

Investment Performance Review
Period Ending March 31, 2019

Employees' Retirement System of the City of Norfolk



**Market Overview (Domestic Equity vs. Domestic Fixed)**

- For the month, large cap domestic equities underperformed domestic fixed income with the Russell 1000 Index returning 1.74% versus 1.92% for the Bloomberg Barclays Aggregate Index.
- For the year, the Russell 1000 Index is outperforming the Bloomberg Barclays Aggregate Index with a return of 14.00% vs. 2.94%, respectively.

Broad Equity Market Overview

- Large cap domestic equities were the best equity performers for the month with the Russell 1000 Index returning 1.74%.
- International equities underperformed large cap domestic equities for the month (by -1.15%) with the ACWI ex USA Index returning 0.60%.
- For the month, small cap domestic equities underperformed both large cap domestic equities (by -3.83%) and international equities (by -2.69%) with the Russell 2000 Index returning -2.09%.
- On a year-to-date basis, small cap domestic equities are the best performing equity asset class with the Russell 2000 returning 14.58%.
- Large cap domestic equities are trailing small cap domestic equities for the year (by -0.58%) with the Russell 1000 Index returning 14.00%.
- For the year, international equities are trailing both small cap domestic equities (by -4.27%) and large cap domestic equities (by -3.69%) with the ACWI ex USA Index returning 10.31%.

Broad Fixed Market Overview

- For the month, domestic fixed securities outperformed global fixed ex US securities, with the Bberg BC Agg returning 1.92%.
- Global fixed ex US trailed domestic fixed (by -1.21%) for the month with the Global Agg ex US returning 0.71%.
- For the year, domestic fixed securities are outperforming global fixed ex US securities with the Bberg BC Agg returning 2.94%.
- Year-to-date, global fixed ex US securities are trailing domestic fixed securities (by -1.42%) with the Global Agg ex US returning 1.52%.

Equity Sector Performance For The Month

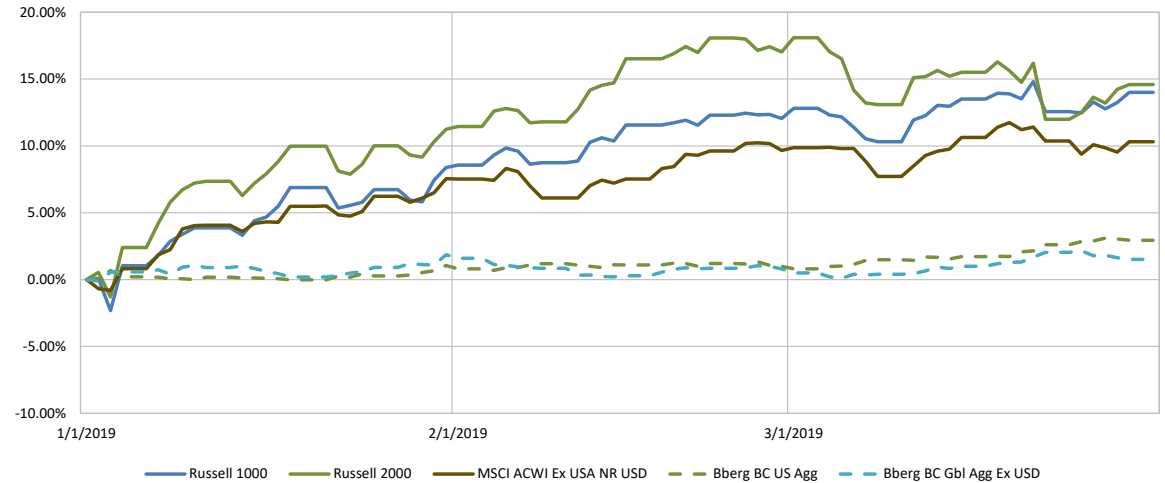
- The top three performing sectors for large cap domestic equities were:
Real Estate (return 4.54%), Information Technology (return 4.43%) and Consumer Staples (return 3.97%)
- The bottom three performing sectors for large cap domestic equities were:
Financials (return -2.72%), Industrials (return -1.07%) and Health Care (return 0.54%)
- The top three performing sectors for small cap domestic equities were:
Utilities (return 3.06%), Real Estate (return 1.83%) and Energy (return 1.81%)
- The bottom three performing sectors for small cap domestic equities were:
Financials (return -5.89%), Materials (return -4.20%) and Industrials (return -3.98%)
- The top three performing sectors for international equities were:
Real Estate (return 5.36%), Consumer Staples (return 4.04%) and Communication Services (return 2.09%)
- The bottom three performing sectors for international equities were:
Financials (return -2.08%), Consumer Discretionary (return -0.61%) and Energy (return 0.23%)

Fixed Income Sector Performance For The Month

- The sector performance for domestic fixed income in order of best performing to worst was:
Corporate (return 2.51%), Treasury (return 1.91%) and MBS (return 1.46%)

Fixed Income Quality Performance For The Month

- The quality performance for domestic fixed income in order of best performing to worst was:
Baa (return 2.75%), A (return 2.32%), Aa (return 2.00%) and Aaa (return 1.70%)

2019 Market Daily Index Total Return Performance**2019 Market Monthly Index Total Return Performance**

	1/31/19	2/28/19	3/31/19	4/30/19	5/31/19	6/30/19	7/31/19	8/31/19	9/30/19	10/31/19	11/30/19	12/31/19	YTD
Russell 1000	8.38%	3.39%	1.74%										14.00%
Russell 2000	11.25%	5.20%	-2.09%										14.58%
MSCI AC World Index EX USA	7.56%	1.95%	0.60%										10.31%
Bloomberg BC Agg	1.06%	-0.06%	1.92%										2.94%
Bberg BC Global Agg ex USD	1.86%	-1.04%	0.71%										1.52%

Equity Sector Performance

	Month-To-Date		
	Russell 1000	Russell 2000	ACWI ex USA
Energy	2.29%	1.81%	0.23%
Materials	0.81%	-4.20%	1.03%
Industrials	-1.07%	-3.98%	0.34%
Consumer Discretionary	3.24%	-2.21%	-0.61%
Consumer Staples	3.97%	-1.97%	4.04%
Health Care	0.54%	-1.17%	1.67%
Real Estate	4.54%	1.83%	5.36%
Financials	-2.72%	-5.89%	-2.08%
Information Technology	4.43%	-0.64%	2.03%
Communication Services	2.43%	-0.53%	2.09%
Utilities	2.82%	3.06%	0.84%

Year-To-Date

	Russell 1000	Russell 2000	ACWI ex USA
Energy	16.49%	19.77%	12.35%
Materials	11.09%	17.09%	11.44%
Industrials	17.13%	12.18%	10.37%
Consumer Discretionary	14.82%	13.15%	11.29%
Consumer Staples	11.80%	7.22%	11.26%
Health Care	7.54%	16.77%	10.74%
Real Estate	17.27%	17.49%	14.73%
Financials	8.87%	8.52%	7.66%
Information Technology	20.69%	22.68%	14.65%
Communication Services	14.03%	15.12%	7.55%
Utilities	11.54%	10.48%	8.38%

Fixed Sector & Quality Performance

	Month-To-Date	
	BC Agg.	
Treasury	1.91%	
MBS	1.46%	
Corporate	2.51%	
Aaa	1.70%	
Aa	2.00%	
A	2.32%	
Baa	2.75%	

Year-To-Date

	BC Agg.
	2.11%
	2.17%
	5.14%
	2.15%
	3.37%
	4.64%
	5.82%

Index Returns (%)

<u>Equities</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	1.94	13.65	13.65	9.50	13.51	10.90
Russell Midcap Index	0.86	16.53	16.53	6.45	11.80	8.79
Russell 2000 Index	(2.09)	14.57	14.57	2.01	12.90	7.04
Russell 1000 Growth Indx	2.85	16.10	16.10	12.74	16.53	13.49
Russell 1000 Value Index	0.64	11.93	11.93	5.66	10.43	7.70
Russell 3000 Index	1.46	14.04	14.04	8.75	13.47	10.34
MSCI EAFE NR	0.63	9.98	9.98	(3.71)	7.27	2.33
MSCI EM NR	0.84	9.91	9.91	(7.41)	10.68	3.68

Russell Indices Style Returns

	<u>V</u>	<u>B</u>	<u>G</u>		<u>V</u>	<u>B</u>	<u>G</u>
L	11.9	14.0	16.1	L	-8.3	-4.8	-1.5
M	14.4	16.5	19.6	M	-12.3	-9.1	-4.8
S	11.9	14.6	17.1	S	-12.9	-11.0	-9.3
	YTD				2018		

Index Returns (%)

<u>Fixed Income</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	1.92	2.94	2.94	4.48	5.82	2.93
U.S. Corporate Investment Grade	2.51	5.14	5.14	4.94	7.42	3.63
U.S. Corporate High Yield	0.94	7.26	7.26	5.93	3.42	6.43
Global Aggregate	1.25	2.20	2.20	(0.38)	7.06	1.77

Levels (%)

<u>Key Rates</u>	<u>03/31/19</u>	<u>12/31/18</u>	<u>12/31/17</u>	<u>12/31/16</u>	<u>12/31/15</u>
3 Month	2.38	2.35	1.38	0.50	0.16
US 2 Year	2.26	2.49	1.88	1.19	1.05
US 10 Year	2.41	2.68	2.41	2.44	2.27
US 30 Year	2.81	3.01	2.74	3.07	3.02
ICE LIBOR USD 3M	2.60	2.81	1.69	1.00	0.61
Euribor 3 Month ACT/360	(0.31)	(0.31)	(0.33)	(0.32)	(0.13)
Bankrate 30Y Mortgage Rates Na	4.08	4.51	3.85	4.06	3.90
Prime	5.50	5.50	4.50	3.75	3.50

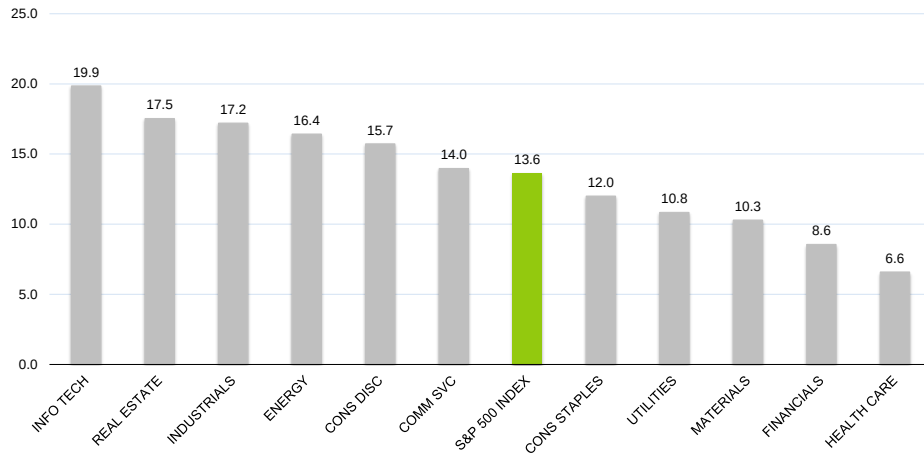
Levels

<u>Currencies</u>	<u>03/31/19</u>	<u>12/31/18</u>	<u>12/31/17</u>
Euro Spot	1.12	1.15	1.20
British Pound Spot	1.30	1.28	1.35
Japanese Yen Spot	110.86	109.69	112.69
Swiss Franc Spot	1.00	0.98	0.97

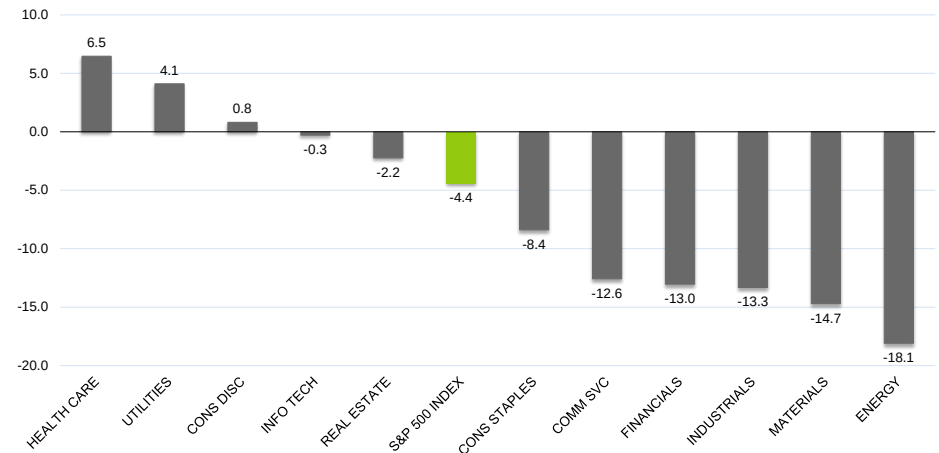
Levels

<u>Commodities</u>	<u>03/31/19</u>	<u>12/31/18</u>	<u>12/31/17</u>
Oil	60.14	46.51	56.52
Gasoline	2.69	2.26	2.49
Natural Gas	2.66	2.67	2.67
Gold	1,298.50	1,294.20	1,187.30
Silver	15.11	15.63	16.50
Copper	293.60	263.70	336.40
Corn	356.50	383.00	399.25
BBG Commodity TR Idx	169.82	159.72	179.96

YTD Sector Returns



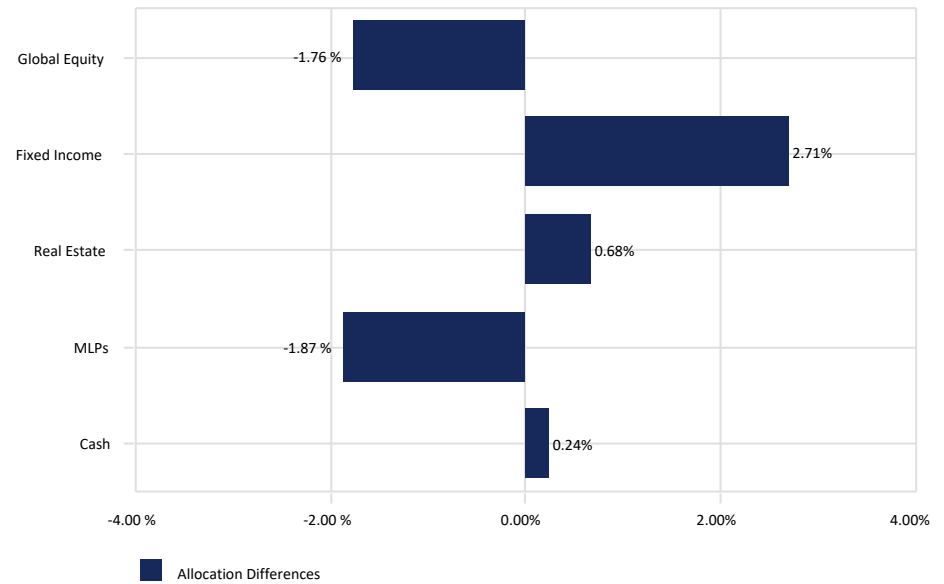
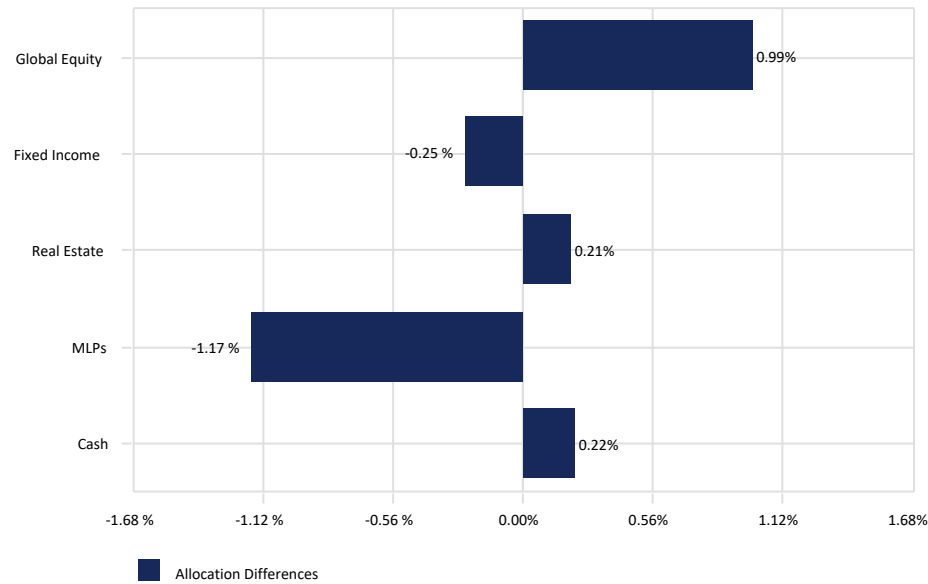
2018 Sector Returns



Employees' Retirement System of the City of Norfolk

Asset Allocation vs. Target Allocation

March 31, 2019



March 31, 2019

	Market Value (\$)	Allocation (%)	Target (%)
Global Equity	604,392,483	55.99	55.00
Fixed Income	321,105,176	29.75	30.00
Real Estate	83,229,012	7.71	7.50
MLPs	68,282,862	6.33	7.50
Cash	2,405,611	0.22	0.00
Total Fund	1,079,415,145	100.00	100.00

December 31, 2018

	Market Value (\$)	Allocation (%)	Target (%)
Global Equity	539,745,314	53.24	55.00
Fixed Income	331,649,951	32.71	30.00
Real Estate	82,948,272	8.18	7.50
MLPs	57,042,763	5.63	7.50
Cash	2,436,046	0.24	0.00
Total Fund	1,013,822,346	100.00	100.00

As of July 1, 2018, Total Plan Actuarial Liability (AL) is \$1.369 billion and the Actuarial Value of Assets (AVA) is \$1.077 billion for an Actuarial funded ratio (AVA/AL) of 79%. Using the Market Value of Assets (MVA), the Market funded ratio (MVA/AL) was approximately 77% for February 2019 and approximately 78% for March 2019.



Employees' Retirement System of the City of Norfolk

Asset Allocation & Performance - (net of fees)

March 31, 2019

	Asset \$	Asset %	1 Month	3 Month	CYTD	FYTD	1 Year	3 Year	5 Year	Since Inception	Inception Date
Total Fund Composite	1,079,415,145	100.00	1.42	8.71	8.71	2.59	4.08	8.05	5.62	8.02	Oct -1990
<i>Total Fund Policy</i>			1.37	8.76	8.76	2.70	3.10	7.39	5.41	8.07	
Excess Return			0.05	-0.05	-0.05	-0.11	0.98	0.66	0.21	-0.05	
<i>Total Fund Strategy Index</i>			1.49	8.97	8.97	2.88	4.28	7.50	5.26	8.08	
Excess Return			-0.07	-0.26	-0.26	-0.29	-0.20	0.55	0.36	-0.06	
Global Equity	604,392,483	55.99	1.08	12.42	12.42	1.40	2.25	11.01	7.14	8.94	Oct -1990
<i>Global Equity Policy</i>			1.03	12.29	12.29	1.15	1.89	10.52	6.75	9.23	
Excess Return			0.05	0.13	0.13	0.25	0.36	0.49	0.39	-0.29	
Fixed Income	321,105,176	29.75	1.80	2.90	2.90	4.45	4.40	2.52	2.98	5.96	Oct -1990
<i>Blmbg. Barc. U.S. Aggregate</i>			1.92	2.94	2.94	4.65	4.48	2.03	2.74	5.89	
Excess Return			-0.12	-0.04	-0.04	-0.20	-0.08	0.49	0.24	0.07	
Real Estate	83,229,012	7.71	0.17	0.34	0.34	3.43	5.15	5.94	8.09	9.54	Apr -2011
<i>NCREIF Fund Index-ODCE (VW) (Net)</i>			1.20	1.20	1.20	4.66	6.55	7.01	9.18	10.22	
Excess Return			-1.03	-0.86	-0.86	-1.23	-1.40	-1.07	-1.09	-0.68	
MLPs	68,282,862	6.33	4.26	19.50	19.50	1.87	14.84	7.35	-2.40	2.01	Mar -2013
<i>Alerian MLP Index</i>			3.43	16.82	16.82	2.96	15.11	5.69	-4.73	-1.76	
Excess Return			0.83	2.68	2.68	-1.09	-0.27	1.66	2.33	3.77	
Cash	2,405,611	0.22	0.19	0.56	0.56	2.39	2.98	1.55	0.99	1.52	Jul -2003
<i>FTSE 3 Month T-Bill</i>			0.21	0.60	0.60	1.67	2.11	1.17	0.72	1.27	
Excess Return			-0.02	-0.04	-0.04	0.72	0.87	0.38	0.27	0.25	



Employees' Retirement System of the City of Norfolk

Asset Allocation & Performance - (net of fees)

March 31, 2019

	Asset \$	Asset %	1 Month	3 Month	CYTD	FYTD	1 Year	3 Year	5 Year	Since Inception	Inception Date
Global Equity											
SSgA MSCI ACWI IMI Index Fund	604,392,483	55.99	1.08	12.42	12.42	1.40	2.25	-	-	10.73	May -2016
<i>MSCI AC World IMI (Net)</i>			1.03	12.29	12.29	1.15	1.89	-	-	10.30	
Excess Return			0.05	0.13	0.13	0.25	0.36	-	-	0.43	
Fixed Income											
PIMCO Total Return	163,921,003	15.19	1.68	2.97	2.97	4.39	4.45	3.00	3.21	6.31	Jan -1991
<i>Blmbg. Barc. U.S. Aggregate</i>			1.92	2.94	2.94	4.65	4.48	2.03	2.74	5.76	
Excess Return			-0.24	0.03	0.03	-0.26	-0.03	0.97	0.47	0.55	
SSgA Bond Market Index	157,184,173	14.56	1.92	2.94	2.94	4.65	4.47	2.03	2.75	3.69	Jan -2009
<i>Blmbg. Barc. U.S. Aggregate</i>			1.92	2.94	2.94	4.65	4.48	2.03	2.74	3.68	
Excess Return			0.00	0.00	0.00	0.00	-0.01	0.00	0.01	0.01	
Real Estate											
JP Morgan Asset Management Strategic Property Fund	41,970,859	3.89	-0.12	0.21	0.21	3.64	5.41	6.40	8.53	10.29	Apr -2011
<i>NCREIF Fund Index-ODCE (VW) (Net)</i>			1.20	1.20	1.20	4.66	6.55	7.01	9.18	10.22	
Excess Return			-1.32	-0.99	-0.99	-1.02	-1.14	-0.61	-0.65	0.07	
UBS Trumbull Property Fund	41,258,153	3.82	0.47	0.47	0.47	3.22	4.87	5.36	7.49	7.96	Jan -2012
<i>NCREIF Fund Index-ODCE (VW) (Net)</i>			1.20	1.20	1.20	4.66	6.55	7.01	9.18	9.78	
Excess Return			-0.73	-0.73	-0.73	-1.44	-1.68	-1.65	-1.69	-1.82	
MLPs											
Harvest MLP	34,312,647	3.18	3.95	20.69	20.69	1.62	15.54	7.77	-2.27	1.86	Mar -2013
<i>Alerian MLP Index</i>			3.43	16.82	16.82	2.96	15.11	5.69	-4.73	-1.76	
Excess Return			0.52	3.87	3.87	-1.34	0.43	2.08	2.46	3.62	
Tortoise Capital Advisors	33,970,215	3.15	4.57	18.32	18.32	2.13	14.16	6.92	-2.54	1.32	Apr -2013
<i>Alerian MLP Index</i>			3.43	16.82	16.82	2.96	15.11	5.69	-4.73	-2.64	
Excess Return			1.14	1.50	1.50	-0.83	-0.95	1.23	2.19	3.96	



Employees' Retirement System for the City of Norfolk

Asset Liability Scorecard Net of Fees*

As of March 31, 2019

Assets, Liabilities and Funded Status Over Time



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



Employees' Retirement System of the City of Norfolk

Historical Hybrid Composition

March 31, 2019

	<u>(%)</u>		<u>(%)</u>
Total Fund Policy : May-2016		Total Fund Strategy Index : Jul-2016	
MSCI AC World IMI (Net)	62.50	MSCI AC World IMI (Net)	55.00
Blmbg. Barc. U.S. Aggregate	37.50	Blmbg. Barc. U.S. Aggregate	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.



Employees' Retirement System of the City of Norfolk

Historical Hybrid Composition

March 31, 2019

Global Equity Policy

(%)

May-2016

MSCI AC World IMI (Net)	100.00
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Sep-2009

Russell 3000 Index	60.00
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MSCI AC World ex USA (Net)	40.00
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Jun-2009

Russell 3000 Index	70.00
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MSCI AC World ex USA (Net)	30.00
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Jun-2006

Russell 3000 Index	70.00
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MSCI EAFE Index	30.00
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Oct-1990

S&P 500	100.00
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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.

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