>	<b>5.8</b>	<b>4.6</b>	<b>--</b>	
<b>High Yield Income</b>	<b>375,721,322</b>	<b>5.7</b>	<b>6.0</b>	<b>-0.5</b>	<b>0.1</b>	<b>7.4</b>	<b>9.7</b>	<b>7.6</b>	<b>6.9</b>	<b>7.0</b>	<b>7.1</b>	<b>Jan-06</b>
Crescent Capital	119,868,980	1.8		-0.6	-0.6	4.4	6.1	6.6	5.7	--	5.6	May-15
50/50 S&P/LSTA Leveraged Loan/Bloomberg High Yield				-0.6	-0.2	3.9	5.6	5.9	5.3	5.8	4.9	May-15
DDJ	122,795,884	1.9		-0.4	0.4	8.6	11.1	7.7	8.1	--	7.1	May-15
75% BC HY 25% S&P Leverage Loan				-0.8	-0.7	3.6	5.5	6.7	5.8	--	5.3	May-15
GoldenTree Multi Sector Opp Credit	132,027,584	2.0		-0.5	0.6	9.2	11.8	8.4	7.0	--	7.0	Dec-16
Blended Index				-0.5	-0.3	4.2	6.0	5.9	5.1	--	5.1	Dec-16
S&P/LSTA Leveraged Loan TR				-0.2	0.8	4.5	5.9	4.5	4.4	4.7	4.4	Dec-16
<b>Emerging Market Debt</b>	<b>245,648,918</b>	<b>3.7</b>	<b>4.0</b>	<b>-2.7</b>	<b>-6.1</b>	<b>-5.6</b>	<b>-2.9</b>	<b>5.2</b>	<b>4.0</b>	<b>1.0</b>	<b>0.7</b>	<b>Nov-11</b>
Aberdeen EMD Plus	245,648,604	3.7		-2.7	-6.1	-5.6	-2.9	5.2	--	--	5.2	Dec-18
JP Morgan EMBI Global Diversified				-1.8	-3.9	-3.2	-1.3	5.9	4.6	5.2	5.9	Dec-18
<b>Total Alternative Assets</b>	<b>1,497,369,344</b>	<b>22.8</b>	<b>26.0</b>									
<b>Hedge Fund Composite</b>	<b>309,805,169</b>	<b>4.7</b>	<b>5.0</b>	<b>-0.2</b>	<b>1.6</b>	<b>7.5</b>	<b>10.9</b>	<b>7.8</b>	<b>5.4</b>	<b>4.5</b>	<b>3.9</b>	<b>Nov-04</b>
EnTrust Peruvian Bonds	4,605,861	0.1		-0.1	-0.4	-1.9	2.1	-3.3	--	--	-3.2	Jan-18
Blackstone	142,283,193	2.2		0.2	1.2	7.5	10.4	7.3	--	--	6.3	Feb-18
Grosvenor	161,693,119	2.5		-0.5	1.9	7.9	11.7	9.7	7.4	--	5.8	Jul-13
HFRI Fund of Funds Composite Index				-1.6	0.1	5.7	9.7	7.7	5.8	4.5	4.4	Jul-13
Hedge Fund Transition Account	1,222,996	0.0										
<b>Real Estate Composite</b>	<b>555,626,490</b>	<b>8.4</b>	<b>10.0</b>	<b>0.0</b>	<b>4.9</b>	<b>8.7</b>	<b>9.8</b>	<b>6.9</b>	<b>7.8</b>	<b>9.7</b>	<b>--</b>	
<b>Private Equity &amp; Debt</b>	<b>631,937,685</b>	<b>9.6</b>	<b>11.0</b>	<b>0.0</b>	<b>9.0</b>	<b>31.0</b>	<b>37.7</b>	<b>12.9</b>	<b>12.7</b>	<b>9.6</b>	<b>--</b>	
<b>Cash</b>	<b>84,908,654</b>	<b>1.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>	<b>0.5</b>	<b>0.3</b>	<b>1.1</b>	<b>Oct-04</b>

- Real Estate and Private Equity & Debt report on a quarterly basis, and are lagged one quarter.
- 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.
- Entrust Peruvian is prelim as of 11/30/2021.

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

Private Markets Summary						
Quarter Ending June 30, 2021						
	Committed Capital	Cummulative Distribution	Contributed Capital	QTR	Last Year	Valuation
<b>Private Equity &amp; Debt IRR</b>	<b>\$1,317,360,846</b>	<b>\$676,267,404</b>	<b>\$894,693,991</b>	<b>9.0%</b>	<b>37.7%</b>	<b>\$631,937,685</b>
Private Equity	\$799,382,345	\$510,419,415	\$574,703,352			\$327,531,332
Private Debt	\$517,978,501	\$165,847,989	\$319,990,639			\$304,406,353
<b>Real Estate IRR</b>	<b>\$1,089,867,880</b>	<b>\$844,893,654</b>	<b>\$913,138,908</b>	<b>4.9%</b>	<b>9.8%</b>	<b>\$555,626,490</b>



# DISCLAIMERS & DISCLOSURES

Past performance is no guarantee of future results.

Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.

A “since inception” return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.

NEPC’s preferred data source is the plan’s custodian bank or record-keeper. If data cannot be obtained from one of the preferred data sources, data provided by investment managers may be used. Information on market indices and security characteristics is received from additional providers. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within. In addition, some index returns displayed in this report or used in calculation of a policy index, allocation index or other custom benchmark may be preliminary and subject to change.

All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.

The opinions presented herein represent the good faith views of NEPC as of the date of this presentation and are subject to change at any time. Neither fund performance nor universe rankings contained in this report should be considered a recommendation by NEPC.

This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Source of private fund performance benchmark data: Cambridge Associates, via Refinitiv







PROPRIETARY & CONFIDENTIAL