

# INVESTMENT MARKET UPDATE

(AS OF JULY 31, 2018)



Firefighters' Retirement System of Louisiana

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

# CALENDAR YEAR INDEX PERFORMANCE

	2009	2010	2011	2012	2013	2014	2015	2016	2017	Q1	Q2	July	YTD
S&P 500	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-0.8%	3.4%	3.7%	6.5%
Russell 1000	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-0.7%	3.6%	3.5%	6.4%
Russell 2000	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-0.1%	7.8%	1.7%	9.5%
Russell 2500	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-0.2%	5.7%	1.9%	7.5%
MSCI EAFE	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-1.5%	-1.2%	2.5%	-0.4%
MSCI EM	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	1.4%	-8.0%	2.2%	-4.6%
MSCI ACWI	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-1.0%	0.5%	3.0%	2.6%
Private Equity*	13.7%	19.7%	7.9%	12.5%	20.6%	12.7%	9.6%	8.3%	19.9%	3.2%	-	-	3.2%
BC TIPS	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-0.8%	0.8%	-0.5%	-0.5%
BC Municipal Bond	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	-1.1%	0.9%	0.2%	0.0%
BC Muni High Yield	32.7%	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	0.6%	3.1%	0.4%	4.0%
BC US Corp High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-0.9%	1.0%	1.1%	1.3%
BC US Aggregate	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	-1.5%	-0.2%	0.0%	-1.6%
BC Global Aggregate	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	1.6%	7.5%	1.4%	-2.8%	-0.2%	-1.6%
BC Long Treasuries	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.3%	0.3%	-1.5%	-4.4%
BC US Long Credit	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-3.8%	-2.7%	1.5%	-5.0%
BC US STRIPS 20+ Yr	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.6%	0.9%	-2.3%	-5.9%
JPM GBI-EM Glob Div	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	4.4%	-10.4%	1.9%	-4.7%
JPM EMBI Glob Div	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.1%	-1.7%	-3.5%	2.6%	-2.8%
CS Leveraged Loan	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	4.2%	1.6%	0.8%	0.8%	3.2%
CS Hedge Fund	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	0.5%	0.1%	-	0.6%
BBG Commodity	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-0.4%	0.4%	-2.1%	-2.1%
Alerian MLP	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-11.1%	11.8%	6.6%	5.9%
FTSE NAREIT Eq REITs	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-8.2%	10.0%	0.8%	1.8%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One  
 \*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



# MARKET COMMENTARY – JULY 2018

## Market Environment

Developed market equities forged ahead in July as robust economic data and strong corporate earnings offset concerns around escalating trade tensions between the United States and China. The S&P 500 returned 3.7% last month as US GDP growth hit 4.1% in the second quarter. A healthy earnings season pushed the MSCI Europe Index up 3.3%. Emerging market equities rebounded, up 2.2%, according to the MSCI EM Index; despite these gains, emerging markets posted their worst quarter since 2015 with losses of nearly 8% in the second quarter, as a stronger US dollar eroded returns and concerns swirled around election results in Turkey and Mexico.

In fixed income, the 10-year US Treasury yield rose to 2.96% in July, up 10 basis points from the previous month. Still, the spread between the 10-year and two-year Treasuries continued to narrow, ending the month at 0.28% -- the smallest differential since 2007. Yields also rose on German and Japanese 10-year bonds, increasing 14 and three basis points, respectively. Emerging market bonds were in the black with gains of 2.6% and 1.9%, according to the JPM EMBI Global Diversified and JPM GBI-EM Global Diversified indexes, respectively.

The oil rally came to an end last month amid concerns around oversupply, causing spot prices to decline 7.3% in July. In contrast, master limited partnerships (MLPs) maintained their winning streak, returning 6.6% on the month, as the industry continues to consolidate and streamline.

Our global outlook remains intact. We support the addition of international and emerging market equities, particularly as the sustainability of US earnings and economic growth comes into question. We believe short-term volatility is likely here to stay as trade discussions are in flux. We recommend adding safe-haven fixed-income exposure to mitigate the impact of potential market draw-downs.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

### Investment Performance Summary - Net of Fees

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Plan Composite</b>	<b>1,694,671,669</b>	<b>100.0</b>	<b>100.0</b>	<b>1.9</b>	<b>1.0</b>	<b>1.9</b>	<b>6.5</b>	<b>6.5</b>	<b>5.6</b>	<b>4.1</b>	<b>5.9</b>	<b>Sep-92</b>
Policy Index				1.9	1.6	1.9	7.9	7.7	7.7	--	--	Sep-92
Allocation Index				1.9	1.4	1.9	7.7	7.5	7.2	--	--	Sep-92
<b>Total Equity Composite</b>	<b>973,936,161</b>	<b>57.0</b>	<b>57.5</b>	<b>3.0</b>	<b>1.3</b>	<b>3.0</b>	<b>9.2</b>	<b>8.6</b>	<b>8.9</b>	<b>7.2</b>	<b>7.5</b>	<b>Sep-92</b>
MSCI ACWI				3.0	2.6	3.0	11.0	8.9	9.0	6.4	7.7	Sep-92
<b>Domestic Equity Composite</b>	<b>451,699,417</b>	<b>27.0</b>	<b>26.7</b>	<b>3.3</b>	<b>5.8</b>	<b>3.3</b>	<b>15.6</b>	<b>10.8</b>	<b>10.5</b>	<b>9.4</b>	<b>8.1</b>	<b>Sep-92</b>
Russell 3000				3.3	6.6	3.3	16.4	12.2	12.8	10.7	10.0	Sep-92
Mellon Stock Index Fund	343,611,355		20.3	3.7	6.5	3.7	16.2	12.5	--	--	12.7	Nov-13
S&P 500				3.7	6.5	3.7	16.2	12.5	13.1	10.7	12.8	Nov-13
<b>SMID Cap Composite</b>	<b>108,088,063</b>	<b>8.0</b>	<b>6.4</b>	<b>2.2</b>	<b>3.8</b>	<b>2.2</b>	<b>13.6</b>	<b>6.5</b>	<b>5.0</b>	<b>--</b>	<b>7.4</b>	<b>Oct-12</b>
Russell 2500				1.9	7.5	1.9	17.3	11.1	11.3	10.9	14.2	Oct-12
Energy Opportunities Fund	16,923,460		1.0	1.7	2.2	1.7	13.9	-2.7	-7.2	-3.9	-1.8	Jul-07
OIH/XLE Blended Energy Benchmark				0.2	3.9	0.2	13.7	1.5	-3.9	-2.5	-0.9	Jul-07
Russell 2500				1.9	7.5	1.9	17.3	11.1	11.3	10.9	9.0	Jul-07
<b>SMID Cap Composite ex Energy</b>	<b>91,164,603</b>	<b>--</b>	<b>5.4</b>	<b>2.2</b>	<b>4.0</b>	<b>2.2</b>	<b>13.5</b>	<b>8.4</b>	<b>8.6</b>	<b>--</b>	<b>10.9</b>	<b>Oct-12</b>
Russell 2500				1.9	7.5	1.9	17.3	11.1	11.3	10.9	14.2	Oct-12
Advisory Research SMID												
Rothschild U.S. SMID Core	47,109,285		2.8	2.2	5.9	2.2	15.6	9.9	--	--	10.0	Jul-15
Russell 2500				1.9	7.5	1.9	17.3	11.1	11.3	10.9	10.7	Jul-15
QMA SMID	44,054,849		2.6	2.3	--	2.3	--	--	--	--	2.3	Jul-18
Russell 2500				1.9	7.5	1.9	17.3	11.1	11.3	10.9	1.9	Jul-18

Performance and values are preliminary and subject to change.

Returns are net of manager fees.

Results for periods longer than one year are annualized.

Fiscal Year ends June 30th.

SMID Cap and International Equity Composites start date is 10/1/2012.

MSCI Custom Benchmark is comprised of the MSCI EAFE until 12/31/2009 and MSCI ACWI ex USA beginning 1/1/2010.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>International Equity Composite</b>	<b>268,066,933</b>	<b>15.0</b>	<b>15.8</b>	<b>3.1</b>	<b>-2.1</b>	<b>3.1</b>	<b>4.0</b>	<b>6.4</b>	<b>6.5</b>	<b>--</b>	<b>7.5</b>	<b>Oct-12</b>
<i>MSCI ACWI ex USA</i>				2.4	-1.5	2.4	5.9	6.0	5.6	3.2	6.6	Oct-12
LSV International Equity Value	133,184,871		7.9	2.9	-3.1	2.9	3.0	7.1	6.7	4.2	6.3	Oct-04
<i>MSCI Custom Benchmark</i>				2.4	-1.5	2.4	5.9	6.0	5.6	2.9	5.5	Oct-04
Fisher All Foreign Equity	134,882,063		8.0	3.2	-1.1	3.2	5.0	5.8	6.4	4.2	7.2	Oct-04
<i>MSCI ACWI ex USA</i>				2.4	-1.5	2.4	5.9	6.0	5.6	3.2	6.4	Oct-04
<b>Global Equity Composite</b>	<b>168,144,192</b>	<b>10.0</b>	<b>9.9</b>	<b>2.5</b>	<b>-1.0</b>	<b>2.5</b>	<b>5.1</b>	<b>5.4</b>	<b>9.2</b>	<b>--</b>	<b>11.0</b>	<b>Oct-12</b>
<i>MSCI ACWI</i>				3.0	2.6	3.0	11.0	8.9	9.0	6.4	10.2	Oct-12
Thornburg Global Opportunities	64,988,910		3.8	1.7	-3.9	1.7	-0.8	3.4	11.5	8.7	11.0	Oct-04
<i>MSCI ACWI</i>				3.0	2.6	3.0	11.0	8.9	9.0	6.4	7.5	Oct-04
Boston Partners Global Equity	103,142,734		6.1	3.1	1.0	3.1	9.3	--	--	--	16.0	Nov-16
<i>MSCI ACWI</i>				3.0	2.6	3.0	11.0	8.9	9.0	6.4	16.6	Nov-16
<b>Emerging Markets Equity</b>	<b>86,025,618</b>	<b>5.0</b>	<b>5.1</b>	<b>1.4</b>	<b>-5.6</b>	<b>1.4</b>	<b>2.2</b>	<b>8.5</b>	<b>--</b>	<b>--</b>	<b>3.6</b>	<b>Oct-13</b>
<i>MSCI Emerging Markets</i>				2.2	-4.6	2.2	4.4	8.9	5.3	2.9	4.4	Oct-13
Acadian Emerging Markets Equity	58,398,491		3.4	1.9	-7.8	1.9	0.0	8.2	--	--	3.5	Dec-13
<i>MSCI Emerging Markets</i>				2.2	-4.6	2.2	4.4	8.9	5.3	2.9	3.9	Dec-13
OFI Emerging Markets	27,627,127		1.6	0.6	-0.5	0.6	7.4	9.5	--	--	3.9	Jan-14
<i>MSCI Emerging Markets</i>				2.2	-4.6	2.2	4.4	8.9	5.3	2.9	4.3	Jan-14

Performance and values are preliminary and subject to change.  
 Results for periods longer than one year are annualized.  
 Fiscal YTD ends June 30th.  
 Global Equity Composite start date is 10/1/2012.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fixed Income Composite</b>	<b>379,902,857</b>	<b>23.0</b>	<b>22.4</b>	<b>0.6</b>	<b>0.3</b>	<b>0.6</b>	<b>1.4</b>	<b>2.7</b>	<b>1.3</b>	<b>--</b>	<b>1.1</b>	<b>Oct-12</b>
<i>Total Fixed Income Custom Benchmark</i>				0.3	-2.0	0.3	-1.0	1.6	1.2	3.2	0.6	Oct-12
<b>Core Fixed Income</b>	<b>303,566,546</b>	<b>19.0</b>	<b>17.9</b>	<b>0.0</b>	<b>1.9</b>	<b>0.0</b>	<b>2.8</b>	<b>2.9</b>	<b>2.4</b>	<b>--</b>	<b>2.7</b>	<b>Dec-10</b>
<i>BBgBarc US Aggregate TR</i>				0.0	-1.6	0.0	-0.8	1.5	2.2	3.7	2.6	Dec-10
Orleans Core Fixed Income	67,049,401		4.0	0.2	-1.8	0.2	-0.8	2.0	2.3	4.2	5.5	Aug-92
<i>BBgBarc US Aggregate TR</i>				0.0	-1.6	0.0	-0.8	1.5	2.2	3.7	5.3	Aug-92
Blackrock US Debt	236,517,145		14.0	0.0	-1.6	0.0	-0.8	1.5	--	--	1.6	Nov-14
<i>BBgBarc US Aggregate TR</i>				0.0	-1.6	0.0	-0.8	1.5	2.2	3.7	1.6	Nov-14
<b>Emerging Markets Debt</b>	<b>76,336,311</b>	<b>4.0</b>	<b>4.5</b>	<b>2.7</b>	<b>-5.6</b>	<b>2.7</b>	<b>-4.2</b>	<b>2.7</b>	<b>--</b>	<b>--</b>	<b>-2.9</b>	<b>Nov-13</b>
<i>JP Morgan GBI - EM Global Diversified Index</i>				1.9	-4.7	1.9	-2.5	3.5	-0.9	2.2	-1.6	Nov-13
Stone Harbor	76,336,311		4.5	2.7	-5.6	2.7	-4.2	2.7	--	--	-2.9	Nov-13
<i>JP Morgan GBI - EM Global Diversified Index</i>				1.9	-4.7	1.9	-2.5	3.5	-0.9	2.2	-1.6	Nov-13
<b>GAA Composite</b>	<b>160,704,378</b>	<b>10.0</b>	<b>9.5</b>	<b>0.9</b>	<b>0.5</b>	<b>0.9</b>	<b>5.7</b>	<b>4.9</b>	<b>--</b>	<b>--</b>	<b>4.0</b>	<b>Apr-14</b>
<i>60% MSCI World (Net) / 40% CITI WGBI</i>				1.7	1.6	1.7	6.9	6.5	6.1	5.2	5.0	Apr-14
Blackrock Global Allocation	83,693,085		4.9	1.9	0.6	1.9	4.4	5.1	--	--	4.6	Apr-14
<i>60% MSCI World (Net) / 40% CITI WGBI</i>				1.7	1.6	1.7	6.9	6.5	6.1	5.2	5.0	Apr-14
AQR Global Risk Premium – EL	45,542,834		2.7	-0.6	-0.4	-0.6	6.9	4.2	--	--	3.0	May-14
<i>60% MSCI World (Net) / 40% CITI WGBI</i>				1.7	1.6	1.7	6.9	6.5	6.1	5.2	4.8	May-14
Putnam Risk Parity	31,468,459		1.9	0.3	1.2	0.3	7.3	5.3	--	--	3.1	Jul-14
<i>60% MSCI World (Net) / 40% CITI WGBI</i>				1.7	1.6	1.7	6.9	6.5	6.1	5.2	4.3	Jul-14

Results for periods longer than one year are annualized. Results are preliminary and subject to change.

Fiscal YTD ends June 30th.

Total Fixed Income Custom Benchmark is comprised of the Barclays Aggregate from 10/1/2012 to 10/31/2013; 75% Barclays Aggregate/25% JPM GBI EM Diversified from 11/1/2013 to 2/29/2016; 85% Barclays Aggregate/15% JPM GBI EM Diversified going forward.

Total Fixed Income Composite start date is 10/1/2012.



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# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Alternative Composite</b>	<b>171,407,897</b>	<b>10.0</b>	<b>10.1</b>	<b>0.0</b>	<b>1.6</b>	<b>0.0</b>	<b>3.9</b>	<b>4.8</b>	<b>0.6</b>	<b>1.1</b>	<b>2.0</b>	<b>Jun-05</b>
<b>Private Equity Composite</b>	<b>54,356,742</b>	<b>4.0</b>	<b>3.2</b>	<b>0.0</b>	<b>2.3</b>	<b>0.0</b>	<b>7.0</b>	<b>6.1</b>	<b>-4.1</b>	<b>1.6</b>	<b>-3.0</b>	<b>Jul-05</b>
<i>Cambridge Associates US All PE</i>				0.0	2.7	0.0	12.2	10.6	12.5	10.2	12.6	Jul-05
Murphree Venture (\$2,000,000)	771,235		0.0	0.0	0.0	0.0	0.2	-20.4	-11.9	-6.6	-5.6	Sep-05
Louisiana Fund I (\$1,000,000)	1,736,942		0.1	0.0	-3.9	0.0	-4.9	-5.9	-3.3	-0.8	-6.5	Jul-05
DTC Private Equity II-Q, L.P. (\$7,500,000)	1,691,851		0.1	0.0	4.2	0.0	5.8	6.5	9.2	8.5	6.3	Feb-06
Greenspring Associates (\$9,230,000)	4,108,450		0.2	0.0	2.6	0.0	6.8	-0.8	12.6	11.8	6.5	Feb-06
DCM Private Equity II (\$7,500,000)	1,720,141		0.1	0.0	-3.6	0.0	2.2	-2.2	-1.9	-0.8	-1.3	Feb-06
FECF II (\$20,000,000)	381,989		0.0	0.0	27.5	0.0	163.9	2.4	19.2	11.8	11.3	Mar-08
GA Crossover Fund (\$25,000,000)	4,270,793		0.3	0.0	1.5	0.0	5.0	9.8	16.3	15.8	14.6	Jan-08
CCMP Capital Investors III (\$15,000,000)	13,222,890		0.8	0.0	1.8	0.0	2.6	10.5	--	--	10.7	Oct-14
Landmark Equity Partners XV (\$25,000,000)	11,234,647		0.7	0.0	6.3	0.0	17.0	10.6	--	--	16.5	Dec-14
Harbourvest IV (\$20,000,000)	15,217,804		0.9	0.0	1.0	0.0	8.7	--	--	--	9.9	Nov-16
<b>Real Estate Composite</b>	<b>117,051,155</b>	<b>6.0</b>	<b>6.9</b>	<b>0.0</b>	<b>1.3</b>	<b>0.0</b>	<b>2.6</b>	<b>4.3</b>	<b>5.4</b>	<b>--</b>	<b>5.1</b>	<b>Dec-09</b>
<i>NCREIF Property Index</i>				0.0	3.5	0.0	7.2	8.3	9.8	6.2	10.4	Dec-09
Sentinel Real Estate Fund (\$30,000,000)	36,034,627		2.1	0.0	1.9	0.0	5.0	8.3	10.1	6.6	6.3	Feb-06
JP Morgan India (\$8,990,000)	2,289,036		0.1	0.0	-11.6	0.0	-21.1	-10.0	-6.9	-5.0	-13.0	Apr-07
Timbervest Crossover Fund (\$16,000,000)	7,691,559		0.5	0.0	2.1	0.0	-11.0	-7.7	-4.8	-1.3	-1.8	Apr-08
AEW Partners VI LP (\$20,000,000)	8,096,189		0.5	0.0	2.1	0.0	8.4	14.7	16.2	--	13.6	Mar-10
AEW Core Property (\$12,000,000)	15,250,102		0.9	0.0	1.5	0.0	4.9	7.3	--	--	7.7	May-15
FRS-GA (Georgia)	3,490,920		0.2	0.0	0.0	0.0	0.0	-9.8	-8.5	-9.7	-9.5	Jun-08
FRS-LB I (NLTP AZ)	7,400,101		0.4	0.0	0.0	0.0	0.0	18.2	11.5	-13.6	-12.2	Jun-07
FRS-LB III (ST George UT)	9,286,064		0.5	0.0	0.0	0.0	0.1	5.8	3.5	3.0	3.0	Jun-08
ASB Real Estate Fund	13,356,472		0.8	0.0	2.0	0.0	5.3	--	--	--	4.7	Jan-16
Heitman America Real Estate Trust	14,156,085		0.8	0.0	1.9	0.0	5.5	--	--	--	7.4	Nov-15
<b>Total Cash (\$9 MM)</b>	<b>8,720,378</b>	<b>--</b>	<b>0.5</b>	<b>0.2</b>	<b>0.9</b>	<b>0.2</b>	<b>1.4</b>	<b>0.7</b>	<b>0.4</b>	<b>0.4</b>	<b>2.8</b>	<b>Jun-92</b>
<i>91 Day T-Bills</i>				0.2	1.0	0.2	1.5	0.8	0.5	0.3	2.5	Jun-92

Results for periods longer than one year are annualized.

Fiscal YTD ends June 30th.

Real Estate valuations are as of 12/31/2017 adjusted for cash flows.

FRS - LB I is part of the Real Estate Composite as of 12/1/2012.

Harbourvest IV was funded 10/01/2016.

Private Equity valuations are as of 12/31/2017 adjusted for cash flows.



## Firefighters' Retirement System of Louisiana

# CURRENT MONTH CHANGE IN VALUE

	Total Cash Flow Summary						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$57,333,700	\$0	\$0	\$0	\$0	\$1,064,792	\$58,398,491
Advisory Research SMID	\$2,776	\$0	\$0	\$0	\$0	-\$2,307	\$469
AEW Core Property (\$12,000,000)	\$15,250,102	\$0	\$0	\$0	\$0	\$0	\$15,250,102
AEW Partners VI LP (\$20,000,000)	\$8,096,189	\$0	\$0	\$0	\$0	\$0	\$8,096,189
AQR Global Risk Premium – EL	\$45,839,208	\$0	\$0	\$0	-\$36,055	-\$296,374	\$45,542,834
ASB Real Estate Fund	\$13,356,472	\$0	\$0	\$0	\$0	\$0	\$13,356,472
Blackrock Global Allocation	\$82,124,034	\$0	\$0	\$0	\$0	\$1,569,050	\$83,693,085
Blackrock US Debt	\$206,535,451	\$30,000,000	\$0	\$30,000,000	\$0	-\$18,306	\$236,517,145
Boston Partners Global Equity	\$100,016,730	\$0	\$0	\$0	-\$46,101	\$3,126,004	\$103,142,734
Cash/Clearing Account	\$35,957,739	\$955,017	-\$32,692,530	-\$31,737,513	\$0	\$22,249	\$4,242,475
CCMP Capital Investors III (\$15,000,000)	\$13,222,890	\$0	\$0	\$0	\$0	\$0	\$13,222,890
DCM Private Equity II (\$7,500,000)	\$1,720,141	\$0	\$0	\$0	\$0	\$0	\$1,720,141
DTC Private Equity II-Q, L.P. (\$7,500,000)	\$1,691,851	\$0	\$0	\$0	\$0	\$0	\$1,691,851
Energy Opportunities Fund	\$16,635,881	\$0	\$0	\$0	\$0	\$287,579	\$16,923,460
FECF II (\$20,000,000)	\$381,989	\$0	\$0	\$0	\$0	\$0	\$381,989
Fisher All Foreign Equity	\$130,665,443	\$0	\$0	\$0	\$0	\$4,216,619	\$134,882,063
FRS-GA (Georgia)	\$3,490,920	\$0	\$0	\$0	\$0	\$0	\$3,490,920
FRS-LB I (NLTP AZ)	\$7,400,101	\$0	\$0	\$0	\$0	\$0	\$7,400,101
FRS-LB III (ST George UT)	\$9,286,064	\$0	\$0	\$0	\$0	\$0	\$9,286,064
GA Crossover Fund (\$25,000,000)	\$4,270,793	\$0	\$0	\$0	\$0	\$0	\$4,270,793
Greenspring Associates (\$9,230,000)	\$4,108,450	\$0	\$0	\$0	\$0	\$0	\$4,108,450
Harbourvest IV (\$20,000,000)	\$15,217,804	\$0	\$0	\$0	\$0	\$0	\$15,217,804
Heitman America Real Estate Trust	\$14,156,085	\$0	\$0	\$0	\$0	\$0	\$14,156,085





## Firefighters' Retirement System of Louisiana

# CURRENT MONTH CHANGE IN VALUE

	Month Ending July 31, 2018						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
JP Morgan India (\$8,990,000)	\$2,289,036	\$0	\$0	\$0	\$0	\$0	\$2,289,036
Landmark Equity Partners XV (\$25,000,000)	\$11,416,366	\$142,530	-\$324,249	-\$181,719	\$0	\$0	\$11,234,647
Liquidating - BlackRock Global Focused	\$12,561	\$0	\$0	\$0	\$0	-\$12	\$12,549
Louisiana Asset Management Pool	\$4,470,256	\$0	\$0	\$0	\$0	\$7,647	\$4,477,903
Louisiana Fund I (\$1,000,000)	\$1,736,942	\$0	\$0	\$0	\$0	\$0	\$1,736,942
LSV International Equity Value	\$129,413,419	\$0	\$0	\$0	-\$217,193	\$3,771,451	\$133,184,871
Mellon Stock Index Fund	\$331,287,394	\$0	\$0	\$0	\$0	\$12,323,960	\$343,611,355
Murphree Venture (\$2,000,000)	\$771,235	\$0	\$0	\$0	\$0	\$0	\$771,235
OFI Emerging Markets	\$27,471,846	\$0	\$0	\$0	-\$19,799	\$155,281	\$27,627,127
Orleans Core Fixed Income	\$66,932,337	\$0	\$0	\$0	-\$23,830	\$117,064	\$67,049,401
Putnam Risk Parity	\$31,359,572	\$0	\$0	\$0	-\$18,881	\$108,887	\$31,468,459
QMA SMID	\$43,078,804	\$0	\$0	\$0	\$0	\$976,045	\$44,054,849
Rothschild U.S. SMID Core	\$46,082,566	\$0	\$0	\$0	\$0	\$1,026,720	\$47,109,285
Sentinel Real Estate Fund (\$30,000,000)	\$36,439,806	\$0	-\$405,179	-\$405,179	\$0	\$0	\$36,034,627
Stone Harbor	\$74,365,185	\$0	\$0	\$0	-\$54,072	\$1,971,125	\$76,336,311
Thornburg Global Opportunities	\$63,913,049	\$0	\$0	\$0	\$0	\$1,075,861	\$64,988,910
Timbervest Crossover Fund (\$16,000,000)	\$7,691,559	\$0	\$0	\$0	\$0	\$0	\$7,691,559
<b>Total</b>	<b>\$1,665,492,745</b>	<b>\$31,097,547</b>	<b>-\$33,421,958</b>	<b>-\$2,324,411</b>	<b>-\$415,931</b>	<b>\$31,503,335</b>	<b>\$1,694,671,669</b>

Beginning Market Value may not match the Ending Market Value of the previous Flash report due to delayed reporting of private investments (private equity and real estate).



## Firefighters' Retirement System of Louisiana

# CURRENT FYTD CHANGE IN VALUE

Total Cash Flow Summary							
Fiscal YTD Ending July 31, 2018							
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$57,333,700	\$0	\$0	\$0	\$0	\$1,064,792	\$58,398,491
Advisory Research SMID	\$2,776	\$0	\$0	\$0	\$0	-\$2,307	\$469
AEW Core Property (\$12,000,000)	\$15,250,102	\$0	\$0	\$0	\$0	\$0	\$15,250,102
AEW Partners VI LP (\$20,000,000)	\$8,096,189	\$0	\$0	\$0	\$0	\$0	\$8,096,189
AQR Global Risk Premium – EL	\$45,839,208	\$0	\$0	\$0	-\$36,055	-\$296,374	\$45,542,834
ASB Real Estate Fund	\$13,356,472	\$0	\$0	\$0	\$0	\$0	\$13,356,472
Blackrock Global Allocation	\$82,124,034	\$0	\$0	\$0	\$0	\$1,569,050	\$83,693,085
Blackrock US Debt	\$206,535,451	\$30,000,000	\$0	\$30,000,000	\$0	-\$18,306	\$236,517,145
Boston Partners Global Equity	\$100,016,730	\$0	\$0	\$0	-\$46,101	\$3,126,004	\$103,142,734
Cash/Clearing Account	\$35,957,739	\$955,017	-\$32,692,530	-\$31,737,513	\$0	\$22,249	\$4,242,475
CCMP Capital Investors III (\$15,000,000)	\$13,222,890	\$0	\$0	\$0	\$0	\$0	\$13,222,890
DCM Private Equity II (\$7,500,000)	\$1,720,141	\$0	\$0	\$0	\$0	\$0	\$1,720,141
DTC Private Equity II-Q, L.P. (\$7,500,000)	\$1,691,851	\$0	\$0	\$0	\$0	\$0	\$1,691,851
Energy Opportunities Fund	\$16,635,881	\$0	\$0	\$0	\$0	\$287,579	\$16,923,460
FECF II (\$20,000,000)	\$381,989	\$0	\$0	\$0	\$0	\$0	\$381,989
Fisher All Foreign Equity	\$130,665,443	\$0	\$0	\$0	\$0	\$4,216,619	\$134,882,063
FRS-GA (Georgia)	\$3,490,920	\$0	\$0	\$0	\$0	\$0	\$3,490,920
FRS-LB I (NLTP AZ)	\$7,400,101	\$0	\$0	\$0	\$0	\$0	\$7,400,101
FRS-LB III (ST George UT)	\$9,286,064	\$0	\$0	\$0	\$0	\$0	\$9,286,064
GA Crossover Fund (\$25,000,000)	\$4,270,793	\$0	\$0	\$0	\$0	\$0	\$4,270,793
Greenspring Associates (\$9,230,000)	\$4,108,450	\$0	\$0	\$0	\$0	\$0	\$4,108,450
Harbourvest IV (\$20,000,000)	\$15,217,804	\$0	\$0	\$0	\$0	\$0	\$15,217,804
Heitman America Real Estate Trust	\$14,156,085	\$0	\$0	\$0	\$0	\$0	\$14,156,085



## Firefighters' Retirement System of Louisiana

# CURRENT FYTD CHANGE IN VALUE

	Fiscal YTD Ending July 31, 2018						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
JP Morgan India (\$8,990,000)	\$2,289,036	\$0	\$0	\$0	\$0	\$0	\$2,289,036
Landmark Equity Partners XV (\$25,000,000)	\$11,416,366	\$142,530	-\$324,249	-\$181,719	\$0	\$0	\$11,234,647
Liquidating - BlackRock Global Focused	\$12,561	\$0	\$0	\$0	\$0	-\$12	\$12,549
Louisiana Asset Management Pool	\$4,470,256	\$0	\$0	\$0	\$0	\$7,647	\$4,477,903
Louisiana Fund I (\$1,000,000)	\$1,736,942	\$0	\$0	\$0	\$0	\$0	\$1,736,942
LSV International Equity Value	\$129,413,419	\$0	\$0	\$0	-\$217,193	\$3,771,451	\$133,184,871
Mellon Stock Index Fund	\$331,287,394	\$0	\$0	\$0	\$0	\$12,323,960	\$343,611,355
Murphree Venture (\$2,000,000)	\$771,235	\$0	\$0	\$0	\$0	\$0	\$771,235
OFI Emerging Markets	\$27,471,846	\$0	\$0	\$0	-\$19,799	\$155,281	\$27,627,127
Orleans Core Fixed Income	\$66,932,337	\$0	\$0	\$0	-\$23,830	\$117,064	\$67,049,401
Putnam Risk Parity	\$31,359,572	\$0	\$0	\$0	-\$18,881	\$108,887	\$31,468,459
QMA SMID	\$43,078,804	\$0	\$0	\$0	\$0	\$976,045	\$44,054,849
Rothschild U.S. SMID Core	\$46,082,566	\$0	\$0	\$0	\$0	\$1,026,720	\$47,109,285
Sentinel Real Estate Fund (\$30,000,000)	\$36,439,806	\$0	-\$405,179	-\$405,179	\$0	\$0	\$36,034,627
Stone Harbor	\$74,365,185	\$0	\$0	\$0	-\$54,072	\$1,971,125	\$76,336,311
Thornburg Global Opportunities	\$63,913,049	\$0	\$0	\$0	\$0	\$1,075,861	\$64,988,910
Timbervest Crossover Fund (\$16,000,000)	\$7,691,559	\$0	\$0	\$0	\$0	\$0	\$7,691,559
<b>Total</b>	<b>\$1,665,492,745</b>	<b>\$31,097,547</b>	<b>-\$33,421,958</b>	<b>-\$2,324,411</b>	<b>-\$415,931</b>	<b>\$31,503,335</b>	<b>\$1,694,671,669</b>

Beginning Market Value may not match the Ending Market Value of the previous Flash report due to delayed reporting of private investments (private equity and real estate).



## Firefighters' Retirement System of Louisiana

# SINCE INCEPTION CHANGE IN VALUE

Total Cash Flow Summary						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	--	\$60,000,000	-\$10,000,000	\$50,000,000	\$8,398,491	\$58,398,491
Advisory Research SMID	--	\$34,976,914	-\$84,015,269	-\$49,038,355	\$49,038,824	\$469
AEW Core Property (\$12,000,000)	--	\$12,000,000	\$0	\$12,000,000	\$3,250,102	\$15,250,102
AEW Partners VI LP (\$20,000,000)	--	\$18,420,450	-\$23,680,497	-\$5,260,047	\$13,356,236	\$8,096,189
AQR Global Risk Premium – EL	--	\$40,100,000	\$0	\$40,100,000	\$5,442,834	\$45,542,834
ASB Real Estate Fund	--	\$12,216,279	-\$141,910	\$12,074,369	\$1,282,103	\$13,356,472
Blackrock Global Allocation	--	\$68,041,992	\$0	\$68,041,992	\$15,651,093	\$83,693,085
Blackrock US Debt	--	\$287,412,468	-\$58,500,000	\$228,912,468	\$7,604,678	\$236,517,145
Boston Partners Global Equity	--	\$80,939,406	-\$598,058	\$80,341,347	\$22,801,386	\$103,142,734
Cash/Clearing Account	--	\$2,173,763,047	-\$2,172,900,571	\$862,476	\$3,379,999	\$4,242,475
CCMP Capital Investors III (\$15,000,000)	--	\$11,686,665	-\$1,607,574	\$10,079,091	\$3,143,799	\$13,222,890
DCM Private Equity II (\$7,500,000)	--	\$8,230,128	-\$6,847,101	\$1,383,027	\$337,113	\$1,720,141
DTC Private Equity II-Q, L.P. (\$7,500,000)	--	\$5,480,845	-\$7,912,500	-\$2,431,655	\$4,123,506	\$1,691,851
Energy Opportunities Fund	--	\$50,034,322	-\$33,002,876	\$17,031,446	-\$107,986	\$16,923,460
FECF II (\$20,000,000)	--	\$19,188,998	-\$22,136,262	-\$2,947,264	\$3,329,253	\$381,989
Fisher All Foreign Equity	--	\$117,180,807	-\$55,165,618	\$62,015,189	\$72,866,873	\$134,882,063
FRS-GA (Georgia)	--	\$9,416,075	\$0	\$9,416,075	-\$5,925,155	\$3,490,920
FRS-LB I (NLTP AZ)	--	\$24,900,208	\$0	\$24,900,208	-\$17,500,107	\$7,400,101
FRS-LB III (ST George UT)	--	\$6,878,923	\$0	\$6,878,923	\$2,407,141	\$9,286,064
GA Crossover Fund (\$25,000,000)	--	\$25,000,000	-\$46,276,687	-\$21,276,687	\$25,547,480	\$4,270,793
Greenspring Associates (\$9,230,000)	--	\$8,491,600	-\$12,253,378	-\$3,761,778	\$7,870,228	\$4,108,450
Harbourvest IV (\$20,000,000)	--	\$15,722,907	-\$1,750,000	\$13,972,907	\$1,244,897	\$15,217,804

Cash flow statistics exclude management fees and expenses.



## Firefighters' Retirement System of Louisiana

# SINCE INCEPTION CHANGE IN VALUE

	Beginning Market Value	Ending July 31, 2018			Net Investment Change	Ending Market Value
		Contributions	Withdrawals	Net Cash Flow		
Heitman America Real Estate Trust	--	\$12,000,000	\$0	\$12,000,000	\$2,156,085	\$14,156,085
JP Morgan India (\$8,990,000)	--	\$8,307,355	-\$3,814,303	\$4,493,052	-\$2,204,016	\$2,289,036
Landmark Equity Partners XV (\$25,000,000)	--	\$17,069,898	-\$9,892,826	\$7,177,072	\$4,057,575	\$11,234,647
Liquidating - BlackRock Global Focused	--	\$46,832,890	-\$59,568,544	-\$12,735,654	\$12,748,203	\$12,549
Louisiana Asset Management Pool	--	\$943,990,965	-\$944,296,689	-\$305,724	\$4,783,627	\$4,477,903
Louisiana Fund I (\$1,000,000)	--	\$1,010,000	\$0	\$1,010,000	\$726,942	\$1,736,942
LSV International Equity Value	--	\$103,818,122	-\$17,283,318	\$86,534,804	\$46,650,066	\$133,184,871
Mellon Stock Index Fund	--	\$275,413,117	-\$94,500,001	\$180,913,116	\$162,698,238	\$343,611,355
Murphree Venture (\$2,000,000)	--	\$2,058,578	-\$848,459	\$1,210,119	-\$438,884	\$771,235
OFI Emerging Markets	--	\$31,500,000	-\$8,500,000	\$23,000,000	\$4,627,127	\$27,627,127
Orleans Core Fixed Income	\$0	\$126,099,081	-\$91,022,995	\$35,076,086	\$31,973,315	\$67,049,401
Putnam Risk Parity	--	\$27,400,000	\$0	\$27,400,000	\$4,068,459	\$31,468,459
QMA SMID	--	\$43,715,269	\$0	\$43,715,269	\$339,580	\$44,054,849
Rothschild U.S. SMID Core	--	\$55,500,000	-\$27,500,000	\$28,000,000	\$19,109,285	\$47,109,285
Sentinel Real Estate Fund (\$30,000,000)	--	\$30,000,000	-\$16,825,999	\$13,174,001	\$22,860,626	\$36,034,627
Stone Harbor	--	\$86,000,000	\$0	\$86,000,000	-\$9,663,689	\$76,336,311
Thornburg Global Opportunities	--	\$47,500,000	-\$70,306,258	-\$22,806,258	\$87,795,168	\$64,988,910
Timbervest Crossover Fund (\$16,000,000)	--	\$13,600,000	-\$7,048,000	\$6,552,000	\$1,139,559	\$7,691,559

Cash flow statistics exclude management fees and expenses.



### **Information Disclaimer**

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute 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.

### **Reporting Methodology**

- 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.

