



(Preliminary Subject to Change)



Employees Retirement System

City of Philadelphia
Employees Retirement System
Executive Summary
December 31, 2016

Total Fund Composite

Market Value: \$4,320.8 Million and 100.0% of Fund

Ending December 31, 2016

	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Total Fund Composite		4,320,819,582	6,657,377	100.0	100.0	0
Total Fund w/o Alternative Assets		3,449,399,868	23,400,977	79.8	80.8	-41,822,354
Investment Grade Fixed Income Composite		660,622,757	-455,617	15.3	19.0	-160,332,963
Brandywine Global Investment Management	Global Fixed Income	148,675,755	0	3.4		
Garcia Hamilton & Associates	Int. Govt. Fixed Income	160,904,151	52,215,646	3.7		
Logan Circle	Core Plus Fixed Income	41,965,290	38,941	1.0		
Longfellow	Core Plus Fixed Income	150,522,462	53,678,553	3.5		
Rhumblin Core Bond Index	Core Fixed Income	158,555,100	-105,894,212	3.7		
Opportunistic Fixed Income Composite		390,471,381	-72,464,454	9.0	7.5	66,409,912
Apollo Franklin Partnership, L.P.	Opportunistic Fixed Income	47,311,309	-14,545,455	1.1		
Avenue Coppers Opportunity Fund LP	Opportunistic Fixed Income	101,630,567	0	2.4		
KKR-PBPR Capital Partners LP	Opportunistic Fixed Income	110,229,376	-57,918,999	2.6		
Logan Circle - EMD	EM Fixed Income	48,255,449	0	1.1		
Strategic Income Management	High Yield Fixed Income	82,595,724	0	1.9		
U.S. Equity Composite		1,347,646,942	23,482,517	31.2	29.8	60,042,707
Rhumblin Russell 1000 Index	Large-Cap Core	976,942,910	183,097,478	22.6		
Aronson+Johnson+Ortiz LP	Large-Cap Value	39,046,097	0	0.9		
O'Shaughnessy Asset Management	Large-Cap Value	26,479,939	-12,000,000	0.6		
Rhumblin MidCap Index	Mid-Cap Core	140,141,827	143,469,446	3.2		
Apex Capital Management	Smid-Cap Growth	19,887,792	0	0.5		
Rhumblin Russell 2000 Index	Small-Cap Core	34,630,036	35,401,945	0.8		
Emerald Advisors	Small-Cap Growth	40,048,600	0	0.9		
Fisher Asset Management	Small-Cap Value	33,165,760	0	0.8		
Ariel	Smid-Cap Value	37,014,477	41,946	0.9		
Non-U.S. Equity Developed Composite		735,576,597	-1,967	17.0	16.8	9,678,907
Causeway Capital Management	Non-U.S. Large-Cap Core	202,594,287	0	4.7		
Northern Trust MSCI EAFE+Canada	Non-U.S. Large-Cap Core	528,933,703	-161	12.2		
Non-U.S. Equity Emerging Composite		201,611,535	3,024	4.7	5.2	-23,071,083
Rhumblin Emerging Markets Index	Emerging Markets	201,599,871	3,024	4.7		
Cash Composite		113,470,656	72,837,474	2.6	1.1	65,941,640
Cash	Cash & Equivalents	112,676,597	72,849,326	2.6		
Directed Commissions	Cash & Equivalents	794,059	-11,851	0.0		

Total Fund Composite

Market Value: \$4,320.8 Million and 100.0% of Fund

Ending December 31, 2016

	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Absolute Return		158,085,616	-14,227,555	3.7	3.7	-1,784,709
400 Capital Credit Opportunity Fund	Relative Value Hedge Fund	43,557,930	-14,174,289	1.0		
Axonic Capital LLC	Credit Hedge Fund	2,831,377	0	0.1		
Blue Harbour Strategic Value Partners Master Fund, LP	Long Only Hedge Fund	54,969,169	0	1.3		
Elizabeth Park Capital Management	Long/Short Hedge Fund	26,762,005	-53,266	0.6		
Archview Offshore Fund. LTD	Credit Hedge Fund	29,965,135	0	0.7		
Real Assets Composite		294,459,860	10,665,176	6.8	5.9	39,531,505
Real Assets - MLPs Composite		87,198,836	0	2.0	1.9	5,103,264
Harvest Fund Advisors LLC	MLP	43,081,921	0	1.0		
Tortoise Capital Advisors LLC	MLP	44,116,915	0	1.0		
Real Assets - Public Real Estate Composite		57,012,634	0	1.3	1.4	-3,478,841
Rhumblin FTSE NAREIT	Real Assets	57,012,634	0	1.3		
Real Assets - Private Real Estate Composite		146,082,205	10,865,739	3.4	2.6	33,740,895
Real Assets - Private Energy/Infrastructure Composite		4,166,186	-200,563	0.1	--	4,166,186
Private Assets Composite		418,874,238	-13,181,221	9.7	11.0	-56,415,916
Private Assets - Private Equity	U.S. Private Equity FoF	399,862,489	-13,106,333	9.3		
Private Assets - Private Debt	Mezz. Private Equity	19,011,749	-74,888	0.4		

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$4,320.8 Million and 100.0% of Fund

	Ending December 31, 2016											Inception	
	1 Mo	3 Mo	YTD	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
Total Fund Composite	1.3%	0.7%	6.7%	4.9%	6.7%	1.7%	2.9%	5.5%	6.9%	6.8%	4.4%	7.4%	Jul-88
<i>Total Fund Policy Benchmark</i>	1.5%	0.8%	8.8%	5.0%	8.8%	3.3%	4.2%	6.6%	7.9%	8.1%	5.6%	8.3%	Jul-88
Total Fund w/o Alternative Assets	1.3%	0.6%	6.6%	5.2%	6.6%	1.4%	--	--	--	--	--	3.0%	Jan-14
Investment Grade Fixed Income Composite	0.2%	-3.5%	3.5%	-2.8%	3.5%	0.1%	1.9%	0.8%	2.0%	3.5%	4.2%	6.2%	Jul-88
<i>BBgBarc US Aggregate TR</i>	0.1%	-3.0%	2.6%	-2.5%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	6.4%	Jul-88
Brandywine Global Investment Management	0.5%	-6.0%	4.6%	-4.7%	4.6%	-1.7%	0.9%	-0.3%	2.5%	4.8%	--	7.1%	Jan-09
<i>Citi WGBI</i>	-0.7%	-8.5%	1.6%	-8.3%	1.6%	-1.0%	-0.8%	-1.6%	-1.0%	0.9%	3.0%	1.7%	Jan-09
Garcia Hamilton & Associates	0.1%	-1.7%	2.8%	-1.5%	2.8%	2.1%	2.9%	2.4%	3.8%	4.2%	5.3%	5.5%	Aug-00
<i>BBgBarc US Govt/Credit Int TR</i>	0.1%	-2.1%	2.1%	-1.9%	2.1%	1.6%	2.1%	1.3%	1.8%	3.0%	3.8%	4.6%	Aug-00
Logan Circle	0.4%	-2.7%	4.0%	-1.4%	4.0%	1.8%	--	--	--	--	--	2.0%	Oct-14
<i>BBgBarc US Aggregate TR</i>	0.1%	-3.0%	2.6%	-2.5%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	1.8%	Oct-14
Longfellow	0.2%	-2.4%	2.7%	-1.9%	2.7%	2.1%	--	--	--	--	--	2.2%	Sep-14
<i>BBgBarc US Aggregate TR</i>	0.1%	-3.0%	2.6%	-2.5%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	2.2%	Sep-14
Rhumblin Core Bond Index	0.0%	-3.3%	1.8%	-3.0%	1.8%	1.0%	2.6%	1.3%	1.8%	3.3%	--	4.2%	Jun-07
<i>BBgBarc US Aggregate TR</i>	0.1%	-3.0%	2.6%	-2.5%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	4.4%	Jun-07
Opportunistic Fixed Income Composite	0.6%	0.3%	7.3%	4.9%	7.3%	1.3%	2.1%	3.0%	--	--	--	3.0%	Dec-12
<i>Opportunistic Fixed Income Benchmark</i>	1.5%	2.0%	13.6%	6.4%	13.6%	5.2%	4.1%	4.7%	6.3%	6.7%	--	4.7%	Dec-12
Apollo Franklin Partnership, L.P.	0.0%	-2.0%	0.9%	0.7%	0.9%	-8.1%	-7.4%	--	--	--	--	-4.8%	May-13
<i>50% BarCap HY / 50% CSFB Lev Loans</i>	1.5%	2.0%	13.5%	6.4%	13.5%	5.2%	4.2%	4.9%	6.4%	6.8%	5.9%	4.4%	May-13
Avenue Coppers Opportunity Fund LP	0.0%	0.0%	3.3%	4.7%	3.3%	1.5%	2.9%	--	--	--	--	2.9%	Dec-13
<i>Actuarial Rate 7.75%</i>	0.6%	1.9%	7.7%	3.8%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	Dec-13
KKR-PBPR Capital Partners LP	0.0%	0.8%	10.0%	4.9%	10.0%	3.9%	3.7%	6.3%	--	--	--	6.6%	Jun-12
<i>Actuarial Rate 7.75%</i>	0.6%	1.9%	7.7%	3.8%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	Jun-12
Logan Circle - EMD	2.1%	-2.2%	14.5%	2.2%	14.5%	--	--	--	--	--	--	4.9%	Feb-15
<i>JP Morgan EMBI Global TR</i>	1.4%	-4.2%	10.2%	-0.6%	10.2%	5.6%	5.6%	2.4%	5.4%	6.8%	6.8%	5.2%	Feb-15
Strategic Income Management	2.0%	2.9%	--	7.3%	--	--	--	--	--	--	--	13.6%	Mar-16
<i>BofA Merrill Lynch US High Yield Master II TR</i>	2.0%	1.9%	17.5%	7.5%	17.5%	5.8%	4.7%	5.4%	7.4%	8.0%	7.3%	13.8%	Mar-16

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$4,320.8 Million and 100.0% of Fund

	Ending December 31, 2016											Inception	
	1 Mo	3 Mo	YTD	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
U.S. Equity Composite	1.7%	4.4%	11.3%	9.7%	11.3%	5.1%	6.8%	13.0%	13.6%	12.5%	7.0%	9.4%	Jul-88
<i>Russell 3000</i>	2.0%	4.2%	12.7%	8.8%	12.7%	6.4%	8.4%	14.2%	14.7%	12.9%	7.1%	10.2%	Jul-88
Rhumblin Russell 1000 Index	1.9%	3.8%	12.2%	8.1%	12.2%	6.4%	8.5%	14.2%	14.3%	12.6%	--	6.7%	May-07
<i>Rhumblin Russell 1000 Custom Benchmark</i>	1.9%	3.8%	11.9%	8.1%	11.9%	6.3%	8.6%	14.3%	14.4%	--	--	--	May-07
Aronson+Johnson+Ortiz LP	3.5%	9.0%	9.7%	14.1%	9.7%	4.5%	6.3%	13.5%	14.2%	12.5%	6.0%	7.8%	May-01
<i>Russell 1000 Value</i>	2.5%	6.7%	17.3%	10.4%	17.3%	6.2%	8.6%	14.1%	14.8%	12.7%	5.7%	6.7%	May-01
O'Shaughnessy Asset Management	0.0%	5.9%	13.5%	12.7%	13.5%	2.6%	4.7%	14.4%	--	--	--	14.1%	Jun-12
<i>Russell 1000 Value</i>	2.5%	6.7%	17.3%	10.4%	17.3%	6.2%	8.6%	14.1%	14.8%	12.7%	5.7%	14.4%	Jun-12
Rhumblin MidCap Index	--	--	--	--	--	--	--	--	--	--	--	--	Dec-16
<i>Russell MidCap</i>	1.1%	3.2%	13.8%	7.9%	13.8%	5.4%	7.9%	14.1%	14.7%	13.7%	7.9%	--	Dec-16
Apex Capital Management	-1.6%	0.1%	3.0%	6.8%	3.0%	0.8%	3.4%	11.6%	13.7%	14.0%	--	14.0%	Dec-09
<i>Russell 2500 Growth</i>	0.9%	2.6%	9.7%	9.8%	9.7%	4.7%	5.4%	13.3%	13.9%	13.5%	8.2%	13.5%	Dec-09
Rhumblin Russell 2000 Index	--	--	--	--	--	--	--	--	--	--	--	--	Dec-16
<i>Russell 2000</i>	2.8%	8.8%	21.3%	18.7%	21.3%	7.7%	6.7%	14.0%	14.5%	13.2%	7.1%	--	Dec-16
Emerald Advisors	0.8%	3.8%	9.2%	14.1%	9.2%	6.5%	6.7%	16.1%	16.4%	15.3%	8.7%	9.0%	Dec-04
<i>Russell 2000 Growth</i>	1.4%	3.6%	11.3%	13.1%	11.3%	4.8%	5.1%	13.5%	13.7%	13.2%	7.8%	7.9%	Dec-04
Fisher Asset Management	3.1%	10.8%	19.3%	17.0%	19.3%	8.3%	8.5%	15.3%	15.5%	13.8%	--	10.0%	May-08
<i>Russell 2000 Value</i>	4.1%	14.1%	31.7%	24.2%	31.7%	10.4%	8.3%	14.3%	15.1%	13.1%	6.3%	9.0%	May-08
Ariel	1.7%	6.5%	--	15.1%	--	--	--	--	--	--	--	21.1%	Jan-16
<i>Russell 2500 Value</i>	2.9%	9.3%	25.2%	16.1%	25.2%	8.8%	8.2%	14.0%	15.0%	13.5%	6.9%	33.4%	Jan-16
Non-U.S. Equity Developed Composite	2.8%	-0.3%	2.1%	6.1%	2.1%	-0.7%	-2.4%	3.0%	5.6%	3.5%	0.8%	5.3%	Jan-89
<i>MSCI EAFE</i>	3.4%	-0.7%	1.0%	5.7%	1.0%	0.1%	-1.6%	4.0%	6.5%	3.8%	0.7%	4.2%	Jan-89
Causeway Capital Management	2.1%	0.3%	-0.3%	7.2%	-0.3%	-1.2%	-2.3%	4.4%	8.0%	--	--	7.8%	Nov-11
<i>MSCI EAFE</i>	3.4%	-0.7%	1.0%	5.7%	1.0%	0.1%	-1.6%	4.0%	6.5%	3.8%	0.7%	6.2%	Nov-11
Northern Trust MSCI EAFE+Canada	3.2%	-0.6%	2.7%	5.8%	2.7%	0.0%	-1.4%	3.7%	6.2%	4.2%	--	1.6%	Mar-07
<i>Northern Trust MSCI EAFE + Canada Custom Benchmark</i>	3.2%	-0.6%	3.0%	5.8%	3.0%	0.3%	-0.6%	4.8%	7.3%	4.6%	--	1.1%	Mar-07
Non-U.S. Equity Emerging Composite	-0.3%	-5.0%	10.7%	2.6%	10.7%	-3.3%	-3.0%	-2.8%	-0.3%	-0.7%	--	7.9%	Jan-09
<i>MSCI Emerging Markets</i>	0.2%	-4.2%	11.2%	4.5%	11.2%	-2.7%	-2.6%	-2.6%	1.3%	0.5%	1.8%	9.0%	Jan-09
Rhumblin Emerging Markets Index	-0.3%	-5.0%	10.7%	2.6%	10.7%	-2.8%	-2.7%	--	--	--	--	-3.1%	Feb-13
<i>MSCI Emerging Markets</i>	0.2%	-4.2%	11.2%	4.5%	11.2%	-2.7%	-2.6%	-2.6%	1.3%	0.5%	1.8%	-3.0%	Feb-13

Investment Manager

Annualized Performance (Net of Fees)

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	Ending December 31, 2016											Inception	
	1 Mo	3 Mo	YTD	Fiscal YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
Absolute Return	1.9%	5.5%	5.7%	9.5%	5.7%	0.2%	1.5%	3.3%	4.0%	3.0%	2.2%	2.8%	Sep-05
<i>HFRI Fund of Funds Composite Index</i>	1.1%	1.1%	0.7%	3.4%	0.7%	0.2%	1.3%	3.1%	3.5%	2.4%	1.3%	2.3%	Sep-05
400 Capital Credit Opportunity Fund	0.0%	2.4%	-0.6%	6.6%	-0.6%	-0.5%	3.6%	--	--	--	--	4.1%	Jun-13
<i>HFRI ED: Distressed/Restructuring Index</i>	1.8%	4.9%	14.3%	10.5%	14.3%	2.5%	1.2%	4.3%	5.4%	5.3%	3.7%	2.5%	Jun-13
<i>HFRX Distressed Securities Index</i>	1.9%	5.4%	19.7%	11.5%	19.7%	3.1%	2.2%	3.0%	2.6%	1.8%	-2.6%	2.3%	Jun-13
Axonic Capital LLC	0.0%	0.0%	-2.3%	-0.2%	-2.3%	-0.6%	3.1%	--	--	--	--	5.2%	Jan-13
<i>HFRI ED: Distressed/Restructuring Index</i>	1.8%	4.9%	14.3%	10.5%	14.3%	2.5%	1.2%	4.3%	5.4%	5.3%	3.7%	3.8%	Jan-13
Blue Harbour Strategic Value Partners Master Fund, LP	1.8%	5.5%	8.3%	11.5%	8.3%	1.8%	3.6%	--	--	--	--	3.6%	Jan-14
<i>HFRX Event Driven Index</i>	1.9%	3.7%	11.1%	7.6%	11.1%	1.7%	-0.3%	3.1%	3.7%	2.1%	1.0%	-0.3%	Jan-14
Elizabeth Park Capital Management	5.9%	15.7%	19.8%	25.6%	19.8%	13.0%	--	--	--	--	--	11.9%	May-14
<i>HFRX Event Driven Index</i>	1.9%	3.7%	11.1%	7.6%	11.1%	1.7%	-0.3%	3.1%	3.7%	2.1%	1.0%	-1.4%	May-14
Archview Offshore Fund, LTD	1.4%	2.4%	6.7%	9.2%	6.7%	-1.5%	--	--	--	--	--	0.0%	Mar-14
<i>HFRI ED: Distressed/Restructuring Index</i>	1.8%	4.9%	14.3%	10.5%	14.3%	2.5%	1.2%	4.3%	5.4%	5.3%	3.7%	0.5%	Mar-14
Real Assets Composite	2.1%	0.0%	9.2%	1.7%	9.2%	-1.2%	3.9%	6.6%	--	--	--	6.6%	Dec-12
<i>Real Assets Benchmark</i>	2.4%	1.2%	12.3%	1.4%	12.3%	-7.6%	-2.6%	1.4%	--	--	--	1.4%	Dec-12
Real Assets - MLPs Composite	4.1%	2.3%	15.6%	5.6%	15.6%	-9.9%	-2.4%	5.3%	5.9%	--	--	8.4%	Sep-11
<i>Alerian MLP Index</i>	4.4%	2.0%	18.3%	3.1%	18.3%	-10.7%	-5.8%	1.6%	2.2%	8.1%	8.0%	5.1%	Sep-11
Harvest Fund Advisors LLC	3.7%	1.5%	18.7%	6.5%	18.7%	-9.1%	-1.5%	6.4%	7.3%	--	--	8.9%	Sep-11
<i>Alerian MLP Index</i>	4.4%	2.0%	18.3%	3.1%	18.3%	-10.7%	-5.8%	1.6%	2.2%	8.1%	8.0%	4.2%	Sep-11
Tortoise Capital Advisors LLC	4.5%	3.0%	16.2%	5.4%	16.2%	-7.6%	-0.7%	7.3%	--	--	--	6.1%	Feb-12
<i>Alerian MLP Index</i>	4.4%	2.0%	18.3%	3.1%	18.3%	-10.7%	-5.8%	1.6%	2.2%	8.1%	8.0%	1.0%	Feb-12
Real Assets - Public Real Estate Composite	4.4%	-3.2%	8.8%	-4.4%	8.8%	5.7%	11.8%	--	--	--	--	9.7%	Jan-13
<i>NAREIT Equity</i>	4.7%	-2.9%	8.5%	-4.3%	8.5%	5.8%	13.4%	10.5%	12.0%	13.6%	5.1%	9.7%	Jan-13
Rhumblin FTSE NAREIT	4.4%	-3.2%	8.8%	-4.4%	8.8%	5.7%	12.7%	--	--	--	--	7.2%	May-13
<i>NAREIT Equity</i>	4.7%	-2.9%	8.5%	-4.3%	8.5%	5.8%	13.4%	10.5%	12.0%	13.6%	5.1%	7.3%	May-13
Real Assets - Private Real Estate Composite	0.0%	0.0%	4.5%	2.3%	4.5%	10.2%	11.0%	12.2%	11.8%	10.4%	2.2%	3.4%	May-06
<i>Real Assets - Private Real Estate Benchmark</i>	0.0%	0.0%	4.5%	2.3%	4.5%	10.2%	11.0%	12.3%	--	--	--	--	May-06
Real Assets - Private Energy/Infrastructure Composite	0.0%	0.0%	2.2%	-3.8%	2.2%	-27.5%	-2.1%	3.0%	--	--	--	1.2%	May-12
<i>Real Assets - Private Energy/Infrastructure Benchmark</i>	0.0%	0.0%	2.2%	-3.8%	2.2%	-27.5%	-2.1%	3.0%	--	--	--	1.2%	May-12