Investment Performance Review
Period Ending April 30, 2022

Employees' Retirement System of the City of Norfolk

Market Update
April 30, 2022

Equities	Month	3 M	YTD	1 Year	3 Yr Ann	5 Yr Ann
	Index Returns (%)					
S&P 500 Total Return	(8.72)	(8.17)	(12.92)	0.21	13.85	13.66
Russell Midcap Index	(7.70)	(6.02)	(12.94)	(6.10)	10.48	10.66
Russell 2000 Index	(9.91)	(7.82)	(16.69)	(16.87)	6.73	7.24
Russell 1000 Growth Index	(12.08)	(12.52)	(20.03)	(5.35)	16.68	17.28
Russell 1000 Value Index	(5.64)	(4.10)	(6.34)	1.32	9.58	9.06
Russell 3000 Index	(8.97)	(8.39)	(13.78)	(3.11)	13.11	13.01
MSCI EAFE NR	(6.47)	(7.53)	(12.00)	(8.15)	4.44	4.77
MSCI EM NR	(5.56)	(10.45)	(12.15)	(18.33)	2.24	4.32

Russell Indices Style Returns*

	V	B	G
L	-6.3	-13.6	-20.0
M	-7.7	-12.9	-22.4
S	-10.0	-16.7	-23.4

YTD

	V	B	G
L	25.1	26.4	27.6
M	28.3	22.6	12.7
S	28.2	14.8	2.8

2021

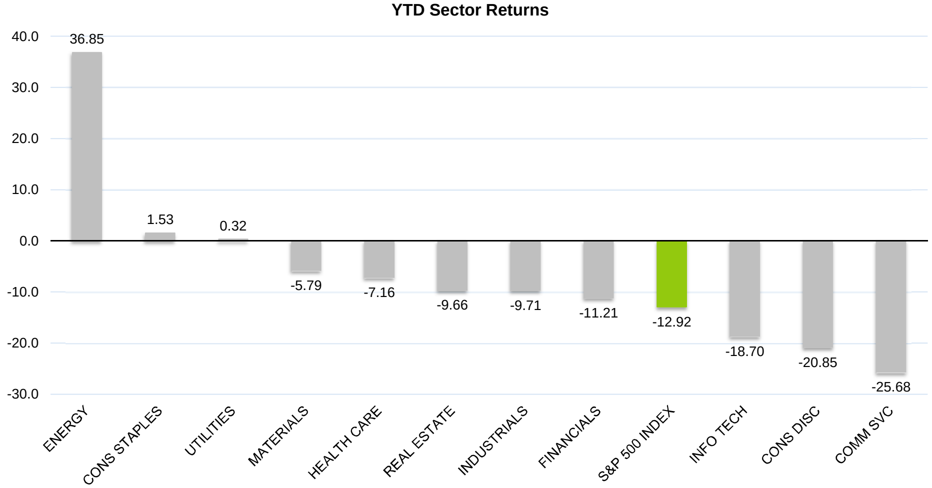
Fixed Income	Month	3 M	YTD	1 Year	Mod. Adj. Duration	Yield to Worst
	Index Returns (%)					
U.S. Aggregate	(3.79)	(7.51)	(9.50)	(8.51)	6.48	3.48
U.S. Corporate Investment Grade	(5.47)	(9.69)	(12.73)	(10.43)	7.70	4.31
U.S. Corporate High Yield	(3.56)	(5.64)	(8.22)	(5.22)	4.16	6.98
Global Aggregate	(5.48)	(9.45)	(11.30)	(12.63)	7.13	2.57

Currencies	04/30/22	12/31/21	12/31/20
	Levels		
Euro Spot	1.05	1.14	1.22
British Pound Spot	1.26	1.35	1.37
Japanese Yen Spot	129.70	115.08	103.25
Swiss Franc Spot	0.97	0.91	0.89

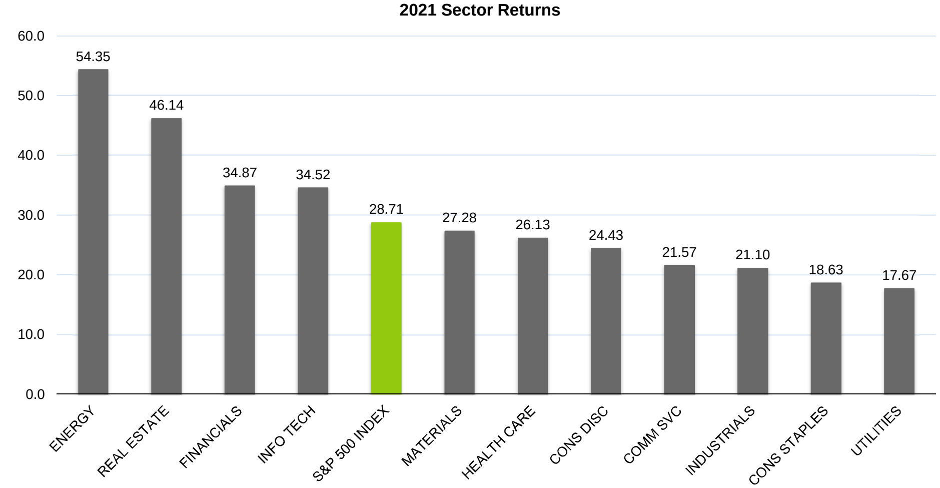
Key Rates	04/30/22	12/31/21	12/31/20	12/31/19	12/31/18
	Levels (%)				
US Generic Govt 3 Mth	0.82	0.03	0.06	1.54	2.35
US Generic Govt 2 Yr	2.71	0.73	0.12	1.57	2.49
US Generic Govt 10 Yr	2.93	1.51	0.91	1.92	2.68
US Generic Govt 30 Yr	3.00	1.90	1.64	2.39	3.01
ICE LIBOR USD 3M	1.33	0.21	0.24	1.91	2.81
Euribor 3 Month ACT/360	(0.43)	(0.57)	(0.55)	(0.38)	(0.31)
Bankrate 30Y Mortgage Rates Na	5.42	3.27	2.87	3.86	4.51
Prime	3.50	3.25	3.25	4.75	5.50

Commodities	04/30/22	12/31/21	12/31/20
	Levels		
Oil	104.69	73.37	46.77
Gasoline	4.19	3.29	2.25
Natural Gas	7.24	3.58	2.41
Gold	1,911.70	1,833.40	1,187.30
Silver	23.09	23.41	16.50
Copper	440.85	444.25	351.85
Corn	813.50	593.50	441.50
BBG Commodity TR Idx	276.92	211.80	166.63

YTD Sector Returns

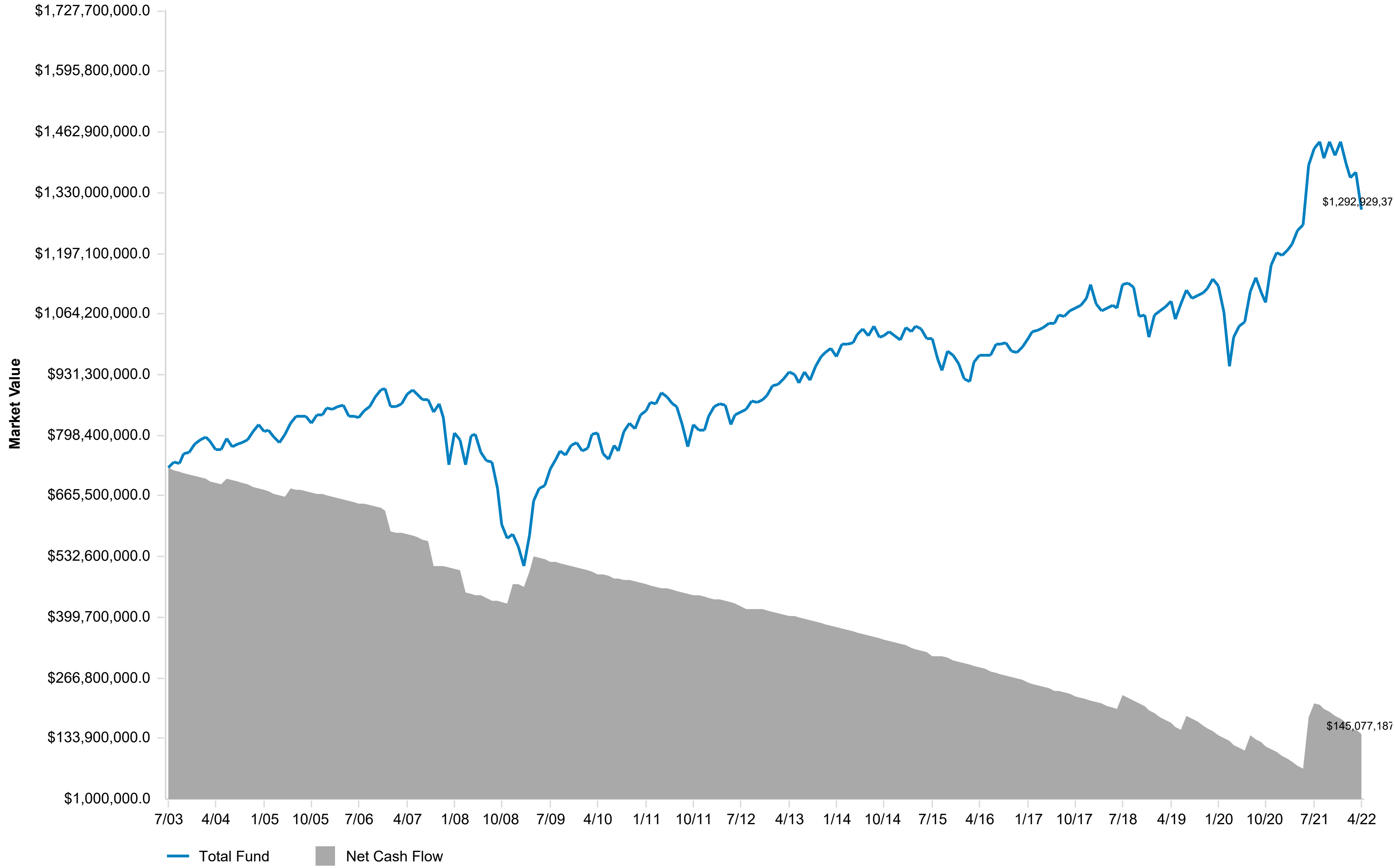


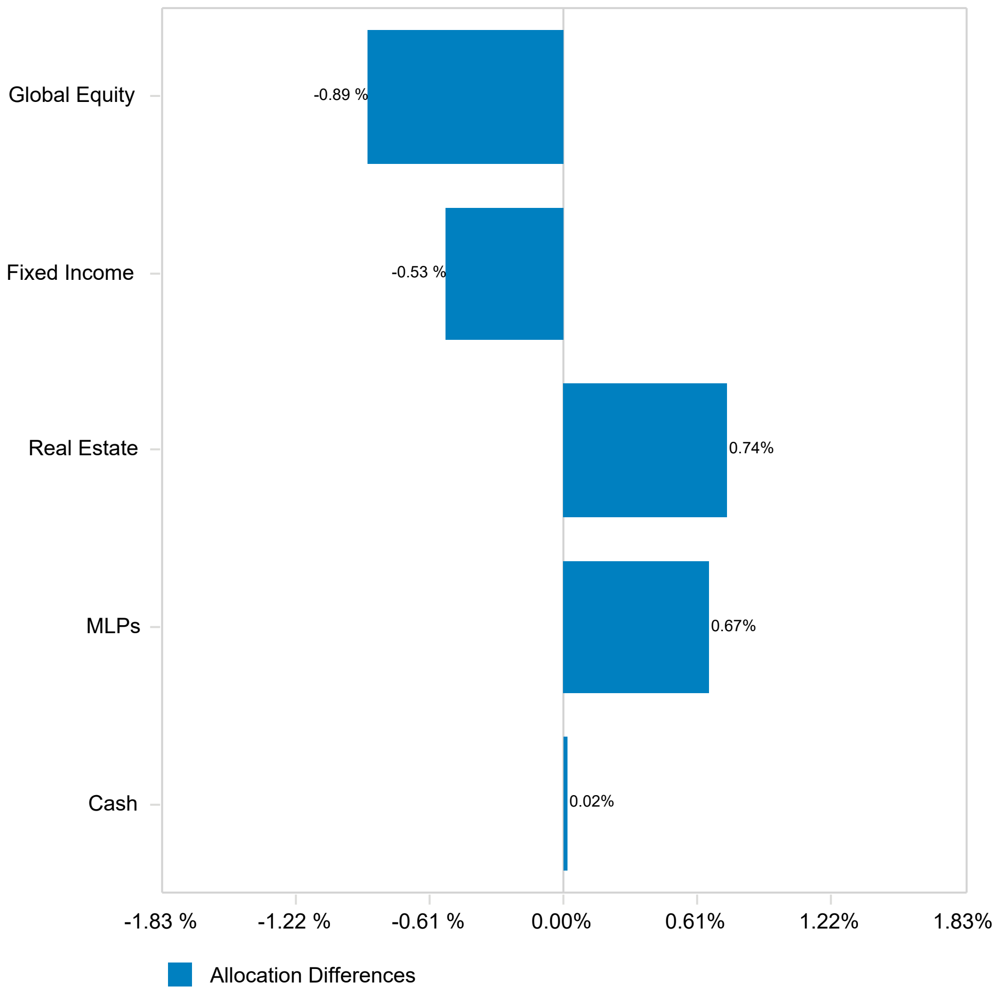
2021 Sector Returns

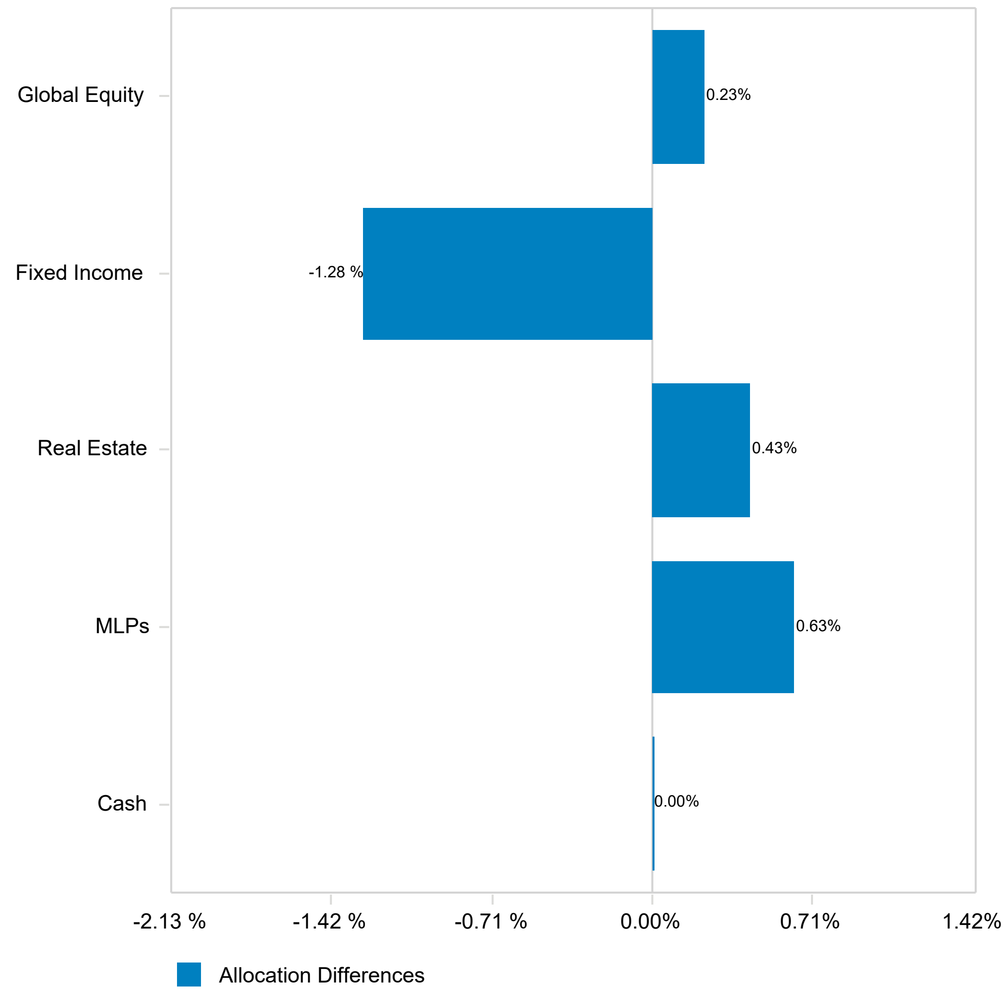


*Heat maps are displayed utilizing a 9-color scale, with green as the highest return for the time period noted and red as the lowest return for the time period noted. Color scales within each time period are mutually exclusive.

Schedule of Investable Assets







April 30, 2022				**March 31, 2022**			
	Market Value $	**Allocation (%)**	**Target (%)**		**Market Value $**	**Allocation (%)**	**Target (%)**
Global Equity	699,578,080	54.1	55.0	Global Equity	759,669,259	55.2	55.0
Fixed Income	380,974,561	29.5	30.0	Fixed Income	395,009,434	28.7	30.0
Real Estate	106,566,036	8.2	7.5	Real Estate	109,065,921	7.9	7.5
MLPs	105,593,525	8.2	7.5	MLPs	111,799,018	8.1	7.5
Cash	217,170	0.0	0.0	Cash	16,391	0.0	0.0
Total Fund	1,292,929,372	100.0	100.0	Total Fund	1,375,560,022	100.0	100.0

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
Total Fund	**1,292,929,372**	**100.0**	**-5.48**	**-5.50**	**-4.70**	**-1.89**	**12.02**	**6.78**	**6.69**	**5.98**	**7.23**	**7.94**	**Oct-1990**
Total Fund Policy (62.5% ACWI/37.5% Agg)			-6.39	-7.90	-8.85	-6.95	9.18	6.21	6.44	5.72	6.77	7.94	
Excess Return			0.91	2.40	4.15	5.06	2.84	0.57	0.25	0.26	0.46	0.00	
Total Fund Strategy Index			**-5.51**	**-5.76**	**-5.07**	**-2.18**	**12.08**	**7.17**	**6.77**	**5.96**	**7.02**	**8.03**	
Excess Return			0.03	0.26	0.37	0.29	-0.06	-0.39	-0.08	0.02	0.21	-0.09	
Composite Returns													
Global Equity	699,578,080	54.1	-7.91	-8.14	-8.47	-5.97	18.46	9.75	9.68	8.42	9.99	9.11	Oct-1990
Global Equity Policy			-7.94	-8.21	-8.69	-6.21	17.86	9.21	9.19	7.93	9.62	9.32	
Excess Return			0.03	0.07	0.22	0.24	0.60	0.54	0.49	0.49	0.37	-0.21	
Fixed Income	380,974,561	29.5	-3.55	-7.49	-9.22	-8.33	-3.95	0.54	1.41	1.58	1.99	5.42	Oct-1990
Blmbg. U.S. Aggregate Index			-3.79	-7.51	-9.45	-8.51	-4.48	0.38	1.20	1.36	1.73	5.34	
Excess Return			0.24	0.02	0.23	0.18	0.53	0.16	0.21	0.22	0.26	0.08	
Real Estate	106,566,036	8.2	0.09	5.43	17.35	20.29	8.97	6.12	5.98	6.71	8.02	8.54	Apr-2011
NCREIF Fund Index-ODCE (VW) (Net)			0.00	7.17	22.77	27.29	13.65	10.31	8.91	9.21	9.92	10.17	
Excess Return			0.09	-1.74	-5.42	-7.00	-4.68	-4.19	-2.93	-2.50	-1.90	-1.63	
MLPs	105,593,525	8.2	-0.94	11.46	23.76	39.08	36.96	5.81	2.35	-1.12	-	3.04	Mar-2013
Alerian MLP Index			-0.09	6.88	12.55	27.34	36.10	3.13	0.17	-2.79	-	-0.32	
Excess Return			-0.85	4.58	11.21	11.74	0.86	2.68	2.18	1.67	-	3.36	
Cash	217,170	0.0											

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
Global Equity													
SSgA MSCI ACWI IMI Index Fund	699,578,080	54.1	-7.91	-8.14	-8.47	-5.97	18.32	9.66	9.63	-	-	10.64	May-2016
MSCI AC World IMI (Net)			-7.94	-8.21	-8.69	-6.21	17.86	9.21	9.19	-	-	10.20	
Excess Return			0.03	0.07	0.22	0.24	0.46	0.45	0.44	-	-	0.44	
Fixed Income													
PIMCO Total Return	188,945,974	14.6	-3.30	-7.45	-8.99	-8.14	-3.51	0.65	1.60	1.79	2.36	5.74	Jan-1991
Blmbg. U.S. Aggregate Index			-3.79	-7.51	-9.45	-8.51	-4.48	0.38	1.20	1.36	1.73	5.22	
Excess Return			0.49	0.06	0.46	0.37	0.97	0.27	0.40	0.43	0.63	0.52	
SSgA Bond Market Index	192,028,587	14.9	-3.80	-7.53	-9.46	-8.51	-4.43	0.40	1.22	1.37	1.75	2.92	Jan-2009
Blmbg. U.S. Aggregate Index			-3.79	-7.51	-9.45	-8.51	-4.48	0.38	1.20	1.36	1.73	2.91	
Excess Return			-0.01	-0.02	-0.01	0.00	0.05	0.02	0.02	0.01	0.02	0.01	
Real Estate													
JP Morgan Asset Management Strategic Property Fund	56,264,495	4.4	1.63	6.98	24.05	27.02	13.37	10.29	8.56	8.71	9.84	10.22	Apr-2011
NCREIF Fund Index-ODCE (VW) (Net)			0.00	7.17	22.77	27.29	13.65	10.31	8.91	9.21	9.92	10.17	
Excess Return			1.63	-0.19	1.28	-0.27	-0.28	-0.02	-0.35	-0.50	-0.08	0.05	
UBS Trumbull Property Fund	31,934,772	2.5	0.00	7.14	19.03	22.18	8.26	4.30	4.78	5.64	6.77	6.82	Jan-2012
NCREIF Fund Index-ODCE (VW) (Net)			0.00	7.17	22.77	27.29	13.65	10.31	8.91	9.21	9.92	9.85	
Excess Return			0.00	-0.03	-3.74	-5.11	-5.39	-6.01	-4.13	-3.57	-3.15	-3.03	
Vanguard Real Estate Index (VGSNX)	18,366,769	1.4	-4.21	-1.40	4.77	-	-	-	-	-	-	4.77	Jul-2021
Vanguard Spliced REIT Index			-4.18	-1.87	4.31	-	-	-	-	-	-	4.31	
Excess Return			-0.03	0.47	0.46	-	-	-	-	-	-	0.46	
MLPs													
Harvest MLP	51,570,046	4.0	-0.88	12.50	26.76	41.39	40.71	8.19	3.79	-0.28	-	3.70	Mar-2013
Alerian MLP Index			-0.09	6.88	12.55	27.34	36.10	3.13	0.17	-2.79	-	-0.32	
Excess Return			-0.79	5.62	14.21	14.05	4.61	5.06	3.62	2.51	-	4.02	
Tortoise Capital Advisors	54,023,479	4.2	-1.00	10.58	20.64	36.55	33.58	3.65	1.03	-1.91	-	1.88	Apr-2013
Alerian MLP Index			-0.09	6.88	12.55	27.34	36.10	3.13	0.17	-2.79	-	-0.89	
Excess Return			-0.91	3.70	8.09	9.21	-2.52	0.52	0.86	0.88	-	2.77	

Financial Reconciliation

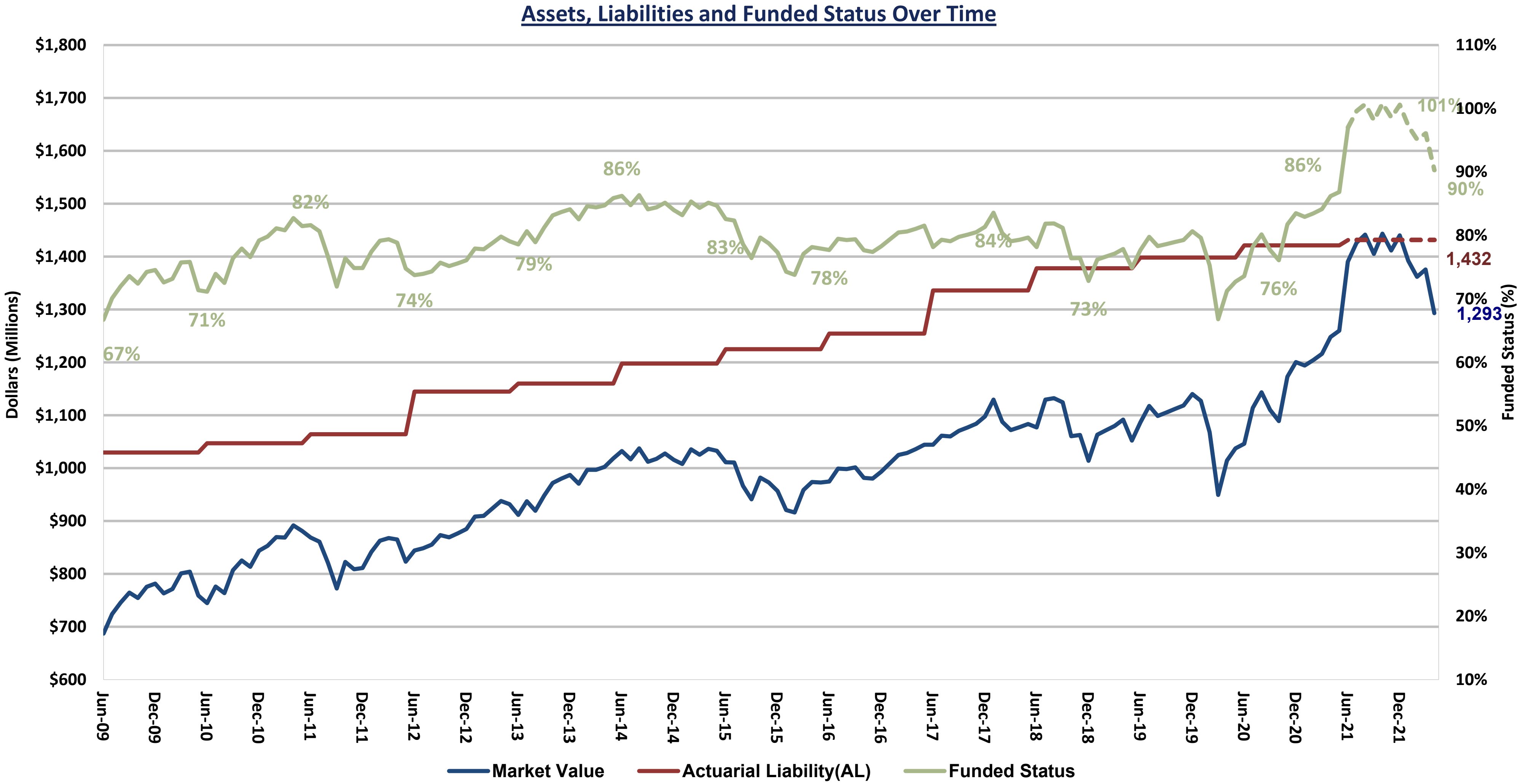
	Market Value 04/01/2022	Net Transfers	Contributions	Distributions	Management Fees	Income	Apprec./ Deprec.	Market Value 04/30/2022
Total Fund	**1,375,560,022**	**-**	**-**	**-7,597,000**	**-198,712**	**2,068,395**	**-76,903,333**	**1,292,929,372**
Global Equity	**759,669,259**	**-**	**-**	**-**	**-**	**-**	**-60,091,179**	**699,578,080**
SSgA MSCI ACWI IMI Index Fund	759,669,259	-	-	-	-	-	-60,091,179	699,578,080
Fixed Income	**395,009,434**	**-**	**-**	**-**	**-**	**829,184**	**-14,864,057**	**380,974,561**
PIMCO Total Return	195,392,645	-	-	-	-	829,184	-7,275,855	188,945,974
SSgA Bond Market Index	199,616,789	-	-	-	-	-	-7,588,202	192,028,587
Real Estate	**109,065,921**	**-2,597,766**	**-**	**-**	**-198,712**	**436,469**	**-139,876**	**106,566,036**
JP Morgan Asset Management Strategic Property Fund	55,360,356	-10	-	-	-126,327	154,063	876,412	56,264,495
UBS Trumbull Property Fund	34,532,528	-2,597,756	-	-	-70,787	282,406	-211,618	31,934,772
Vanguard Real Estate Index (VGSNX)	19,173,036	-	-	-	-1,598	-	-804,670	18,366,769
MLPs	**111,799,018**	**-5,200,000**	**-**	**-**	**-**	**802,428**	**-1,807,921**	**105,593,525**
Harvest MLP	52,026,540	-	-	-	-	324,229	-780,723	51,570,046
Tortoise Capital Advisors	59,772,478	-5,200,000	-	-	-	478,199	-1,027,198	54,023,479
Cash	16,391	7,797,766	-	-7,597,000	-	313	-300	217,170

Financial Reconciliation

	Market Value 07/01/2021	Net Transfers	Contributions	Distributions	Management Fees	Income	Apprec./ Deprec.	Market Value 04/30/2022
Total Fund	**1,390,335,588**	**-**	**31,447,746**	**-65,846,000**	**-1,646,203**	**12,368,365**	**-73,730,123**	**1,292,929,372**
Global Equity	**779,940,629**	**-15,898,000**	**-**	**-**	**-241,129**	**-**	**-64,223,419**	**699,578,080**
SSgA MSCI ACWI IMI Index Fund	779,940,629	-15,898,000	-	-	-241,129	-	-64,223,419	699,578,080
Fixed Income	**428,086,879**	**-8,589,000**	**190,137**	**-**	**-220,656**	**3,811,645**	**-42,304,444**	**380,974,561**
PIMCO Total Return	215,989,678	-8,589,000	190,137	-	-190,137	3,811,645	-22,266,349	188,945,974
SSgA Bond Market Index	212,097,201	-	-	-	-30,519	-	-20,038,095	192,028,587
Real Estate	**81,594,793**	**7,757,368**	**-**	**-**	**-1,019,878**	**2,867,753**	**15,366,000**	**106,566,036**
JP Morgan Asset Management Strategic Property Fund	45,356,339	-21	-	-	-707,355	1,295,301	10,320,231	56,264,495
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)	-	18,000,000	-	-	-15,827	512,940	-130,345	18,366,769
MLPs	**100,706,225**	**-18,210,000**	**164,540**	**-**	**-164,540**	**5,663,522**	**17,433,778**	**105,593,525**
Harvest MLP	51,807,422	-13,010,000	-	-	-	2,800,372	9,972,252	51,570,046
Tortoise Capital Advisors	48,898,803	-5,200,000	164,540	-	-164,540	2,863,150	7,461,526	54,023,479
Cash	7,062	34,939,632	31,093,069	-65,846,000	-	25,445	-2,037	217,170

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 April 30, 2022, the Plan's current market value of assets (MVA) was $1,292,929,372.

As of April 30, 2022, the Plan's market value funded ratio (current MVA/fiscal year end AL) was 90.3%

Total Fund Policy

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

Total Fund Strategy Index

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

Active Return	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
Alpha	- 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.
Beta	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
Consistency	- 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.
Distributed to Paid In (DPI)	- 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.
Down Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
Downside Risk	- 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.
Excess Return	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
Excess Risk	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
Information Ratio	- 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.
Public Market Equivalent (PME)	- 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.
R-Squared	- 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.
Return	- Compounded rate of return for the period.
Sharpe Ratio	- 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.
Standard Deviation	- 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.
Total Value to Paid In (TVPI)	- 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
Tracking Error	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
Treynor Ratio	- 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.
Up Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

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The strategies listed may not be suitable for all investors. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. Past performance is not an indication of future performance. Any information contained in this report is for informational purposes only and should not be construed to be an offer to buy or sell any securities, investment consulting, or investment management services.

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