Investment Performance Review
Period Ending December 31, 2019

Employees' Retirement System of the City of Norfolk

Market Update

December 31, 2019

Market Overview (Domestic Equity vs. Domestic Fixed)

- For the month, large cap domestic equities outperformed domestic fixed income with the Russell 1000 Index returning 2.89% versus -0.07% for the Bloomberg Barclays Aggregate Index.
- For the year, the Russell 1000 Index is outperforming the Bloomberg Barclays Aggregate Index with a return of 31.43% vs. 8.72%, respectively.

Broad Equity Market Overview

- International equities were the best equity performers for the month with the ACWI ex-US Index returning 4.33%.
- Large cap domestic equities underperformed international equities for the month (by -1.44%) with the Russell 1000 Index returning 2.89%.
- For the month, small cap domestic equities underperformed both international equities (by -1.45%) and large cap domestic equities (by -0.01%) with the Russell 2000 Index returning 2.88%.
- On a year-to-date basis, large cap domestic equities are the best performing equity asset class with the Russell 1000 returning 31.43%.
- Small cap domestic equities are trailing large cap domestic equities for the year (by -5.90%) with the Russell 2000 Index returning 25.52%.
- For the year, international equities are trailing both large cap domestic equities (by -9.91%) and small cap domestic equities (by -4.01%) with the ACWI ex-US Index returning 21.51%.

Broad Fixed Market Overview

- For the month, global fixed ex-US securities outperformed domestic fixed securities, with the Bloomberg Barclays Global Aggregate ex-US returning 1.09%.
- Domestic fixed trailed global fixed ex-US (by -1.16%) for the month with the Bloomberg Barclays Aggregate returning -0.07%.
- For the year, domestic fixed securities are outperforming global fixed ex-US securities with the Bloomberg Barclays Aggregate returning 8.72%.
- Year-to-date, global fixed ex-US securities are trailing domestic fixed securities (by -3.63%) with the Bloomberg Barclays Global Aggregate ex-US returning 5.09%.

Equity Sector Performance For The Month

- The top three performing sectors for large cap domestic equities were:
  Energy (return 6.51%), Information Technology (return 4.12%) and Utilities (return 3.50%)
- The bottom three performing sectors for large cap domestic equities were:
  Industrials (return 0.01%), Real Estate (return 0.92%) and Communication Services (return 2.02%)
- The top three performing sectors for small cap domestic equities were:
  Energy (return 16.60%), Consumer Staples (return 5.03%) and Materials (return 4.45%)
- The bottom three performing sectors for small cap domestic equities were:
  Real Estate (return 0.18%), Industrials (return 1.64%) and Information Technology (return 2.01%)
- The top three performing sectors for international equities were:
  Materials (return 6.20%), Information Technology (return 5.66%) and Utilities (return 5.03%)
- The bottom three performing sectors for international equities were:
  Consumer Staples (return 2.16%), Industrials (return 2.75%) and Health Care (return 3.66%)

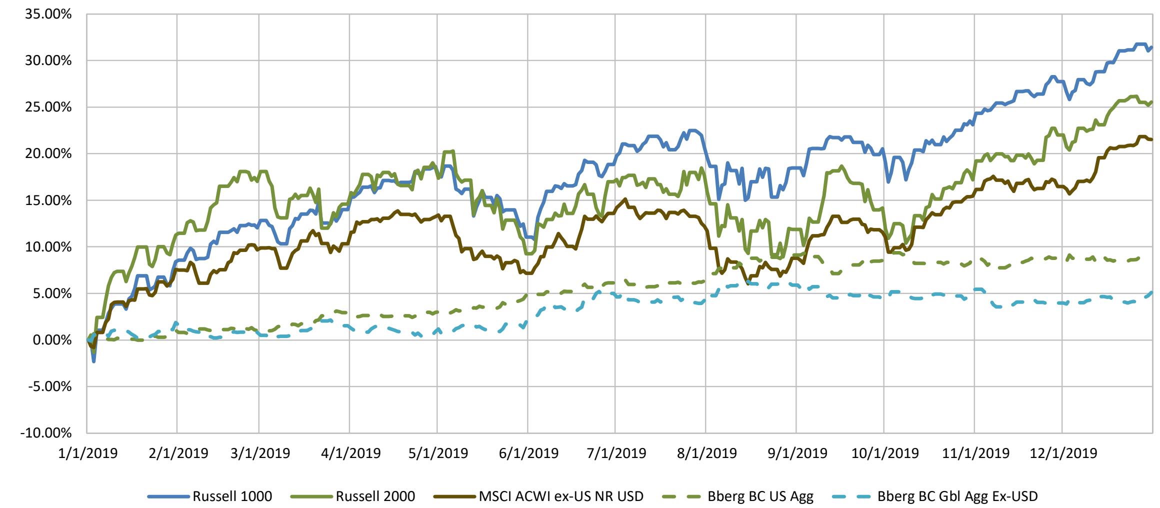
Fixed Income Sector Performance For The Month

- The sector performance for domestic fixed income in order of best performing to worst was:
  Corporate (return 0.32%), MBS (return 0.28%) and Treasury (return -0.56%)

Fixed Income Quality Performance For The Month

- The quality performance for domestic fixed income in order of best performing to worst was:
  Baa (return 0.63%), A (return 0.05%), Aa (return -0.18%) and Aaa (return -0.22%)

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%	4.04%	-6.37%	7.02%	1.55%	-1.83%	1.73%	2.12%	3.78%	2.89%	31.43%
Russell 2000	11.25%	5.20%	-2.09%	3.40%	-7.78%	7.07%	0.58%	-4.94%	2.08%	2.63%	4.12%	2.88%	25.52%
MSCI ACWI ex-US	7.56%	1.95%	0.60%	2.64%	-5.37%	6.02%	-1.21%	-3.09%	2.57%	3.49%	0.88%	4.33%	21.51%
Bloomberg BC Aggregate	1.06%	-0.06%	1.92%	0.03%	1.78%	1.26%	0.22%	2.59%	-0.53%	0.30%	-0.05%	-0.07%	8.72%
Bberg BC Global Agg ex-US	1.86%	-1.04%	0.71%	-0.61%	1.04%	2.98%	-0.72%	1.59%	-1.42%	0.96%	-1.36%	1.09%	5.09%

Equity Sector Performance	Month-To-Date			Year-To-Date		
	Russell 1000	Russell 2000	ACWI ex-US	Russell 1000	Russell 2000	ACWI ex-US
Energy	6.51%	16.60%	4.89%	10.55%	-6.26%	12.83%
Materials	2.92%	4.45%	6.20%	22.85%	23.05%	19.35%
Industrials	0.01%	1.64%	2.75%	30.01%	29.94%	24.58%
Consumer Discretionary	3.23%	2.18%	3.90%	27.88%	21.46%	27.81%
Consumer Staples	2.35%	5.03%	2.16%	26.88%	15.92%	18.05%
Health Care	3.20%	4.17%	3.66%	21.44%	29.41%	28.00%
Real Estate	0.92%	0.18%	4.08%	29.08%	29.12%	17.69%
Financials	2.57%	2.22%	4.50%	31.75%	21.79%	17.65%
Information Technology	4.12%	2.01%	5.66%	49.56%	42.78%	39.58%
Communication Services	2.02%	3.03%	4.65%	32.88%	9.38%	12.25%
Utilities	3.50%	2.51%	5.03%	25.57%	20.54%	18.10%

Fixed Sector & Quality Performance	Month-To-Date	Year-To-Date
	BC Agg.	BC Agg.
Treasury	-0.56%	6.86%
MBS	0.28%	6.35%
Corporate	0.32%	14.54%
Aaa	-0.22%	6.67%
Aa	-0.18%	9.51%
A	0.05%	12.99%
Baa	0.63%	16.44%

Market Update
December 31, 2019

Equities	Month	3 M	YTD	1 Year	3 Yr Ann	5 Yr Ann
	Index Returns (%)					
S&P 500 Total Return	3.02	9.07	31.49	31.49	15.27	11.70
Russell Midcap Index	2.29	7.06	30.54	30.54	12.06	9.33
Russell 2000 Index	2.88	9.94	25.53	25.53	8.59	8.23
Russell 1000 Growth Indx	3.02	10.62	36.39	36.39	20.49	14.63
Russell 1000 Value Index	2.75	7.41	26.54	26.54	9.68	8.29
Russell 3000 Index	2.89	9.10	31.02	31.02	14.57	11.24
MSCI EAFE NR	3.25	8.17	22.01	22.01	9.56	5.67
MSCI EM NR	7.46	11.84	18.44	18.44	11.57	5.61

Russell Indices Style Returns

YTD	V	B	G
L	26.5	31.4	36.4
M	27.0	30.5	35.5
S	22.4	25.5	28.4

2018	V	B	G
L	-8.3	-4.8	-1.5
M	-12.3	-9.1	-4.8
S	-12.9	-11.0	-9.3

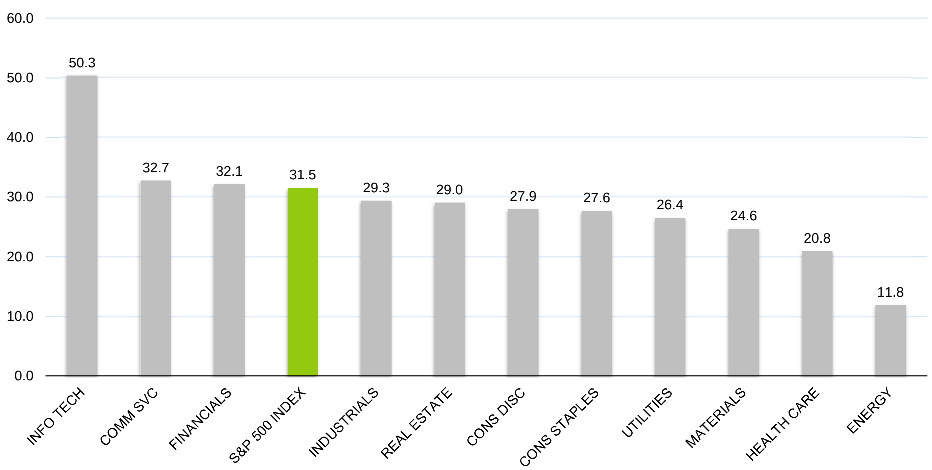
Fixed Income	Month	3 M	YTD	1 Year	Mod. Adj. Duration	Yield to Worst
	Index Returns (%)					
U.S. Aggregate	(0.07)	0.18	8.72	8.72	5.87	2.31
U.S. Corporate Investment Grade	0.32	1.18	14.54	14.54	7.89	2.84
U.S. Corporate High Yield	2.00	2.61	14.32	14.32	3.05	5.19
Global Aggregate	0.58	0.49	6.84	6.84	7.12	1.45

Currencies	12/31/19	12/31/18	12/31/17
	Levels		
Euro Spot	1.12	1.15	1.20
British Pound Spot	1.33	1.28	1.35
Japanese Yen Spot	108.61	109.69	112.69
Swiss Franc Spot	0.97	0.98	0.97

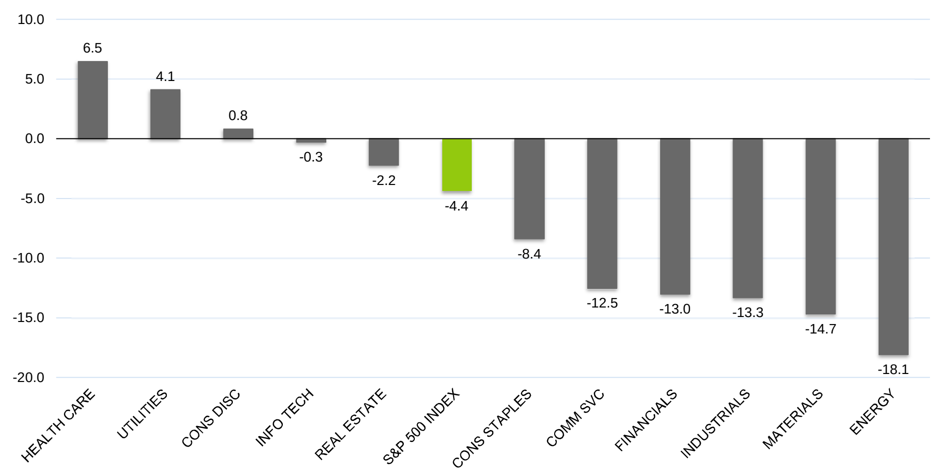
Key Rates	12/31/19	12/31/18	12/31/17	12/31/16	12/31/15
	Levels (%)				
3 Month	1.54	2.35	1.38	0.50	0.16
US 2 Year	1.57	2.49	1.88	1.19	1.05
US 10 Year	1.92	2.68	2.41	2.44	2.27
US 30 Year	2.39	3.01	2.74	3.07	3.02
ICE LIBOR USD 3M	1.91	2.81	1.69	1.00	0.61
Euribor 3 Month ACT/360	(0.38)	(0.31)	(0.33)	(0.32)	(0.13)
Bankrate 30Y Mortgage Rates Na	3.86	4.51	3.85	4.06	3.90
Prime	4.75	5.50	4.50	3.75	3.50

Commodities	12/31/19	12/31/18	12/31/17
	Levels		
Oil	61.06	48.62	54.55
Gasoline	2.59	2.26	2.49
Natural Gas	2.19	3.00	3.00
Gold	1,523.10	1,318.50	1,187.30
Silver	17.92	16.05	16.50
Copper	279.70	265.15	338.00
Corn	387.75	407.00	408.25
BBG Commodity TR Idx	172.00	159.72	179.96

YTD Sector Returns



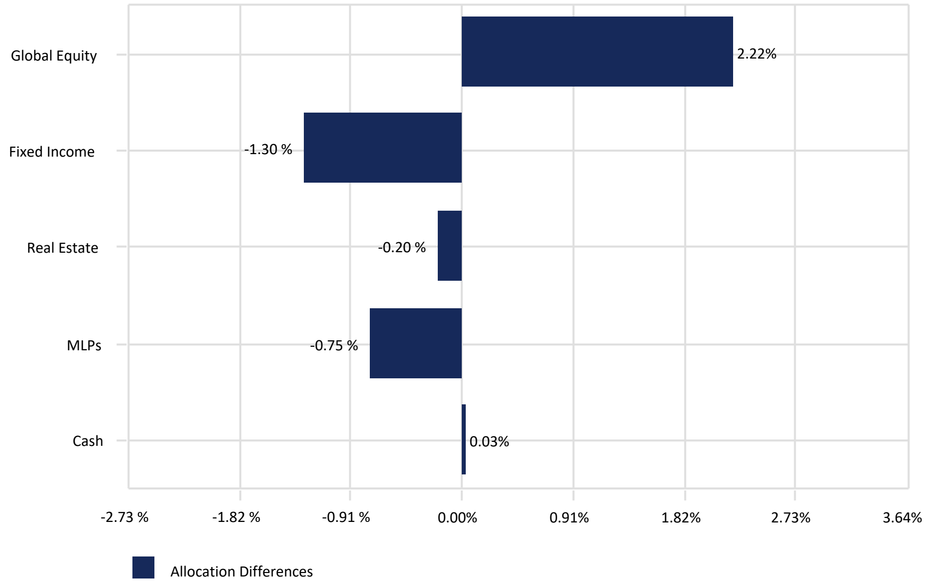
2018 Sector Returns

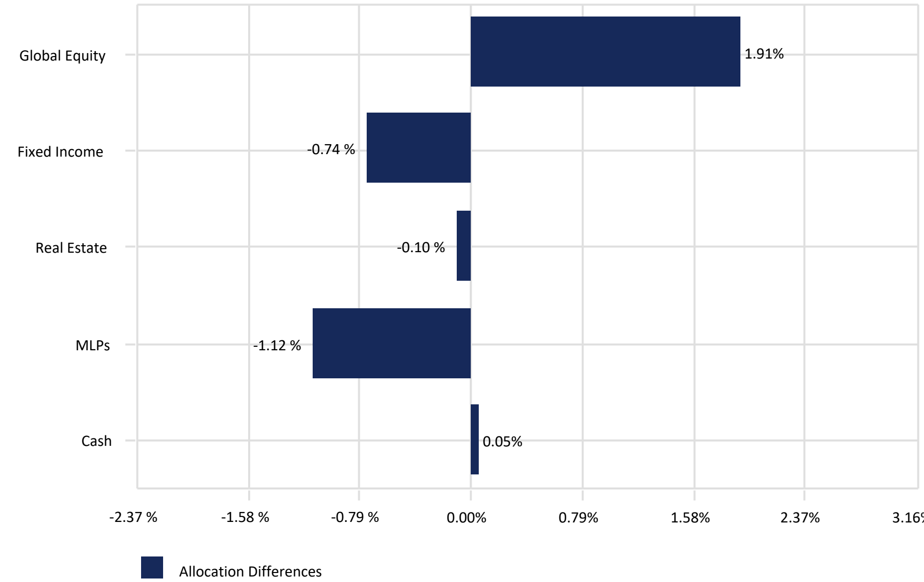


Employees' Retirement System of the City of Norfolk

Asset Allocation vs. Target Allocation

December 31, 2019





December 31, 2019

	Market Value ($)	Allocation (%)	Target (%)
Global Equity	652,198,055	57.22	55.00
Fixed Income	327,169,943	28.70	30.00
Real Estate	83,154,542	7.30	7.50
MLPs	76,948,958	6.75	7.50
Cash	342,965	0.03	0.00
Total Fund	1,139,814,463	100.00	100.00

November 30, 2019

	Market Value ($)	Allocation (%)	Target (%)
Global Equity	636,385,827	56.91	55.00
Fixed Income	327,159,368	29.26	30.00
Real Estate	82,765,200	7.40	7.50
MLPs	71,393,190	6.38	7.50
Cash	542,093	0.05	0.00
Total Fund	1,118,245,677	100.00	100.00

Employees' Retirement System of the City of Norfolk

Asset Allocation & Performance - (net of fees)

December 31, 2019

	Asset $	Asset %	1 Month	3 Month	CYTD	FYTD	1 Year	3 Year	5 Year	Since Inception	Inception Date
Total Fund Composite	**1,139,814,463**	**100.00**	**2.55**	**5.10**	**17.46**	**5.22**	**17.46**	**8.41**	**6.27**	**8.09**	**Oct -1990**
Total Fund Policy			*2.19*	*5.66*	*19.72*	*6.48*	*19.72*	*9.19*	*6.57*	*8.21*	
Excess Return			0.36	-0.56	-2.26	-1.26	-2.26	-0.78	-0.30	-0.12	
Total Fund Strategy Index			*2.67*	*4.79*	*17.92*	*5.12*	*17.92*	*8.13*	*6.02*	*8.16*	
Excess Return			-0.12	0.31	-0.46	0.10	-0.46	0.28	0.25	-0.07	
Global Equity	652,198,055	57.22	3.55	9.11	26.87	9.01	26.87	12.52	8.79	9.15	Oct -1990
Global Equity Policy			*3.55*	*9.05*	*26.35*	*8.85*	*26.35*	*12.09*	*8.39*	*9.43*	
Excess Return			0.00	0.06	0.52	0.16	0.52	0.43	0.40	-0.28	
Fixed Income	327,169,943	28.70	0.00	0.26	8.23	2.12	8.23	4.16	3.20	5.98	Oct -1990
Blmbg. Barc. U.S. Aggregate			*-0.07*	*0.18*	*8.72*	*2.45*	*8.72*	*4.03*	*3.05*	*5.94*	
Excess Return			0.07	0.08	-0.49	-0.33	-0.49	0.13	0.15	0.04	
Real Estate	83,154,542	7.30	0.47	0.97	0.25	1.41	0.25	4.21	6.45	8.68	Apr -2011
NCREIF Fund Index-ODCE (VW) (Net)			*1.29*	*1.29*	*4.41*	*2.38*	*4.41*	*6.14*	*7.99*	*9.70*	
Excess Return			-0.82	-0.32	-4.16	-0.97	-4.16	-1.93	-1.54	-1.02	
MLPs	76,948,958	6.75	7.78	-1.51	10.35	-7.08	10.35	-2.97	-5.50	0.61	Mar -2013
Alerian MLP Index			*8.53*	*-4.08*	*6.56*	*-8.90*	*6.56*	*-4.45*	*-7.00*	*-2.89*	
Excess Return			-0.75	2.57	3.79	1.82	3.79	1.48	1.50	3.50	
Cash	342,965	0.03	0.19	0.58	3.06	1.99	3.06	2.24	1.47	1.60	Jul -2003
FTSE 3 Month T-Bill			*0.14*	*0.46*	*2.25*	*1.03*	*2.25*	*1.65*	*1.05*	*1.31*	
Excess Return			0.05	0.12	0.81	0.96	0.81	0.59	0.42	0.29	

Employees' Retirement System of the City of Norfolk

Asset Allocation & Performance - (net of fees)

December 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	652,198,055	57.22	3.55	9.11	26.87	9.01	26.87	12.52	-	12.08	May -2016
MSCI AC World IMI (Net)			*3.55*	*9.05*	*26.35*	*8.85*	*26.35*	*12.09*	-	*11.65*	
Excess Return			0.00	0.06	0.52	0.16	0.52	0.43	-	0.43	
Fixed Income											
PIMCO Total Return	163,535,203	14.35	0.08	0.35	7.85	1.78	7.85	4.30	3.36	6.31	Jan -1991
Blmbg. Barc. U.S. Aggregate			*-0.07*	*0.18*	*8.72*	*2.45*	*8.72*	*4.03*	*3.05*	*5.81*	
Excess Return			0.15	0.17	-0.87	-0.67	-0.87	0.27	0.31	0.50	
SSgA Bond Market Index	163,634,740	14.36	-0.08	0.18	8.74	2.47	8.74	4.04	3.06	3.95	Jan -2009
Blmbg. Barc. U.S. Aggregate			*-0.07*	*0.18*	*8.72*	*2.45*	*8.72*	*4.03*	*3.05*	*3.94*	
Excess Return			-0.01	0.00	0.02	0.02	0.02	0.01	0.01	0.01	
Real Estate											
JP Morgan Asset Management Strategic Property Fund	43,297,922	3.80	1.06	2.04	3.37	2.24	3.37	5.58	7.59	9.76	Apr -2011
NCREIF Fund Index-ODCE (VW) (Net)			*1.29*	*1.29*	*4.41*	*2.38*	*4.41*	*6.14*	*7.99*	*9.70*	
Excess Return			-0.23	0.75	-1.04	-0.14	-1.04	-0.56	-0.40	0.06	
UBS Trumbull Property Fund	39,856,620	3.50	-0.17	-0.17	-2.94	0.52	-2.94	2.76	5.13	6.73	Jan -2012
NCREIF Fund Index-ODCE (VW) (Net)			*1.29*	*1.29*	*4.41*	*2.38*	*4.41*	*6.14*	*7.99*	*9.25*	
Excess Return			-1.46	-1.46	-7.35	-1.86	-7.35	-3.38	-2.86	-2.52	
MLPs											
Harvest MLP	38,981,214	3.42	7.77	-1.28	12.61	-6.31	12.61	-2.83	-5.63	0.63	Mar -2013
Alerian MLP Index			*8.53*	*-4.08*	*6.56*	*-8.90*	*6.56*	*-4.45*	*-7.00*	*-2.89*	
Excess Return			-0.76	2.80	6.05	2.59	6.05	1.62	1.37	3.52	
Tortoise Capital Advisors	37,967,744	3.33	7.79	-1.74	8.22	-7.77	8.22	-3.07	-5.39	-0.15	Apr -2013
Alerian MLP Index			*8.53*	*-4.08*	*6.56*	*-8.90*	*6.56*	*-4.45*	*-7.00*	*-3.67*	
Excess Return			-0.74	2.34	1.66	1.13	1.66	1.38	1.61	3.52	

Employees' Retirement System for the City of Norfolk

Asset LiabilityScorecard Net of Fees*

As of December 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

December 31, 2019

Total Fund Policy : May-2016	(%)
MSCI AC World IMI (Net)	62.50
Blmbg. Barc. U.S. Aggregate	37.50

Total Fund Strategy Index : Jul-2016	(%)
MSCI AC World IMI (Net)	55.00
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

December 31, 2019

Global Equity Policy

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

This performance report is based on data obtained by the client's custodian(s), investment fund administrator, or other sources believed to be reliable. While these sources are believed to be reliable, the data providers are responsible for the accuracy and completeness of their statements. Clients are encouraged to compare the records of their custodian(s) to ensure this report fairly and accurately reflects their various asset positions.

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.

Additional information included in this document may contain data provided by from index databases, public economic sources and the managers themselves.

This document may contain data provided by Bloomberg Barclays.   Bloomberg Barclays Index data provided by way of Barclays Live.

This document may contain data provided by Standard and Poor's. Nothing contained within any document, advertisement or presentation from S&P Indices constitutes an offer of services in jurisdictions where S&P Indices does not have the necessary licenses. All information provided by S&P Indices is impersonal and is not tailored to the needs of any person, entity or group of persons. Any returns or performance provided within any document is provided for illustrative purposes only and does not demonstrate actual performance. Past performance is not a guarantee of future investment results.

This document may contain data provided by MSCI, Inc. Copyright MSCI, 2017. Unpublished. All Rights Reserved. This information may only be used for your internal use, may not be reproduced or redisseminated in any form and may not be used to create any financial instruments or products or any indices. This information is provided on an "as is" basis and the user of this information assumes the entire risk of any use it may make or permit to be made of this information. Neither MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information makes any express or implied warranties or representations with respect to such information or the results to be obtained by the use thereof, and MSCI, its affiliates and each such other person hereby expressly disclaim all warranties (including, without limitation, all warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information have any liability for any direct, indirect, special, incidental, punitive, consequential or any other damages (including, without limitation, lost profits) even if notified of, or if it might otherwise have anticipated, the possibility of such damages.

This document may contain data provided by Russell Investment Group. Russell Investment Group is the source owner of the data contained or reflected in this material and all trademarks and copyrights related thereto. The material may contain confidential information and unauthorized use, disclosure, copying, dissemination or redistribution is strictly prohibited. This is a user presentation of the data. Russell Investment Group is not responsible for the formatting or configuration of this material or for any inaccuracy in presentation thereof.

This document may contain data provided by Morningstar. All rights reserved. Use of this content requires expert knowledge. It is to be used by specialist institutions only. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied, adapted or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information, except where such damages or losses cannot be limited or excluded by law in your jurisdiction. Past financial performance is not guarantee of future results.

Putting clients first.

CHICAGO | CLEVELAND | DALLAS | DETROIT | ORLANDO | PITTSBURGH | RENO

AndCo Consulting | (844) 44-ANDCO | *AndCoConsulting.com*