

Investment Performance Review  
Period Ending June 30, 2022

# Employees' Retirement System of the City of Norfolk

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<u>Equities</u>	<u>Index Returns (%)</u>					
	<u>Month</u>	<u>3 M</u>	<u>YTD</u>	<u>1 Year</u>	<u>3 Yr Ann</u>	<u>5 Yr Ann</u>
S&P 500 Total Return	(8.25)	(16.10)	(19.96)	(10.62)	10.60	11.31
Russell Midcap Index	(9.98)	(16.85)	(21.57)	(17.30)	6.59	7.96
Russell 2000 Index	(8.22)	(17.20)	(23.43)	(25.20)	4.21	5.17
Russell 1000 Growth Index	(7.92)	(20.92)	(28.07)	(18.77)	12.58	14.29
Russell 1000 Value Index	(8.74)	(12.21)	(12.86)	(6.82)	6.87	7.17
Russell 3000 Index	(8.37)	(16.70)	(21.10)	(13.87)	9.77	10.60
MSCI EAFE NR	(9.28)	(14.51)	(19.57)	(17.77)	1.07	2.20
MSCI EM NR	(6.65)	(11.45)	(17.63)	(25.28)	0.57	2.18

<u>Fixed Income</u>	<u>Index Returns (%)</u>					
	<u>Month</u>	<u>3 M</u>	<u>YTD</u>	<u>1 Year</u>	<u>Mod. Adj. Duration</u>	<u>Yield to Worst</u>
U.S. Aggregate	(1.57)	(4.69)	(10.35)	(10.29)	6.44	3.72
U.S. Corporate Investment Grade	(2.80)	(7.26)	(14.39)	(14.19)	7.57	4.70
U.S. Corporate High Yield	(6.73)	(9.83)	(14.19)	(12.81)	4.28	8.89
Global Aggregate	(3.21)	(8.26)	(13.91)	(15.25)	6.99	2.91

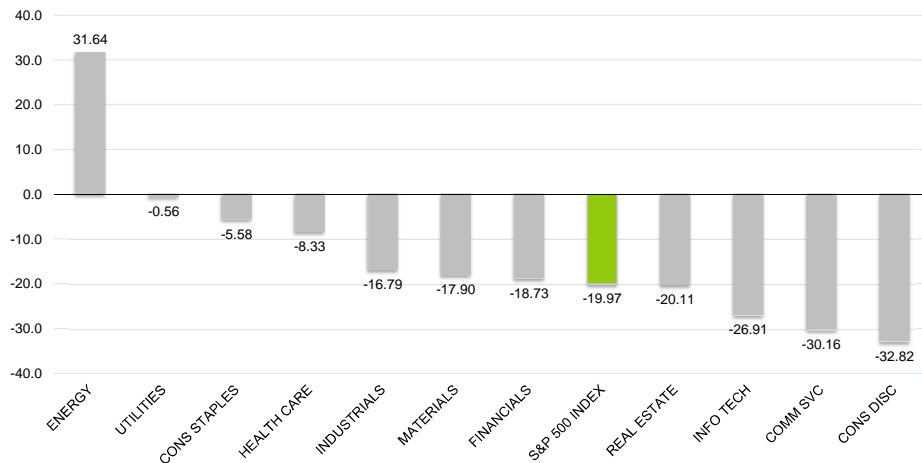
<u>Key Rates</u>	<u>Levels (%)</u>				
	<u>06/30/22</u>	<u>12/31/21</u>	<u>12/31/20</u>	<u>12/31/19</u>	<u>12/31/18</u>
US Generic Govt 3 Mth	1.63	0.03	0.06	1.54	2.35
US Generic Govt 2 Yr	2.95	0.73	0.12	1.57	2.49
US Generic Govt 10 Yr	3.01	1.51	0.91	1.92	2.68
US Generic Govt 30 Yr	3.18	1.90	1.64	2.39	3.01
ICE LIBOR USD 3M	2.29	0.21	0.24	1.91	2.81
Euribor 3 Month ACT/360	(0.20)	(0.57)	(0.55)	(0.38)	(0.31)
Bankrate 30Y Mortgage Rates Na	5.83	3.27	2.87	3.86	4.51
Prime	4.75	3.25	3.25	4.75	5.50

Russell Indices Style Returns						
V	B	G		V	B	G
-12.9	-21.0	-28.1	L	25.1	26.4	27.6
-16.2	-21.6	-31.0	M	28.3	22.6	12.7
-17.3	-23.4	-29.5	S	28.2	14.8	2.8
YTD				2021		

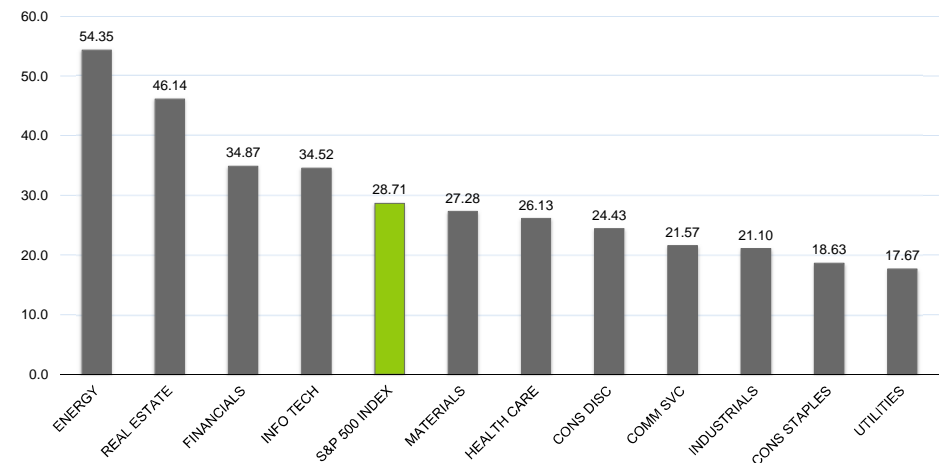
<u>Currencies</u>	<u>Levels</u>		
	<u>06/30/22</u>	<u>12/31/21</u>	<u>12/31/20</u>
Euro Spot	1.05	1.14	1.22
British Pound Spot	1.22	1.35	1.37
Japanese Yen Spot	135.72	115.08	103.25
Swiss Franc Spot	0.96	0.91	0.89

<u>Commodities</u>	<u>Levels</u>		
	<u>06/30/22</u>	<u>12/31/21</u>	<u>12/31/20</u>
Oil	105.76	72.17	46.54
Gasoline	4.84	3.29	2.25
Natural Gas	5.42	3.66	2.46
Gold	1,807.30	1,835.90	1,187.30
Silver	20.35	23.46	16.50
Copper	371.00	443.05	351.60
Corn	619.75	546.00	403.25
BBG Commodity TR Idx	250.85	211.80	166.63

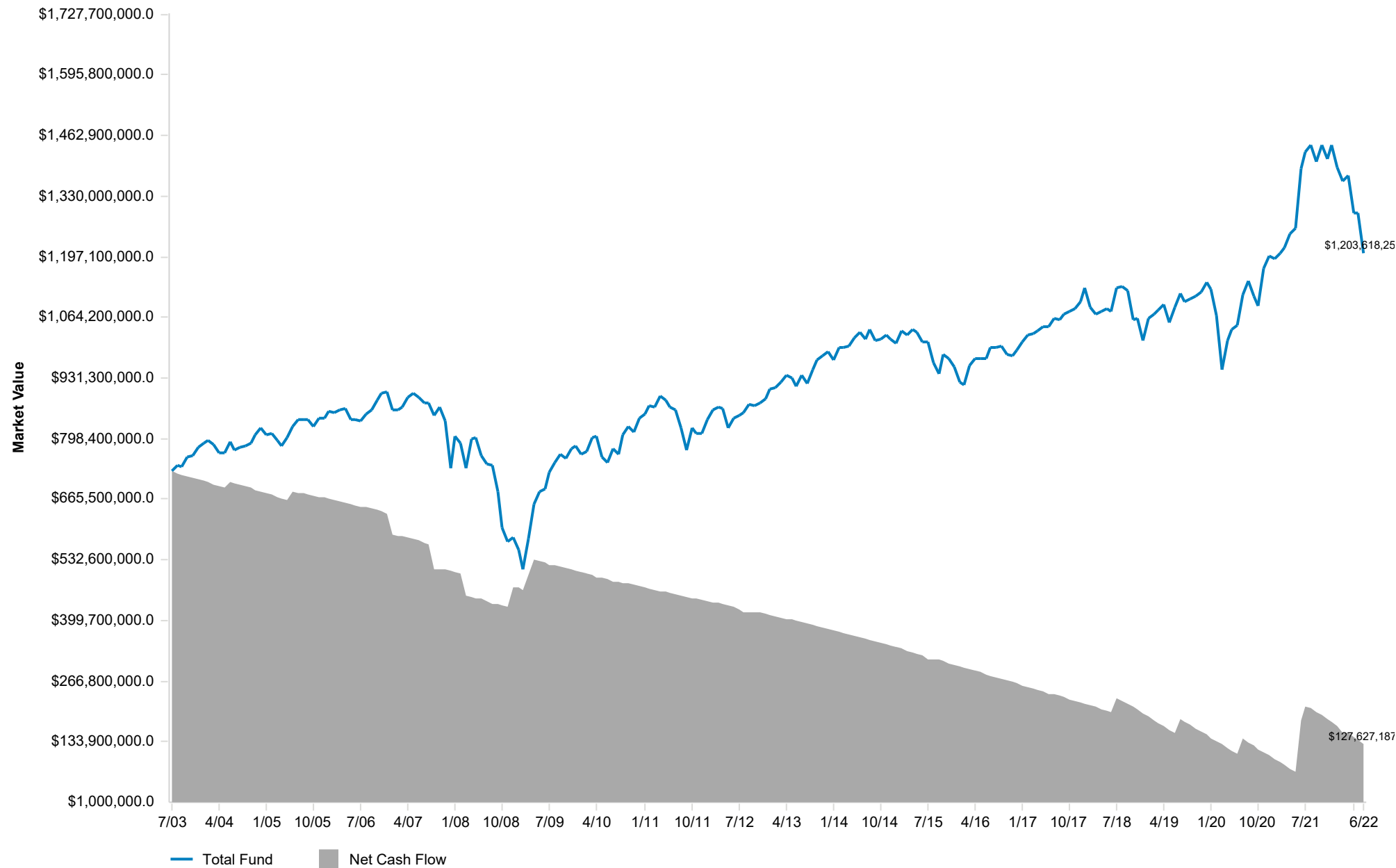
YTD Sector Returns



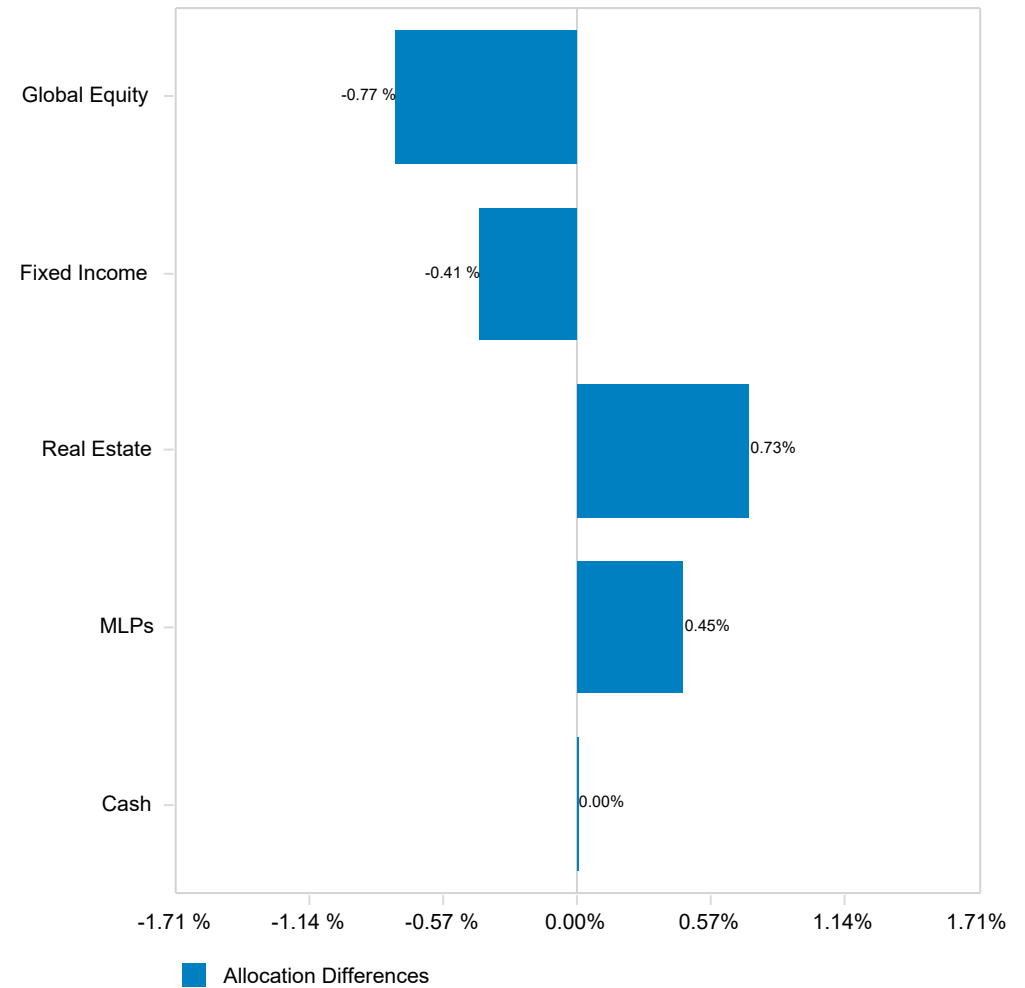
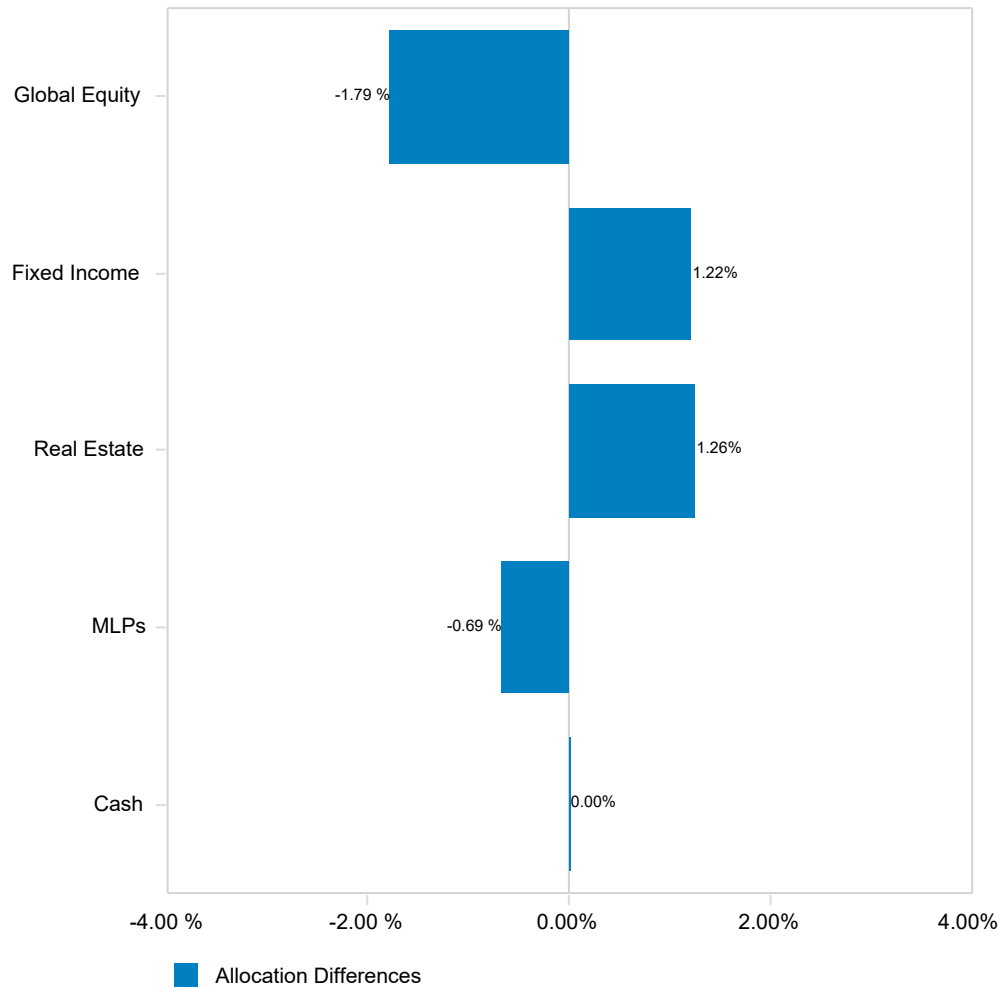
2021 Sector Returns



Schedule of Investable Assets



**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation vs. Target Allocation**  
As of June 30, 2022



June 30, 2022				May 31, 2022			
	Market Value \$	Allocation (%)	Target (%)		Market Value \$	Allocation (%)	Target (%)
Global Equity	640,443,527	53.2	55.0	Global Equity	700,510,231	54.2	55.0
Fixed Income	375,735,264	31.2	30.0	Fixed Income	382,208,262	29.6	30.0
Real Estate	105,409,713	8.8	7.5	Real Estate	106,352,030	8.2	7.5
MLPs	82,025,265	6.8	7.5	MLPs	102,756,302	8.0	7.5
Cash	4,491	0.0	0.0	Cash	7,337	0.0	0.0
Total Fund	1,203,618,259	100.0	100.0	Total Fund	1,291,834,162	100.0	100.0



Employees' Retirement System of the City of Norfolk

Asset Allocation & Performance - (net of fees)

As of June 30, 2022

Asset Allocation & Performance													
	Allocation		Performance(%)										
	Market Value \$	%	1 Month	3 Month	FYTD	1 Year	2 YR	3 Year	5 Year	7 Year	10 Year	Since Inception	Inception Date
<b>Total Fund</b>	<b>1,203,618,259</b>	<b>100.0</b>	<b>-6.14</b>	<b>-10.79</b>	<b>-10.05</b>	<b>-10.05</b>	<b>6.43</b>	<b>4.44</b>	<b>5.15</b>	<b>5.37</b>	<b>6.82</b>	<b>7.70</b>	<b>Oct-1990</b>
Total Fund Policy (62.5% ACWI/37.5% Agg)			-5.98	-11.74	-14.06	-14.06	3.29	3.71	4.80	5.09	6.34	7.70	
Excess Return			-0.16	0.95	4.01	4.01	3.14	0.73	0.35	0.28	0.48	0.00	
<b>Total Fund Strategy Index</b>			<b>-5.92</b>	<b>-10.39</b>	<b>-9.97</b>	<b>-9.97</b>	<b>6.71</b>	<b>4.88</b>	<b>5.36</b>	<b>5.45</b>	<b>6.65</b>	<b>7.81</b>	
Excess Return			-0.22	-0.40	-0.08	-0.08	-0.28	-0.44	-0.21	-0.08	0.17	-0.11	
<b>Composite Returns</b>													
Global Equity	640,443,527	53.2	-8.57	-15.69	-16.21	-16.21	9.04	6.51	7.19	7.35	9.45	8.75	Oct-1990
Global Equity Policy			-8.63	-15.83	-16.52	-16.52	8.47	5.98	6.70	6.86	9.07	8.96	
Excess Return			0.06	0.14	0.31	0.31	0.57	0.53	0.49	0.49	0.38	-0.21	
Fixed Income	375,735,264	31.2	-1.69	-4.88	-10.47	-10.47	-5.27	-0.86	0.98	1.53	1.72	5.34	Oct-1990
Bloomberg U.S. Aggregate Index			-1.57	-4.69	-10.29	-10.29	-5.45	-0.94	0.88	1.42	1.54	5.28	
Excess Return			-0.12	-0.19	-0.18	-0.18	0.18	0.08	0.10	0.11	0.18	0.06	
Real Estate	105,409,713	8.8	-0.32	-0.43	16.73	16.73	10.04	6.49	5.62	6.24	7.76	8.35	Apr-2011
NCREIF Fund Index-ODCE (VW) (Net)			4.58	4.58	28.36	28.36	17.24	11.68	9.56	9.35	10.16	10.44	
Excess Return			-4.90	-5.01	-11.63	-11.63	-7.20	-5.19	-3.94	-3.11	-2.40	-2.09	
MLPs	82,025,265	6.8	-12.35	-8.67	14.10	14.10	31.80	2.63	1.72	-1.11	-	2.09	Mar-2013
Alerian MLP Index			-13.95	-7.38	4.33	4.33	30.80	0.07	-0.29	-2.13	-	-1.12	
Excess Return			1.60	-1.29	9.77	9.77	1.00	2.56	2.01	1.02	-	3.21	
Cash	4,491	0.0											



**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation & Performance - (net of fees)**  
As of June 30, 2022

**Asset Allocation & Performance**

	Allocation		Performance(%)											Inception Date
	Market Value \$	%	1 Month	3 Month	FYTD	1 Year	2 YR	3 Year	5 Year	7 Year	10 Year	Since Inception		
Global Equity														
SSgA MSCI ACWI IMI Index Fund	640,443,527	53.2	-8.57	-15.69	-16.21	-16.21	8.91	6.42	7.14	-	-	8.77	May-2016	
MSCI AC World IMI (Net)			-8.63	-15.83	-16.52	-16.52	8.47	5.98	6.70	-	-	8.33		
Excess Return			0.06	0.14	0.31	0.31	0.44	0.44	0.44	-	-	0.44		
Fixed Income														
PIMCO Total Return	185,545,098	15.4	-1.80	-5.04	-10.62	-10.62	-5.15	-0.83	1.07	1.65	2.03	5.65	Jan-1991	
Blmbg. U.S. Aggregate Index			-1.57	-4.69	-10.29	-10.29	-5.45	-0.94	0.88	1.42	1.54	5.16		
Excess Return			-0.23	-0.35	-0.33	-0.33	0.30	0.11	0.19	0.23	0.49	0.49		
SSgA Bond Market Index	190,190,166	15.8	-1.59	-4.72	-10.33	-10.33	-5.43	-0.92	0.89	1.43	1.55	2.81	Jan-2009	
Blmbg. U.S. Aggregate Index			-1.57	-4.69	-10.29	-10.29	-5.45	-0.94	0.88	1.42	1.54	2.80		
Excess Return			-0.02	-0.03	-0.04	-0.04	0.02	0.02	0.01	0.01	0.01	0.01		
Real Estate														
JP Morgan Asset Management Strategic Property Fund	57,836,636	4.8	1.65	4.47	27.52	27.52	16.29	11.04	8.88	8.75	9.96	10.34	Apr-2011	
NCREIF Fund Index-ODCE (VW) (Net)			4.58	4.58	28.36	28.36	17.24	11.68	9.56	9.35	10.16	10.44		
Excess Return			-2.93	-0.11	-0.84	-0.84	-0.95	-0.64	-0.68	-0.60	-0.20	-0.10		
UBS Trumbull Property Fund	31,934,772	2.7	0.00	0.00	19.03	19.03	9.71	5.70	4.58	5.25	6.56	6.71	Jan-2012	
NCREIF Fund Index-ODCE (VW) (Net)			4.58	4.58	28.36	28.36	17.24	11.68	9.56	9.35	10.16	10.15		
Excess Return			-4.58	-4.58	-9.33	-9.33	-7.53	-5.98	-4.98	-4.10	-3.60	-3.44		
Vanguard Real Estate Index (VGSNX)	15,638,304	1.3	-7.51	-15.48	-7.56	-7.56	-	-	-	-	-	-7.56	Jul-2021	
Vanguard Spliced REIT Index			-7.49	-15.43	-7.94	-7.94	-	-	-	-	-	-7.94		
Excess Return			-0.02	-0.05	0.38	0.38	-	-	-	-	-	0.38		
MLPs														
Harvest MLP	41,490,231	3.4	-11.33	-7.66	18.08	18.08	35.39	5.26	3.44	-0.27	-	2.85	Mar-2013	
Alerian MLP Index			-13.95	-7.38	4.33	4.33	30.80	0.07	-0.29	-2.13	-	-1.12		
Excess Return			2.62	-0.28	13.75	13.75	4.59	5.19	3.73	1.86	-	3.97		
Tortoise Capital Advisors	40,535,034	3.4	-13.38	-9.69	10.06	10.06	28.59	0.22	0.12	-1.90	-	0.84	Apr-2013	
Alerian MLP Index			-13.95	-7.38	4.33	4.33	30.80	0.07	-0.29	-2.13	-	-1.69		
Excess Return			0.57	-2.31	5.73	5.73	-2.21	0.15	0.41	0.23	-	2.53		



**Employees' Retirement System of the City of Norfolk**  
**Financial Reconciliation**  
**1 Month Ending June 30, 2022**

<b>Financial Reconciliation</b>								
	<b>Market Value 06/01/2022</b>	<b>Net Transfers</b>	<b>Contributions</b>	<b>Distributions</b>	<b>Management Fees</b>	<b>Income</b>	<b>Apprec./ Deprec.</b>	<b>Market Value 06/30/2022</b>
<b>Total Fund</b>	<b>1,291,834,162</b>	<b>-</b>	<b>-</b>	<b>-9,100,000</b>	<b>-11,670</b>	<b>1,202,944</b>	<b>-80,307,176</b>	<b>1,203,618,259</b>
<b>Global Equity</b>	<b>700,510,231</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-60,066,704</b>	<b>640,443,527</b>
SSgA MSCI ACWI IMI Index Fund	700,510,231	-	-	-	-	-	-60,066,704	640,443,527
<b>Fixed Income</b>	<b>382,208,262</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-10,210</b>	<b>912,127</b>	<b>-7,374,915</b>	<b>375,735,264</b>
PIMCO Total Return	188,950,643	-	-	-	-	912,127	-4,317,672	185,545,098
SSgA Bond Market Index	193,257,619	-	-	-	-10,210	-	-3,057,243	190,190,166
<b>Real Estate</b>	<b>106,352,030</b>	<b>-600,000</b>	<b>-</b>	<b>-</b>	<b>-1,460</b>	<b>237,848</b>	<b>-578,706</b>	<b>105,409,713</b>
JP Morgan Asset Management Strategic Property Fund	56,897,070	-	-	-	-	139,654	799,912	57,836,636
UBS Trumbull Property Fund	31,934,772	-	-	-	-	-	-	31,934,772
Vanguard Real Estate Index (VGSNX)	17,520,188	-600,000	-	-	-1,460	98,194	-1,378,618	15,638,304
<b>MLPs</b>	<b>102,756,302</b>	<b>-8,497,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>52,767</b>	<b>-12,286,804</b>	<b>82,025,265</b>
Harvest MLP	51,114,228	-4,000,000	-	-	-	45,692	-5,669,690	41,490,231
Tortoise Capital Advisors	51,642,074	-4,497,000	-	-	-	7,074	-6,617,114	40,535,034
Cash	7,337	9,097,000	-	-9,100,000	-	202	-48	4,491



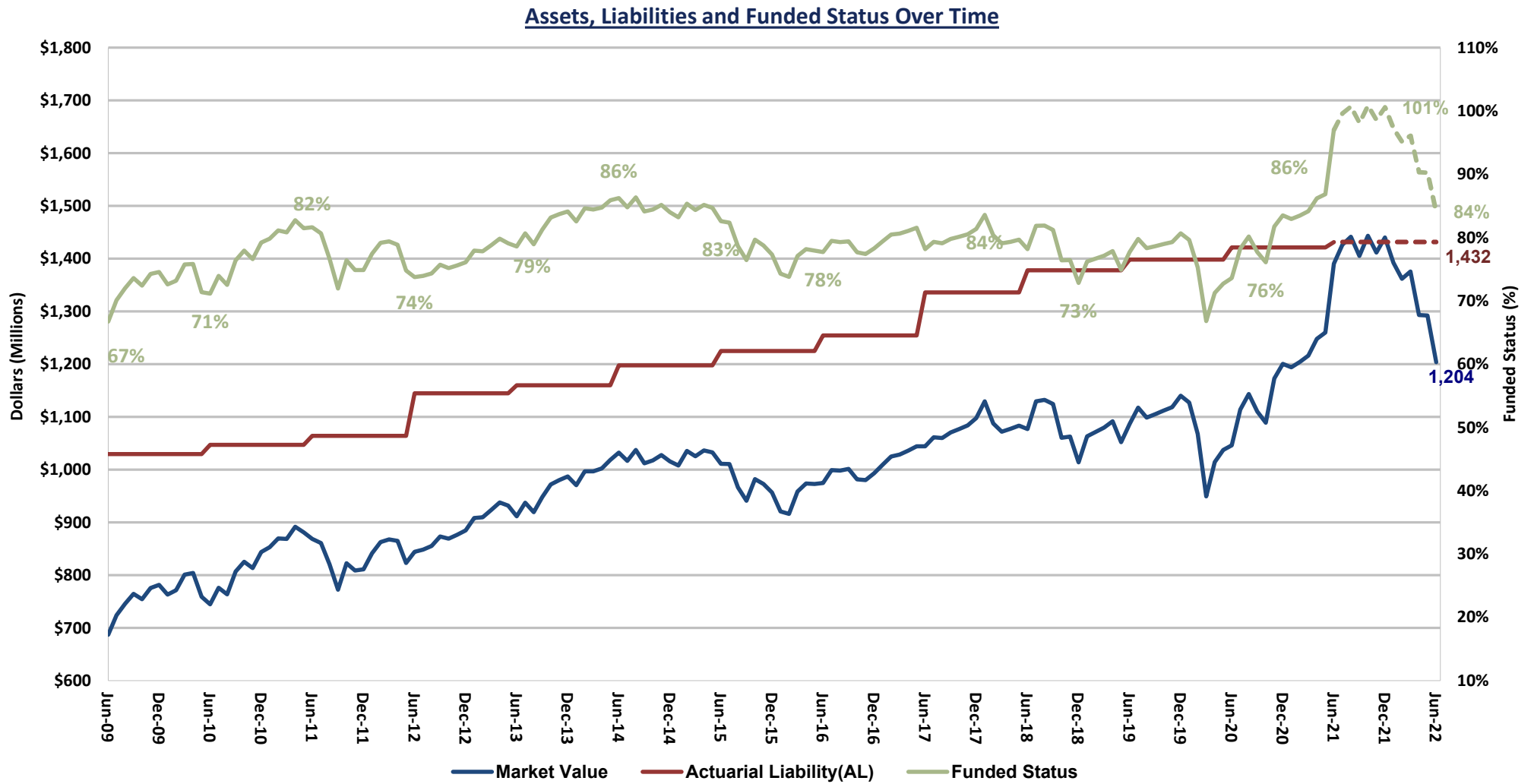
**Employees' Retirement System of the City of Norfolk**  
**Financial Reconciliation**  
July 1, 2021 To June 30, 2022

<b>Financial Reconciliation</b>								
	<b>Market Value 07/01/2021</b>	<b>Net Transfers</b>	<b>Contributions</b>	<b>Distributions</b>	<b>Management Fees</b>	<b>Income</b>	<b>Apprec./ Deprec.</b>	<b>Market Value 06/30/2022</b>
<b>Total Fund</b>	<b>1,390,335,588</b>	<b>-</b>	<b>31,447,746</b>	<b>-83,296,000</b>	<b>-1,738,331</b>	<b>13,993,566</b>	<b>-147,124,309</b>	<b>1,203,618,259</b>
<b>Global Equity</b>	<b>779,940,629</b>	<b>-15,898,000</b>	<b>-</b>	<b>-</b>	<b>-320,056</b>	<b>-</b>	<b>-123,279,046</b>	<b>640,443,527</b>
SSgA MSCI ACWI IMI Index Fund	779,940,629	-15,898,000	-	-	-320,056	-	-123,279,046	640,443,527
<b>Fixed Income</b>	<b>428,086,879</b>	<b>-8,589,000</b>	<b>190,137</b>	<b>-</b>	<b>-230,866</b>	<b>4,340,403</b>	<b>-48,062,290</b>	<b>375,735,264</b>
PIMCO Total Return	215,989,678	-8,589,000	190,137	-	-190,137	4,340,403	-26,195,984	185,545,098
SSgA Bond Market Index	212,097,201	-	-	-	-40,729	-	-21,866,306	190,190,166
<b>Real Estate</b>	<b>81,594,793</b>	<b>7,157,368</b>	<b>-</b>	<b>-</b>	<b>-1,022,869</b>	<b>3,249,678</b>	<b>14,430,742</b>	<b>105,409,713</b>
JP Morgan Asset Management Strategic Property Fund	45,356,339	-21	-	-	-707,355	1,577,501	11,610,172	57,836,636
UBS Trumbull Property Fund	36,238,454	-10,242,611	-	-	-296,697	1,059,512	5,176,114	31,934,772
Vanguard Real Estate Index (VGSNX)	-	17,400,000	-	-	-18,817	612,665	-2,355,544	15,638,304
<b>MLPs</b>	<b>100,706,225</b>	<b>-34,847,000</b>	<b>164,540</b>	<b>-</b>	<b>-164,540</b>	<b>6,377,721</b>	<b>9,788,318</b>	<b>82,025,265</b>
Harvest MLP	51,807,422	-20,010,000	-	-	-	3,192,046	6,500,763	41,490,231
Tortoise Capital Advisors	48,898,803	-14,837,000	164,540	-	-164,540	3,185,675	3,287,556	40,535,034
Cash	7,062	52,176,632	31,093,069	-83,296,000	-	25,763	-2,035	4,491



# Employees' Retirement System for the City of Norfolk

Asset LiabilityScorecard Net of Fees\*



\*The dashed liability line and dashed funded status line are not actuarial calculations and are for projections purposes only.

As of the Plan's June 30, 2021 actuarial valuation report, the plan had a fiscal year end Actuarial Liability (AL) of \$1,431,515,000.

As of June 30, 2022, the Plan's current market value of assets (MVA) was \$1,203,618,259

As of June 30, 2022, the Plan's market value funded ratio (current MVA/fiscal year end AL) was 84.1%



**Employees' Retirement System of the City of Norfolk**  
**Historical Hybrid Composition**  
As of June 30, 2022

**Total Fund Policy**

Allocation Mandate	Weight (%)
<b>May-2016</b>	
MSCI AC World IMI (Net)	62.50
Blmbg. U.S. Aggregate Index	37.50

**Total Fund Strategy Index**

Allocation Mandate	Weight (%)
<b>Jul-2016</b>	
MSCI AC World IMI (Net)	55.00
Blmbg. U.S. Aggregate Index	30.00
NCREIF Fund Index-ODCE (VW) (Net)	7.50
Alerian MLP Index	7.50

Strategy Index is comprised of the returns of the various broad market benchmarks assigned to each manager and weighted to reflect the System's target asset allocation.



Global Equity Policy	
Allocation Mandate	Weight (%)
<b>Oct-1990</b>	
S&P 500 Index	100.00
<b>Jun-2006</b>	
Russell 3000 Index	70.00
MSCI EAFE Index	30.00
<b>Jun-2009</b>	
Russell 3000 Index	70.00
MSCI AC World ex USA (Net)	30.00
<b>Sep-2009</b>	
Russell 3000 Index	60.00
MSCI AC World ex USA (Net)	40.00
<b>May-2016</b>	
MSCI AC World IMI (Net)	100.00

<b>Active Return</b>	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
<b>Alpha</b>	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
<b>Beta</b>	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
<b>Consistency</b>	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
<b>Distributed to Paid In (DPI)</b>	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
<b>Down Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
<b>Downside Risk</b>	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
<b>Excess Return</b>	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
<b>Excess Risk</b>	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
<b>Information Ratio</b>	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
<b>Public Market Equivalent (PME)</b>	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
<b>R-Squared</b>	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
<b>Return</b>	- Compounded rate of return for the period.
<b>Sharpe Ratio</b>	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
<b>Standard Deviation</b>	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
<b>Total Value to Paid In (TVPI)</b>	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
<b>Tracking Error</b>	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
<b>Treynor Ratio</b>	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
<b>Up Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

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