

City of Memphis

Asset Allocation Comparison as of September 30, 2021

\$2,757,088,627

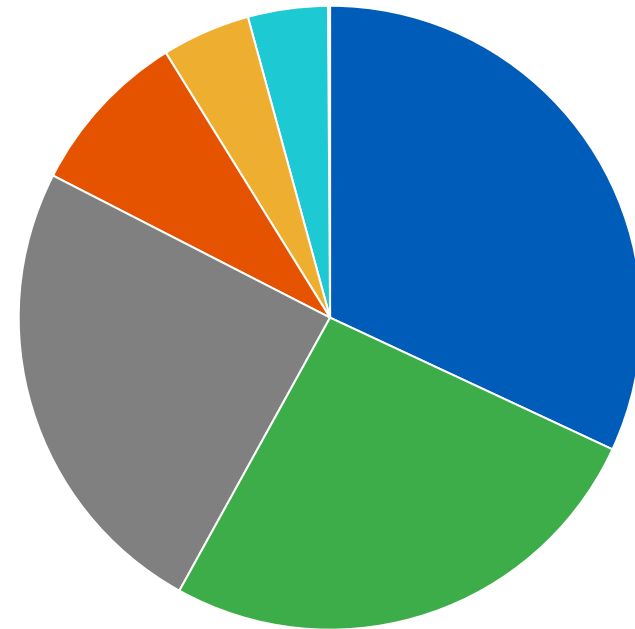
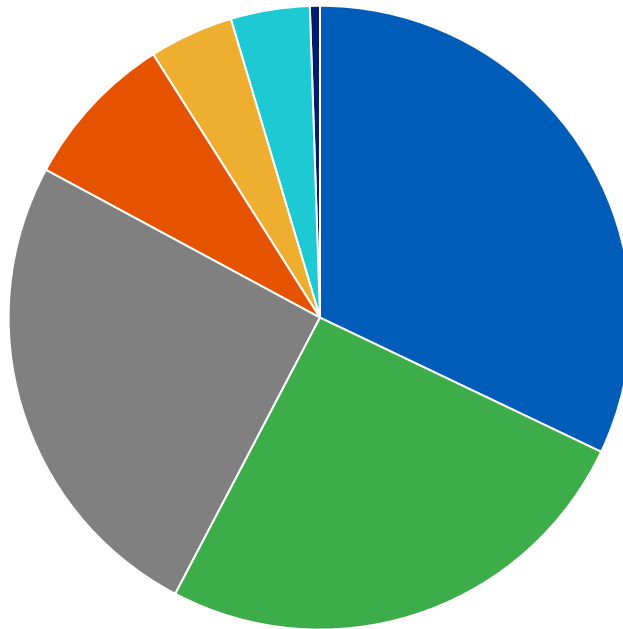
<u>Target Allocations</u>		<u>Current Managers & Allocations</u>			<u>Difference</u>	<u>Range</u>	
Equity		(000)		(000)			
Large Cap Equity	20.00%	\$551,418	Barrow, Hanley (large cap value)	7.16%	\$197,379	2.94%	15%-25%
			Rhumblin Russell 1000 Growth (large cap growth)	3.27%	\$90,162		
			Winslow (large cap growth)	3.88%	\$106,954		
			Rhumblin S&P 500 (large cap core)	8.63%	\$237,867		
Mid/SMID Cap Equity	4.00%	\$110,284	Northern Trust (mid cap core)	2.30%	\$63,286	0.56%	0%-7%
			Capital Prospects SMID Cap*	2.26%	\$62,388		
Small Cap Equity	4.00%	\$110,284	Capital Prospects Small Cap Value*	2.08%	\$57,405	0.44%	0%-7%
			Conestoga (small cap growth)	1.22%	\$33,764		
			Nicholas (small cap growth)	1.14%	\$31,338		
Domestic Equity	28.00%	\$771,985	Domestic Equity	31.94%	\$880,543	3.94%	18%-38%
Developed International	15.00%	\$413,563	1607 Capital Partners	4.89%	\$134,734	1.26%	10%-20%
			Principal Global Investors	4.80%	\$132,307		
			Marathon Asset Mgmt	4.19%	\$115,493		
			Strategic Global Advisors	2.38%	\$65,701		
Emerging Markets	7.00%	\$192,996	Acadian	4.16%	\$114,583	1.23%	5%-12%
			JPMorgan	4.08%	\$112,442		
International	22.00%	\$606,559	International	24.49%	\$675,260	2.49%	15%-30%
Equity Total	50.00%	\$1,378,544	Equity Total	56.43%	\$1,555,803	6.43%	
Fixed Income							
Core Fixed Income	13.00%	\$358,422	PIMCO	3.69%	\$101,865	-1.24%	8%-18%
			Prudential Core Conserv Bond	4.05%	\$111,681		
			Smith Graham	4.02%	\$110,789		
Global Fixed Income	8.00%	\$220,567	Brandywine	8.55%	\$235,813	0.55%	3%-13%
Global High Yield	5.00%	\$137,854	Mackay Shields	5.79%	\$159,542	0.79%	2%-10%
Fixed Income Total	26.00%	\$716,843	Fixed Income Total	26.10%	\$719,690	0.10%	18%-34%

<u>Target Allocations</u>		<u>Current Managers & Allocations</u>		<u>Difference</u>	<u>Range</u>
<u>Real Estate</u>					
Core/Value Add/REITs	10.00%	\$275,709	BlackRock US Core Property Fund	2.43%	\$66,903
			RREEF REIT II	0.64%	\$17,766
			Vanguard REIT Index	0.60%	\$16,668
			TA Realty Core Property Fund	0.97%	\$26,866
			Long Wharf Real Estate Partners IV	0.04%	\$1,240 (Total Commitment \$20M, Total Drawn \$21.5M, Total Distributed \$29.5M)
			Long Wharf Real Estate Partners Fund V	0.49%	\$13,473 (Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$12.5M)
			Long Wharf Real Estate Partners Fund VI	0.24%	\$6,643 (Total Commitment \$20M, Total Drawn \$8.3M, Total Distributed \$3.3M)
			Cornerstone (Barings) Real Estate Fund X ¹	0.25%	\$6,819 (Total Commitment \$10M, Total Drawn \$8.3M, Total Distributed \$4.8M)
			Gerding Edlen Green Cities III	0.77%	\$21,322 (Total Commitment \$20M, Total Drawn \$23.7M, Total Distributed \$6.6M)
			Gerding Edlen Green Cities IV	0.28%	\$7,786 (Total Commitment \$20M, Total Drawn \$8.8, Total Distributed \$0.5M)
			TA Realty Fund XI	0.75%	\$20,582 (Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$10.2M)
			Mesirow Financial Real Estate Value Fund III	0.82%	\$22,564 (Total Commitment \$20M, Total Drawn \$21.9M, Total Distributed \$2.1M)
			Dune Real Estate Partners Fund IV	0.33%	\$9,022 (Total Commitment \$30M, Total Drawn \$11.7M, Total Distributed \$0.5M)
Real Estate Total	10.00%	\$275,709	Real Estate Total	8.62%	\$237,653
				-1.38%	5%-15%
<u>Private Equity</u>					
Secondary	2.50%		Pantheon Global Secondary Fund V	1.38%	\$38,118 (Total Commitment \$50M, Total Drawn \$37.2M, Total Distributed \$21.8M)
Direct Private Equity			SSM Growth Equity Fund II*	0.21%	\$5,707 (Total Commitment \$10M, Total Drawn \$8.9, Total Distributed \$5.3M)
			SSM Growth Equity Fund III*	0.22%	\$6,180 (Total Commitment \$10M, Total Drawn \$7.7, Total Distributed \$0.8M)
Diversified FoF	2.50%		Neuberger Berman Crossroads XXI	2.33%	\$64,359 (Total Commitment \$50M, Total Drawn \$36.5M, Total Distributed \$7.9M)
Private Equity Total	5.00%	\$137,854		4.15%	\$114,363
				-0.85%	3%-7%
<u>Private Credit</u>					
	5.00%		Brightwood Capital Fund V - \$10M		
			Churchill Middle Market Senior Loan Fund III - \$10M		
			Neuberger Berman Private Debt Fund IV - \$30M		
Private Credit Total	5.00%	\$137,854		0.00%	\$0
				-5.00%	3%-7%
<u>Hedge Fund of Funds</u>					
	4.00%		Aetos	1.99%	\$54,766
			Grosvenor	2.17%	\$59,738
			Preserver, LP*	0.44%	\$12,075
Hedge Fund of Funds Total	4.00%	\$110,284		4.59%	\$126,579
				0.59%	2%-6%
Internal Account	0.00%	\$0	Internal Account	0.11%	\$3,001
Cash	0.00%	\$0	Cash	0.11%	\$3,001
				0.11%	0%-5%
Total	100%	\$2,757,089	Total	100%	\$2,757,089

¹ Cornerstone Real Estate Advisers now operates under the investment adviser name "Barings Real Estate Advisers," however; all predecessor funds retain the name Cornerstone. All new products open to new investors will operate under the name "Barings Real Estate Advisers" moving forward.

June 30, 2021 : \$2,821,486,831

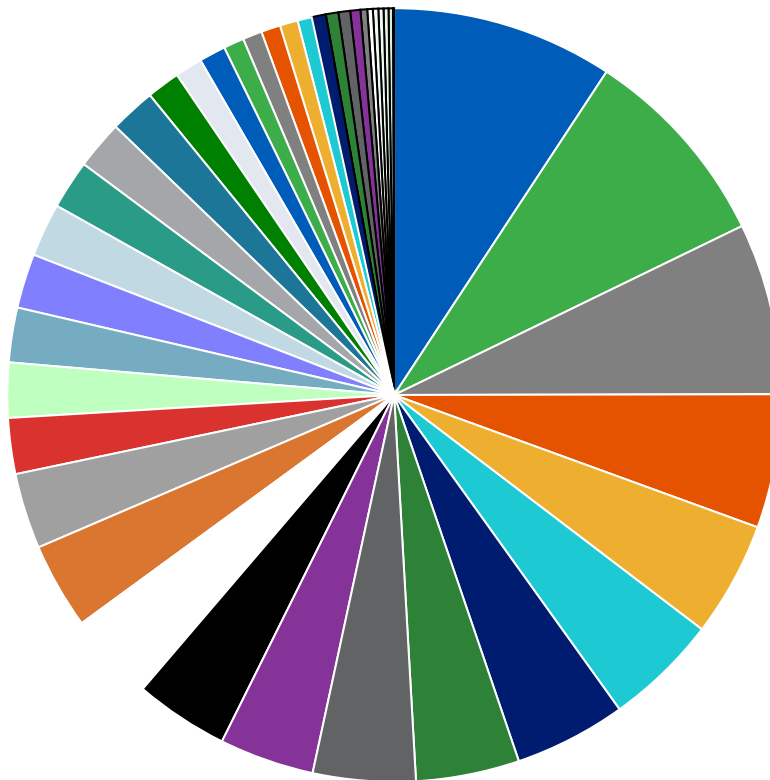
September 30, 2021 : \$2,757,088,627



	Market Value (\$)	Allocation (%)
Domestic Equity Composite	905,108,727	32.1
Fixed Income Composite	722,806,278	25.6
International Equity Composite	709,963,208	25.2
Total Real Estate Composite	229,771,403	8.1
Hedge Fund Composite	123,204,244	4.4
Private Equity Composite	115,863,065	4.1
In House Cash	14,769,907	0.5

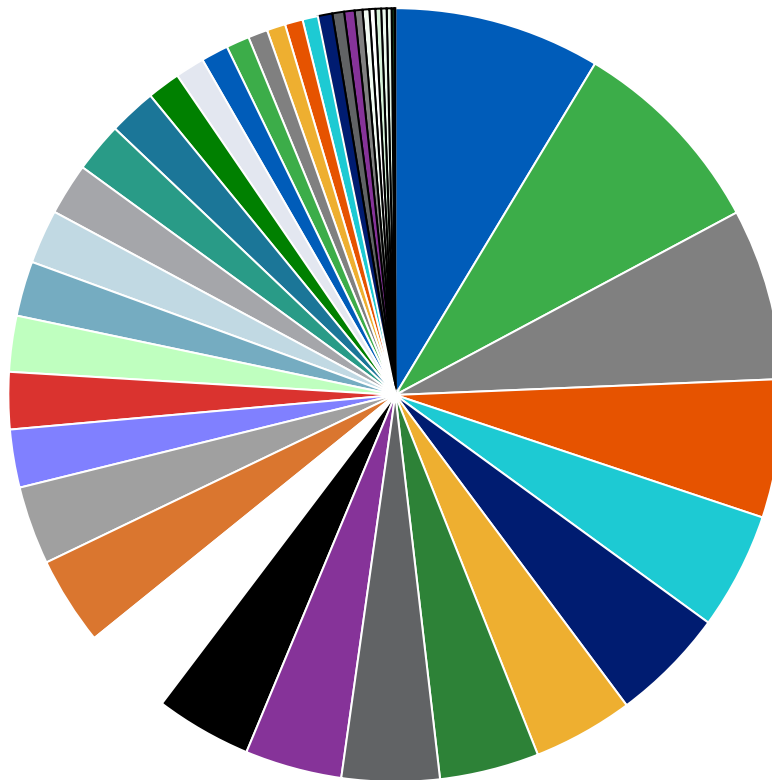
	Market Value (\$)	Allocation (%)
Domestic Equity Composite	880,543,174	31.9
Fixed Income Composite	719,690,248	26.1
International Equity Composite	675,259,652	24.5
Total Real Estate Composite	237,652,669	8.6
Hedge Fund Composite	126,578,950	4.6
Private Equity Composite	114,363,065	4.1
In House Cash	3,000,869	0.1

June 30, 2021 : \$2,821,486,831



	Market Value (\$)	Allocation (%)
Rhumblin S&P 500	261,012,961	9.3
Brandywine	241,243,483	8.6
Barrow, Hanley	202,124,717	7.2
Mackay Shields	157,675,531	5.6
Marathon Asset Mgmt	135,478,615	4.8
1607 Capital Partners	133,833,231	4.7
Principal Global Investors	131,920,915	4.7
Acadian EM Equity II	122,068,247	4.3
J.P. Morgan Global Emerging Markets Discovery Fund	120,838,974	4.3
Prudential Core Conserv Bond	111,647,005	4.0
Smith Graham	110,666,956	3.9
Winslow Capital Management	104,295,659	3.7
PIMCO	101,573,303	3.6
Rhumblin Russell 1000 Growth	89,136,995	3.2
Strategic Global Advisors	65,823,226	2.3
NB Crossroads Fund XXI	64,859,458	2.3
NTGI S&P 400	64,423,078	2.3
BlackRock US Core Property Fund	64,102,764	2.3
Capital Prospects SMID	62,985,113	2.2
Capital Prospects Small Cap Value	57,543,302	2.0
Grosvenor Institutional Partners, L.P.	57,214,231	2.0
Aetos	54,046,427	1.9
Pantheon Global Secondary Fund V	39,117,504	1.4
Conestoga Capital Advisors	32,360,442	1.1
Nicholas Investment Partners	31,226,459	1.1
TA Realty Core Property Fund	24,205,088	0.9
Mesirow Real Estate Value Fund III, L.P.	22,747,948	0.8
TA Realty Fund XI	22,653,859	0.8
Gerding Edlen Green Cities III, L.P.	21,321,688	0.8
RREEF REIT II	16,906,369	0.6
Vanguard REIT Index Inv	16,556,813	0.6
In House Cash	14,769,907	0.5
Long Wharf RE Partners V, L.P.	13,876,639	0.5
Preserver, L.P.	11,943,586	0.4
Dune Real Estate Fund IV	8,005,246	0.3
Cornerstone (Barings) Real Estate Advisers Fund X	6,409,823	0.2
Gerding Edlen Green Cities IV, L.P.	6,371,773	0.2
SSM Partners Growth Equity III, LP	6,179,564	0.2
SSM Partners Growth Equity II L.P.	5,706,539	0.2
Long Wharf RE Partners VI, L.P.	5,249,305	0.2
Long Wharf Real Estate Partners IV, L.P.	1,364,089	0.0

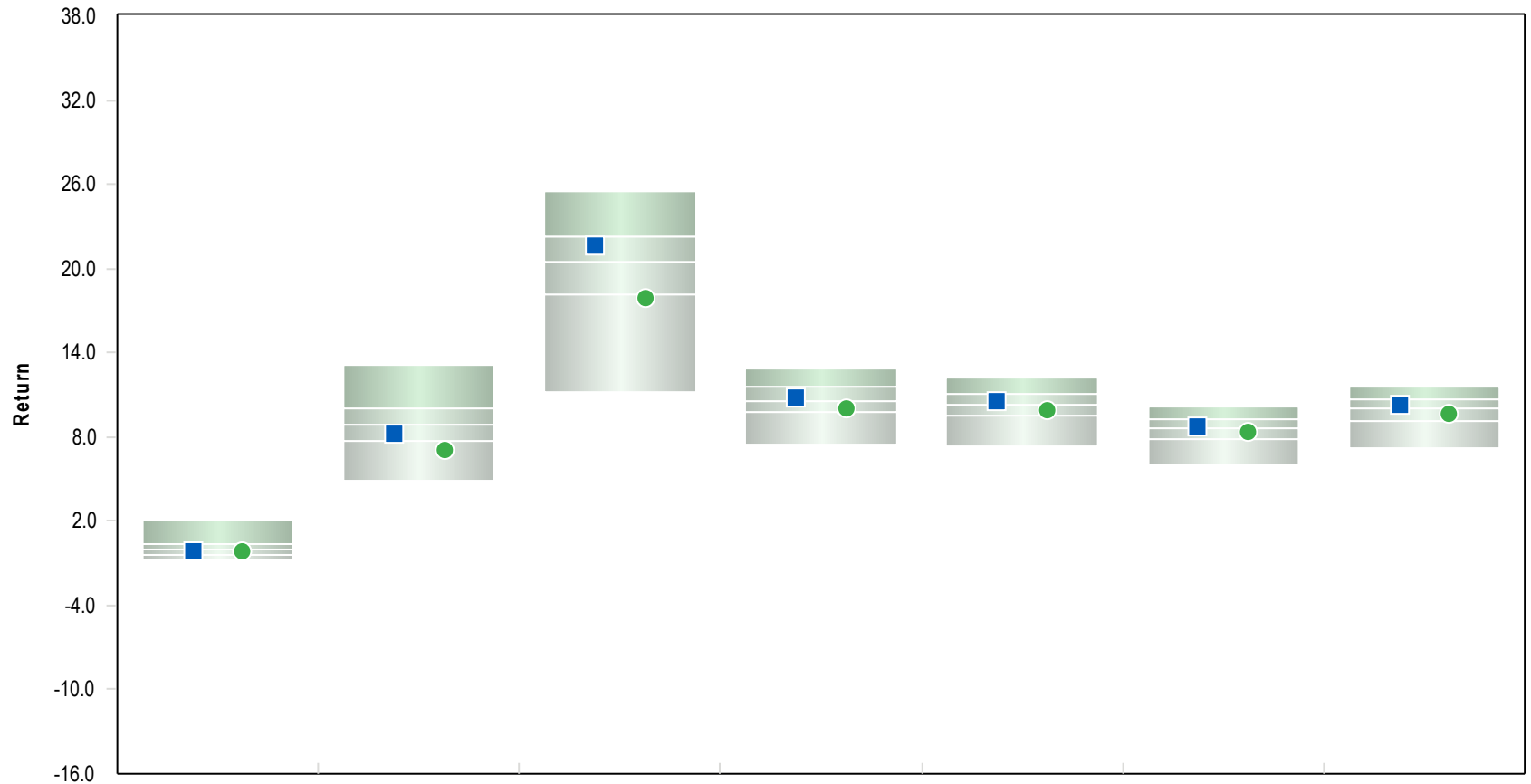
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	Market Value (\$)	Allocation (%)
Rhumblin S&P 500	237,866,655	8.6
Brandywine	235,813,161	8.6
Barrow, Hanley	197,379,424	7.2
Mackay Shields	159,541,506	5.8
1607 Capital Partners	134,733,776	4.9
Principal Global Investors	132,306,537	4.8
Marathon Asset Mgmt	115,493,371	4.2
Acadian EM Equity II	114,582,684	4.2
J.P. Morgan Global Emerging Markets Discovery Fund	112,441,912	4.1
Prudential Core Conserv Bond	111,681,484	4.1
Smith Graham	110,789,054	4.0
Winslow Capital Management	106,953,532	3.9
PIMCO	101,865,043	3.7
Rhumblin Russell 1000 Growth	90,162,485	3.3
BlackRock US Core Property Fund	66,902,729	2.4
Strategic Global Advisors	65,701,372	2.4
NB Crossroads Fund XXI	64,359,458	2.3
NTGI S&P 400	63,286,123	2.3
Capital Prospects SMID	62,388,342	2.3
Grosvenor Institutional Partners, L.P.	59,737,959	2.2
Capital Prospects Small Cap Value	57,404,926	2.1
Aetos	54,766,410	2.0
Pantheon Global Secondary Fund V	38,117,504	1.4
Conestoga Capital Advisors	33,763,616	1.2
Nicholas Investment Partners	31,338,071	1.1
TA Realty Core Property Fund	26,865,590	1.0
Mesirow Real Estate Value Fund III, L.P.	22,564,494	0.8
Gerding Edlen Green Cities III, L.P.	21,321,688	0.8
TA Realty Fund XI	20,581,873	0.7
RREEF REIT II	17,765,767	0.6
Vanguard REIT Index Inv	16,667,792	0.6
Long Wharf RE Partners V, L.P.	13,472,516	0.5
Preserver, L.P.	12,074,581	0.4
Dune Real Estate Fund IV	9,021,815	0.3
Gerding Edlen Green Cities IV, L.P.	7,786,357	0.3
Cornerstone (Barings) Real Estate Advisers Fund X	6,818,996	0.2
Long Wharf RE Partners VI, L.P.	6,643,273	0.2
SSM Partners Growth Equity III, LP	6,179,564	0.2
SSM Partners Growth Equity II L.P.	5,706,539	0.2
In House Cash	3,000,869	0.1
Long Wharf Real Estate Partners IV, L.P.	1,239,780	0.0

	<u>Performance (%)</u>								
	<u>1 Quarter</u>	<u>Year To Date</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>10 Years</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Fund Composite	-0.20	8.26	21.69	10.79	10.58	8.81	10.26	9.69	10/01/1982
<i>Policy Index</i>	-0.17	7.09	17.86	10.01	9.86	8.33	9.66	10.02	
In House Cash	0.01	0.03	0.01	0.99	1.01	0.80	0.61	3.93	10/01/1982
<i>90 Day U.S. Treasury Bill</i>	0.02	0.04	0.07	1.18	1.15	0.85	0.61	3.70	
Domestic Equity Composite	0.03	15.51	36.48	15.54	17.05	13.33	16.02	12.40	10/01/1982
<i>Russell 3000 Index</i>	-0.10	14.99	31.88	16.00	16.85	13.93	16.60	12.19	
<i>Domestic Equity Index</i>	-0.90	14.28	34.64	14.65	15.97	13.46	16.17	N/A	
Fixed Income Composite	-0.43	-0.30	4.14	6.00	4.30	4.34	4.46	7.37	10/01/1982
<i>Fixed Income Index</i>	-0.10	-1.15	1.59	5.20	3.30	3.54	3.84	7.21	
International Equity Composite	-2.19	7.39	27.44	11.75	11.70	8.67	10.47	5.93	01/01/1990
<i>International Equity Index</i>	-2.82	5.39	23.57	8.05	9.04	5.91	7.79	5.48	
Hedge Fund Composite	2.74	6.85	14.62	6.97	6.47	N/A	N/A	6.82	04/01/2016
<i>90-Day T-Bill+ 5%</i>	1.24	3.77	5.07	6.24	6.21	5.90	5.64	6.12	
<i>HFRI FOF: Conservative Index</i>	1.08	6.98	13.23	5.42	4.90	3.60	4.00	4.89	
Core Private Real Estate Composite	5.55	14.27	17.16	8.80	7.96	9.58	11.05	8.46	09/01/1999
<i>NCREIF Property Index</i>	5.23	10.88	12.15	6.72	6.84	8.11	8.99	8.73	

	<u>Performance (%)</u>									
	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Total Fund Composite	15.06	18.86	-5.39	18.36	6.76	0.24	5.49	17.71	13.75	0.72
<i>Policy Index</i>	12.73	18.81	-4.51	16.68	8.04	-0.19	5.86	15.19	12.79	0.77
In House Cash	0.26	2.12	1.93	0.67	0.35	0.18	0.11	0.11	0.20	0.54
<i>90 Day U.S. Treasury Bill</i>	0.67	2.28	1.87	0.86	0.25	0.03	0.04	0.05	0.08	0.08
Domestic Equity Composite	22.41	30.07	-5.88	22.62	10.04	-1.26	8.80	35.55	16.30	0.65
<i>Russell 3000 Index</i>	20.89	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42	1.03
<i>Domestic Equity Index</i>	20.08	29.94	-6.47	20.20	13.76	0.19	11.60	34.04	16.47	0.73
Fixed Income Composite	9.51	9.88	-0.98	6.94	5.14	-0.23	4.70	0.13	8.15	6.69
<i>Fixed Income Index</i>	7.78	9.24	-0.91	5.50	4.83	-0.86	4.89	0.39	6.87	6.39
International Equity Composite	17.83	24.67	-15.52	33.29	3.30	-0.50	-1.08	20.79	20.28	-12.77
<i>International Equity Index</i>	11.18	20.95	-13.99	28.77	3.16	-4.06	-4.13	16.58	17.70	-13.18
Hedge Fund Composite	11.20	7.95	-1.55	6.72	N/A	N/A	N/A	N/A	N/A	N/A
<i>90-Day T-Bill+ 5%</i>	5.70	7.39	6.97	5.90	5.27	5.03	5.04	5.05	5.08	5.09
<i>HFRI FOF: Conservative Index</i>	6.47	6.30	-0.87	4.12	1.89	0.37	3.14	7.70	4.22	-3.55
Core Private Real Estate Composite	2.52	10.16	4.91	7.75	8.50	11.92	20.06	7.12	14.60	13.01
<i>NCREIF Property Index</i>	1.60	6.42	6.72	6.96	7.97	13.33	11.82	10.98	10.54	14.26



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	-0.20 (62)	8.26 (61)	21.69 (34)	10.79 (44)	10.58 (41)	8.81 (42)	10.26 (38)
● Policy Index	-0.17 (59)	7.09 (84)	17.86 (80)	10.01 (66)	9.86 (66)	8.33 (57)	9.66 (59)

5th Percentile	2.04	13.06	25.53	12.81	12.16	10.14	11.53
1st Quartile	0.39	10.07	22.22	11.52	11.08	9.23	10.61
Median	-0.06	8.82	20.46	10.50	10.33	8.59	9.97
3rd Quartile	-0.41	7.68	18.20	9.76	9.49	7.90	9.10
95th Percentile	-0.85	4.85	11.24	7.43	7.38	6.10	7.15

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.