

December 31, 2019
Richmond Retirement System
4Q 2019 Alternatives

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended December 31, 2019. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended December 31, 2019

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Private Real Estate	2.80%	4.84%	6.35%	8.48%
JP Morgan Strategic Property	3.18%	5.31%	6.83%	8.75%
Oaktree RE Debt Fund	1.09%	12.41%	12.12%	15.14%
Orion Euro RE IV	(5.09%)	(11.39%)	(8.95%)	(0.08%)
REITs				
CenterSquare	(0.83%)	27.14%	9.16%	8.38%

**JP Morgan Strategic Property
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

	Beg. of Period Market	Capital Contri- butions					End of Period Market
12/2010	0	7,500,000					7,686,708
03/2011	7,686,708	7,500,000					15,633,322
06/2011	15,633,322	0					16,459,035
09/2011	16,459,035	0					16,955,609
12/2011	16,955,609	0					17,430,487
03/2012	17,430,487	0					17,861,271
06/2012	17,861,271	0					18,259,656
09/2012	18,259,656	0					18,874,294
12/2012	18,874,294	0					19,352,871
03/2013	19,352,871	0					19,961,048
06/2013	19,961,048	0					20,680,552
09/2013	20,680,552	0					21,484,499
12/2013	21,484,499	0					22,214,760
03/2014	22,214,760	0					22,685,373
06/2014	22,685,373	0					23,364,377
09/2014	23,364,377	0					23,856,939
12/2014	23,856,939	0					24,450,049
03/2015	24,450,049	0					23,537,547
06/2015	23,537,547	0					24,345,673
09/2015	24,345,673	0					25,112,107
12/2015	25,112,107	0					25,896,673
03/2016	25,896,673	0					26,319,991
06/2016	26,319,991	0					26,786,080
09/2016	26,786,080	0					27,271,641
12/2016	27,271,641	0					25,238,116
03/2017	25,238,116	0					25,652,855
06/2017	25,652,855	0					25,798,741
09/2017	25,798,741	0					25,983,025
12/2017	25,983,025	0					26,179,943
03/2018	26,179,943	0					26,477,958
06/2018	26,477,958	0					26,729,345
09/2018	26,729,345	0					26,939,282
12/2018	26,939,282	0					27,193,565
03/2019	27,193,565	0					27,052,978
06/2019	27,052,978	0					27,111,988
09/2019	27,111,988	0					26,978,224
12/2019	26,978,224	0					27,357,712
	0	15,000,000					27,357,712

**JP Morgan Strategic Property
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

Net Portfolio Cumulative IRR = 10.41%

**Oaktree RE Debt Fund
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

	Beg. of Period Market	Capital Contri- butions					End of Period Market
12/2013	0	905,000					887,059
03/2014	887,059	0					363,242
06/2014	363,242	0					369,556
09/2014	369,556	0					394,201
12/2014	394,201	0					327,417
03/2015	327,417	500,000					819,407
06/2015	819,407	0					809,673
09/2015	809,673	0					798,882
12/2015	798,882	857,471					755,888
03/2016	755,888	135,000					805,840
06/2016	805,840	410,000					699,513
09/2016	699,513	470,000					1,204,847
12/2016	1,204,847	135,000					1,361,621
03/2017	1,361,621	0					1,410,178
06/2017	1,410,178	50,000					1,318,248
09/2017	1,318,248	100,000					1,402,963
12/2017	1,402,963	1,025,000					2,406,125
03/2018	2,406,125	0					2,117,689
06/2018	2,117,689	0					1,965,871
09/2018	1,965,871	100,000					1,965,364
12/2018	1,965,364	0					1,842,789
03/2019	1,842,789	0					1,675,666
06/2019	1,675,666	0					907,628
09/2019	907,628	0					587,584
12/2019	587,584	0					461,482
	0	4,687,471					461,482

Net Portfolio Cumulative IRR = 13.58%

Committed Capital = \$5,000,000

**Orion Euro RE IV
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

	Beg. of Period Market	Capital Contri- butions				End of Period Market
03/2014	0	112,832				112,832
06/2014	112,832	182,338				180,247
09/2014	180,247	310,527				499,285
12/2014	499,285	1,017,495				1,419,950
03/2015	1,419,950	131,917				1,572,598
06/2015	1,572,598	228,373				1,657,877
09/2015	1,657,877	0				1,660,085
12/2015	1,660,085	0				1,118,689
03/2016	1,118,689	0				1,083,133
06/2016	1,083,133	59,161				945,896
09/2016	945,896	0				1,303,365
12/2016	1,303,365	38,782				1,192,953
03/2017	1,192,953	174,589				1,289,503
06/2017	1,289,503	110,027				1,353,447
09/2017	1,353,447	0				1,097,802
12/2017	1,097,802	0				1,182,811
03/2018	1,182,811	302,992				1,497,368
06/2018	1,497,368	0				1,517,253
09/2018	1,517,253	0				1,279,052
12/2018	1,279,052	58,027				1,058,351
03/2019	1,058,351	233,996				1,244,794
06/2019	1,244,794	0				1,211,580
09/2019	1,211,580	0				1,164,829
12/2019	1,164,829	0				1,085,579
	0	2,961,057				1,085,579

Net Portfolio Cumulative IRR = -2.73%

Committed Capital = \$2,931,777

	December 31, 2019			September 30, 2019		
	Market Value			Market Value		
CenterSquare	5,886,337			5,935,658		
Total REITs	\$5,886,337			\$5,935,658		