

City of Memphis

Asset Allocation Comparison

Portfolio Value 12/31/20

\$2,618,766,151

<u>Target Allocations</u>		<u>Current Managers & Allocations</u>			<u>Difference</u>	<u>Range</u>	
Equity		(000)		(000)			
Large Cap Equity	20.00%	\$523,753	Barrow, Hanley (large cap value)	5.79%	\$151,503	-1.86%	15%-25%
			Rhumblin Russell 1000 Growth (large cap growth)	3.01%	\$78,901		
			Winslow (large cap growth)	4.25%	\$111,229		
			Rhumblin S&P 500 (large cap core)	5.09%	\$133,296		
Mid/SMID Cap Equity	4.00%	\$104,751	Northern Trust (mid cap core)	2.66%	\$69,556	0.85%	0%-7%
			Capital Prospects SMID Cap*	2.19%	\$57,444		
Small Cap Equity	4.00%	\$104,751	Capital Prospects Small Cap Value*	1.12%	\$29,246	1.48%	0%-7%
			Conestoga (small cap growth)	2.42%	\$63,445		
			Nicholas (small cap growth)	1.94%	\$50,820		
Domestic Equity	28.00%	\$733,255	Domestic Equity	28.47%	\$745,440	0.47%	18%-38%
Developed International	15.00%	\$392,815	1607 Capital Partners	6.31%	\$165,306	3.52%	10%-20%
			Principal Global Investors	4.16%	\$108,845		
			Marathon Asset Mgmt	5.83%	\$152,685		
			Strategic Global Advisors	2.23%	\$58,268		
Emerging Markets	7.00%	\$183,314	Acadian	4.83%	\$126,378	4.02%	5%-12%
			JPMorgan	6.20%	\$162,277		
International	22.00%	\$576,129	International	29.55%	\$773,759	7.55%	15%-30%
Equity Total	50.00%	\$1,309,383	Equity Total	58.01%	\$1,519,199	8.01%	
Fixed Income							
Core Fixed Income	13.00%	\$340,440	PIMCO	2.93%	\$76,675	-2.81%	8%-18%
			Prudential Core Conserv Bond	3.70%	\$96,966		
			Smith Graham	3.56%	\$93,132		
Global Fixed Income	8.00%	\$209,501	Brandywine	9.32%	\$243,967	1.32%	3%-13%
Global High Yield	5.00%	\$130,938	Mackay Shields	5.76%	\$150,862	0.76%	2%-10%
Fixed Income Total	26.00%	\$680,879	Fixed Income Total	25.26%	\$661,602	-0.74%	18%-34%

* Emerging Managers

Real Estate

Core/Value Add/REITs	10.00%	\$261,877	BlackRock US Core Property Fund	2.32%	\$60,684		
			RREEF REIT II	0.62%	\$16,266		
			Vanguard REIT Index	0.52%	\$13,641		
			TA Realty Core Property Fund	0.86%	\$22,472		
			Long Wharf Real Estate Partners IV	0.06%	\$1,584	(Total Commitment \$20M, Total Drawn \$21.5M, Total Distributed \$29.2M)	
			Long Wharf Real Estate Partners Fund V	0.56%	\$14,566	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$10.2M)	
			Long Wharf Real Estate Partners Fund VI	0.15%	\$4,054	(Total Commitment \$20M, Total Drawn \$4.7M, Total Distributed \$1.0M)	
			Cornerstone (Barings) Real Estate Fund X ¹	0.23%	\$6,063	(Total Commitment \$10M, Total Drawn \$8.2M, Total Distributed \$4.7M)	
			Gerding Edlen Green Cities III	0.81%	\$21,112	(Total Commitment \$20M, Total Drawn \$23.6M, Total Distributed \$6.6M)	
			Gerding Edlen Green Cities IV	0.14%	\$3,653	(Total Commitment \$20M, Total Drawn \$4.4, Total Distributed \$0.5M)	
			TA Realty Fund XI	0.76%	\$19,994	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$5.8M)	
			Mesirow Financial Real Estate Value Fund III	0.73%	\$19,169	(Total Commitment \$20M, Total Drawn \$19.8M, Total Distributed \$1.7M)	
			Dune Real Estate Partners Fund IV	0.30%	\$7,741	(Total Commitment \$30M, Total Drawn \$9.1M, Total Distributed \$0.0M)	
Real Estate Total	10.00%	\$261,877	Real Estate Total	8.06%	\$210,999	-1.94%	5%-10%

Private Equity

Secondary	2.50%		Pantheon Global Secondary Fund V	1.27%	\$33,241	(Total Commitment \$50M, Total Drawn \$35.7M, Total Distributed \$15.9M)	
Direct Private Equity			SSM Growth Equity Fund II*	0.28%	\$7,337	(Total Commitment \$10M, Total Drawn \$8.9, Total Distributed \$3.2M)	
			SSM Growth Equity Fund III*	0.11%	\$2,981	(Total Commitment \$10M, Total Drawn \$3.2, Total Distributed \$0.0M)	
Diversified FoF	2.50%		Neuberger Berman Crossroads XXI	2.01%	\$52,544	(Total Commitment \$50M, Total Drawn \$36.5M, Total Distributed \$1.3M)	
Private Equity Total	5.00%	\$130,938		3.67%	\$96,103	-1.33%	3%-7%

Private Credit

	5.00%		TBD	0.00%			
Private Credit Total	5.00%	\$130,938		0.00%	\$0	-5.00%	3%-7%

Hedge Fund of Funds

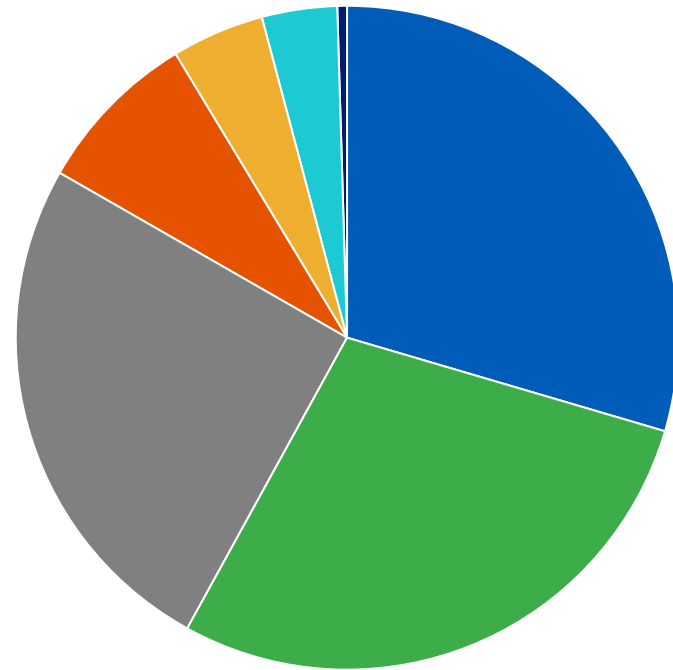
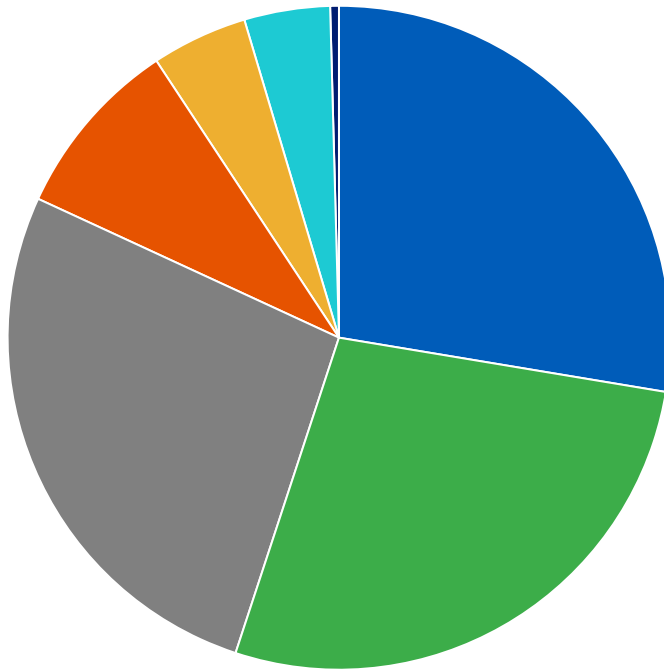
	4.00%		Aetos	1.97%	\$51,655		
			Grosvenor	2.12%	\$55,540		
			Preserver, LP*	0.43%	\$11,137		
Hedge Fund of Funds Total	4.00%	\$104,751		4.52%	\$118,333	0.52%	2%-6%
Internal Account	0.00%	\$0	Internal Account	0.48%	\$12,531		
Cash	0.00%	\$0	Cash	0.48%	\$12,531	0.48%	0%-5%

Total	100%	\$2,618,766	Total	100%	\$2,618,766		
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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.

September 30, 2020 : \$2,362,156,829

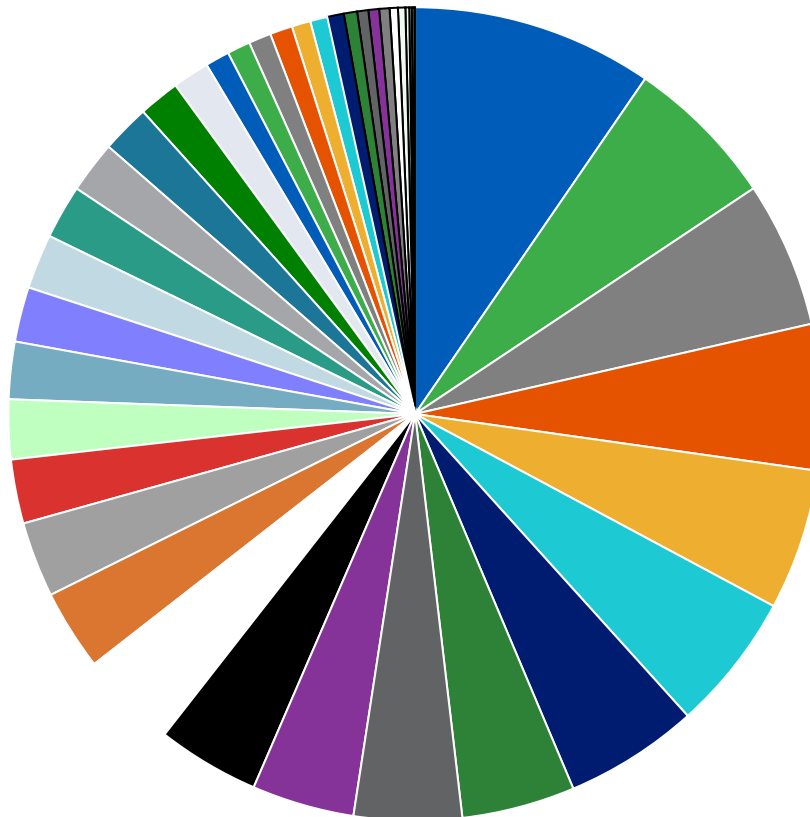
December 31, 2020 : \$2,618,766,151



	Market Value (\$)	Allocation (%)
International Equity Composite	652,253,404	27.6
Domestic Equity Composite	648,265,547	27.4
Fixed Income Composite	633,403,772	26.8
Total Real Estate Composite	208,724,937	8.8
Hedge Fund Composite	110,429,856	4.7
Private Equity Composite	98,973,015	4.2
In House Cash	10,106,298	0.4

	Market Value (\$)	Allocation (%)
International Equity Composite	773,758,819	29.5
Domestic Equity Composite	745,439,747	28.5
Fixed Income Composite	661,601,576	25.3
Total Real Estate Composite	210,998,738	8.1
Hedge Fund Composite	118,333,215	4.5
Private Equity Composite	96,102,914	3.7
In House Cash	12,531,142	0.5

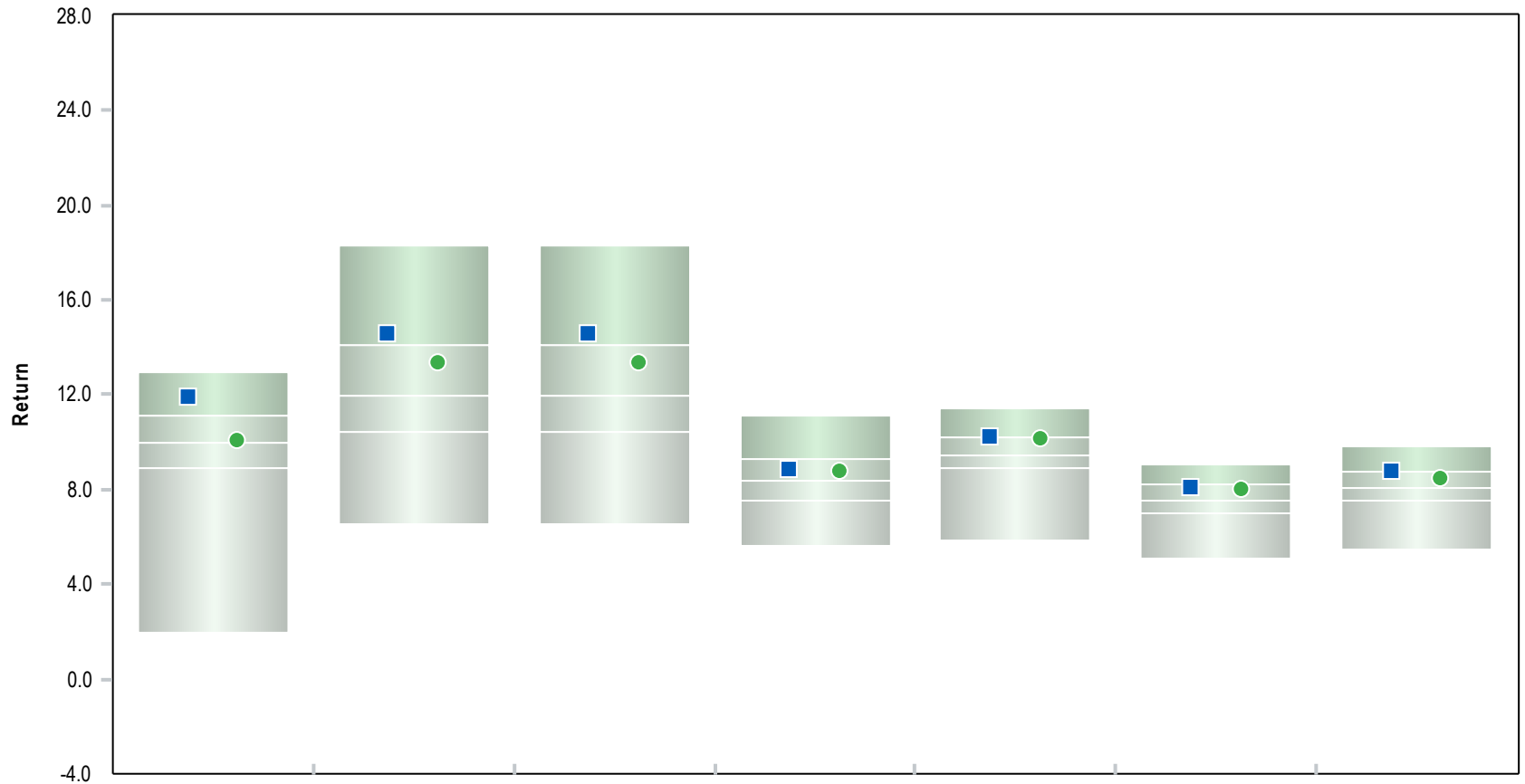
September 30, 2020 : \$2,362,156,829



	Market Value (\$)	Allocation (%)
Brandywine	226,017,714	9.6
Mackay Shields	143,354,401	6.1
Rhumblin S&P 500	137,019,088	5.8
1607 Capital Partners	136,887,413	5.8
J.P. Morgan Global Emerging Markets Discovery Fund	132,194,544	5.6
Marathon Asset Mgmt	129,410,063	5.5
Barrow, Hanley	126,008,128	5.3
Acadian EM Equity II	106,368,813	4.5
Winslow Capital Management	101,107,715	4.3
Prudential Core Conserv Bond	96,181,061	4.1
Principal Global Investors	95,968,815	4.1
Smith Graham	92,152,407	3.9
PIMCO	75,698,188	3.2
Rhumblin Russell 1000 Growth	70,832,184	3.0
BlackRock US Core Property Fund	60,099,955	2.5
NTGI S&P 400	55,927,111	2.4
NB Crossroads Fund XXI	53,844,830	2.3
Strategic Global Advisors	51,423,757	2.2
Grosvenor Institutional Partners, L.P.	51,418,625	2.2
Conestoga Capital Advisors	50,652,647	2.1
Aetos	48,625,131	2.1
Capital Prospects SMID	45,542,692	1.9
Nicholas Investment Partners	38,522,894	1.6
Pantheon Global Secondary Fund V	34,541,210	1.5
Capital Prospects Small Cap Value	22,653,089	1.0
TA Realty Core Property Fund	21,707,851	0.9
TA Realty Fund XI	21,132,768	0.9
Gerding Edlen Green Cities III, L.P.	21,111,867	0.9
Mesirow Real Estate Value Fund III, L.P.	17,585,039	0.7
RREEF REIT II	16,268,020	0.7
Long Wharf RE Partners V, L.P.	15,516,871	0.7
Vanguard REIT Index Inv	12,487,592	0.5
Preserver, L.P.	10,386,099	0.4
In House Cash	10,106,298	0.4
SSM Partners Growth Equity II L.P.	9,761,389	0.4
Dune Real Estate Fund IV	7,741,059	0.3
Cornerstone (Barings) Real Estate Advisers Fund X	6,821,575	0.3
Gerding Edlen Green Cities IV, L.P.	3,630,180	0.2
Long Wharf RE Partners VI, L.P.	2,335,673	0.1
Long Wharf Real Estate Partners IV, L.P.	2,286,487	0.1
SSM Partners Growth Equity III, LP	825,586	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	11.87	14.57	14.57	8.81	10.24	8.07	8.79	9.65	10/01/1982
<i>Policy Index</i>	10.07	13.33	13.33	8.75	10.14	7.99	8.41	10.04	
In House Cash	-0.02	0.26	0.26	1.44	1.07	0.80	0.65	4.01	10/01/1982
<i>90 Day U.S. Treasury Bill</i>	0.03	0.67	0.67	1.61	1.18	0.85	0.62	3.77	
Domestic Equity Composite	18.15	22.41	22.41	14.44	15.12	11.72	13.17	12.23	10/01/1982
<i>Russell 3000 Index</i>	14.68	20.89	20.89	14.49	15.43	12.76	13.79	12.03	
<i>Domestic Equity Index</i>	17.82	20.08	20.08	13.43	14.82	12.15	13.38	N/A	
Fixed Income Composite	4.45	9.51	9.51	6.02	6.02	4.92	4.92	7.53	10/01/1982
<i>Fixed Income Index</i>	2.78	7.78	7.78	5.27	5.23	4.29	4.35	7.39	
International Equity Composite	18.66	17.83	17.83	7.46	11.31	7.71	7.86	5.84	01/01/1990
<i>International Equity Index</i>	17.26	11.18	11.18	4.97	8.97	5.07	5.35	5.44	
Hedge Fund Composite	7.16	10.42	10.42	5.48	N/A	N/A	N/A	6.20	04/01/2016
<i>90-Day T-Bill+ 5%</i>	1.26	5.70	5.70	6.69	6.24	5.90	5.65	6.30	
<i>HFRI FOF: Conservative Index</i>	5.10	5.71	5.71	3.66	3.40	2.92	2.85	4.04	
Core Private Real Estate Composite	2.53	2.52	2.52	5.81	6.73	9.28	9.95	8.09	09/01/1999
<i>NCREIF Property Index</i>	1.15	1.60	1.60	4.89	5.91	7.77	9.00	8.53	

	<u>Performance (%)</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>	<u>2010</u>
Total Fund Composite	18.86	-5.39	18.36	6.76	0.24	5.49	17.71	13.75	0.72	14.05
<i>Policy Index</i>	18.76	-4.45	16.72	8.00	-0.19	5.86	15.19	12.79	0.77	12.11
In House Cash	2.12	1.93	0.67	0.35	0.18	0.11	0.11	0.20	0.54	0.36
<i>90 Day U.S. Treasury Bill</i>	2.28	1.87	0.86	0.25	0.03	0.04	0.05	0.08	0.08	0.13
Domestic Equity Composite	30.07	-5.88	22.62	10.04	-1.26	8.80	35.55	16.30	0.65	18.23
<i>Russell 3000 Index</i>	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42	1.03	16.93
<i>Domestic Equity Index</i>	29.94	-6.47	20.20	13.76	0.19	11.60	34.04	16.47	0.73	17.34
Fixed Income Composite	9.88	-0.98	6.94	5.14	-0.23	4.70	0.13	8.15	6.69	8.81
<i>Fixed Income Index</i>	9.24	-0.91	5.50	4.83	-0.86	4.89	0.39	6.87	6.39	6.54
International Equity Composite	24.67	-15.52	33.29	3.30	-0.50	-1.08	20.79	20.28	-12.77	13.91
<i>International Equity Index</i>	20.95	-13.99	28.77	3.16	-4.06	-4.13	16.58	17.70	-13.18	11.60
Hedge Fund Composite	7.95	-1.55	6.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>90-Day T-Bill+ 5%</i>	7.39	6.97	5.90	5.27	5.03	5.04	5.05	5.08	5.09	5.14
<i>HFRI FOF: Conservative Index</i>	6.30	-0.87	4.12	1.89	0.37	3.14	7.70	4.22	-3.55	5.07
Core Private Real Estate Composite	10.16	4.91	7.75	8.50	11.92	20.06	7.12	14.60	13.01	22.87
<i>NCREIF Property Index</i>	6.42	6.72	6.96	7.97	13.33	11.82	10.98	10.54	14.26	13.11



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	11.87 (15)	14.57 (22)	14.57 (22)	8.81 (38)	10.24 (25)	8.07 (29)	8.79 (23)
● Policy Index	10.07 (49)	13.33 (33)	13.33 (33)	8.75 (40)	10.14 (30)	7.99 (32)	8.41 (38)

5th Percentile	12.99	18.31	18.31	11.11	11.39	9.04	9.82
1st Quartile	11.15	14.13	14.13	9.32	10.21	8.22	8.75
Median	9.97	11.95	11.95	8.40	9.46	7.54	8.05
3rd Quartile	8.88	10.42	10.42	7.51	8.88	6.98	7.54
95th Percentile	1.93	6.57	6.57	5.65	5.85	5.08	5.43

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.