

The Ithaka Group
PORTFOLIO APPRAISAL
North Carolina Retirement System
North Carolina Department of State Treasurer
August 31, 2016

Quantity	Security	Unit Cost	Total Cost	Price	Market Value	Pct. Assets	Cur. Yield
CASH AND EQUIVALENTS							
	BNY MELLON MMF		154,660.62		154,660.62	0.8	0.0
	Dividend Accruals		5,489.35		5,489.35	0.0	0.0
			160,149.97		160,149.97	0.8	0.0
COMMON STOCK							
6,126.0000	Adobe Systems Inc.	87.71	537,302.70	102.31	626,751.06	3.2	0.0
3,582.0000	Alexion Pharmaceuticals	129.33	463,253.83	125.86	450,830.52	2.3	0.0
1,226.0000	Alphabet Inc. Class C	634.09	777,393.91	767.05	940,403.30	4.8	0.0
1,372.0000	Amazon.com Inc.	304.75	418,112.61	769.16	1,055,287.52	5.3	0.0
1,568.0000	BioMarin Pharmaceutical	124.55	195,297.07	93.89	147,219.52	0.7	0.0
655.0000	Biogen Inc.	377.68	247,380.96	305.63	200,187.65	1.0	0.0
6,677.0000	Celgene Corp.	78.01	520,847.32	106.74	712,702.98	3.6	0.0
3,342.0000	DexCom Inc.	90.91	303,824.90	91.09	304,422.78	1.5	0.0
1,780.0000	Domino's Pizza, Inc.	109.44	194,799.64	149.57	266,234.60	1.3	1.0
5,448.0000	Edwards Lifesciences Corp.	105.75	576,126.92	115.16	627,391.68	3.2	0.0
12,758.0000	Facebook, Inc. cl A	41.56	530,178.77	126.12	1,609,038.96	8.1	0.0
2,823.0000	Home Depot Inc.	136.23	384,569.25	134.12	378,620.76	1.9	2.1
3,081.0000	Illumina Inc	189.39	583,499.36	168.34	518,655.54	2.6	0.0
3,392.0000	Incyte Corp	87.78	297,744.08	81.10	275,091.20	1.4	0.0
8,450.0000	Mastercard Inc.	54.55	460,972.85	96.63	816,523.50	4.1	0.8
3,550.0000	Middleby Corporation	84.56	300,184.17	128.15	454,932.50	2.3	0.0
4,632.0000	Nike Inc cl B	64.53	298,922.11	57.64	266,988.48	1.4	1.1
670.0000	O'Reilly Automotive, Inc.	255.47	171,167.24	279.95	187,566.50	0.9	0.0
3,790.0000	Palo Alto Networks, Inc.	154.55	585,740.14	133.17	504,714.30	2.6	0.0
10,542.0000	PayPal Holdings, Inc.	38.67	407,668.63	37.15	391,635.30	2.0	0.0
1,721.0000	Regeneron Pharmaceuticals	287.18	494,240.48	392.55	675,578.55	3.4	0.0
13,833.0000	Salesforce.com Inc	47.74	660,439.62	79.42	1,098,616.86	5.6	0.0
6,155.0000	Splunk Inc.	43.57	268,164.60	58.24	358,467.20	1.8	0.0
13,593.0000	Starbucks Corporation	33.75	458,749.95	56.23	764,334.39	3.9	1.4
6,256.0000	TJX Companies Inc.	68.08	425,929.12	77.44	484,464.64	2.5	1.3
580.0000	The Priceline Group Inc.	707.95	410,611.00	1,416.73	821,703.40	4.2	0.0
2,145.0000	Transdigm Group, Inc.	123.35	264,580.94	285.19	611,732.55	3.1	0.0
4,387.0000	Ulta Salon, Cosmetics	161.68	709,280.51	247.21	1,084,510.27	5.5	0.0
1,946.0000	Ultimate Software Group Inc.	184.86	359,744.09	208.94	406,597.24	2.1	0.0
8,529.0000	Under Armour, Inc. Cl A	14.90	127,109.77	39.63	338,004.27	1.7	0.0
8,589.0000	Under Armour, Inc. Cl C	14.42	123,839.81	35.65	306,197.85	1.6	0.0
13,678.0000	VISA Inc.	47.81	653,877.71	80.90	1,106,550.20	5.6	0.7
4,799.0000	Walt Disney Company	91.54	439,316.01	94.46	453,313.54	2.3	1.5
4,040.0000	Workday, Inc.	76.31	308,307.33	84.79	342,551.60	1.7	0.0
			13,959,177.40		19,587,821.21	99.2	0.3
TOTAL PORTFOLIO			14,119,327.37		19,747,971.18	100.0	0.3

The Ithaca Group
PERFORMANCE HISTORY
NET OF FEES
North Carolina Retirement System
From 05-02-13 to 08-31-16

Time Period			Percent Return Per Period				Cumulative TWR Basis = 100			
			Portfolio	Russell 1000 Growth	Russell 3000 Growth	S&P 500				
05-02-2013	to	05-02-2013					100.00	100.00	100.00	100.00
05-02-2013	to	05-31-2013	1.82	1.69	2.00	2.08	101.82	101.69	102.00	102.08
05-31-2013	to	06-30-2013	-2.21	-1.88	-1.78	-1.50	99.57	99.78	100.18	100.54
06-30-2013	to	07-31-2013	7.69	5.30	5.48	4.95	107.22	105.07	105.68	105.52
07-31-2013	to	08-31-2013	1.83	-1.71	-1.73	-3.13	109.19	103.27	103.84	102.21
08-31-2013	to	09-30-2013	8.56	4.46	4.66	2.97	118.53	107.87	108.68	105.26
09-30-2013	to	10-31-2013	2.80	4.42	4.21	4.46	121.85	112.64	113.26	109.95
10-31-2013	to	11-30-2013	3.28	2.82	2.92	2.80	125.84	115.82	116.57	113.03
11-30-2013	to	12-31-2013	2.75	2.86	2.79	2.36	129.30	119.13	119.82	115.70
12-31-2013	to	01-31-2014	-1.21	-2.85	-2.76	-3.56	127.74	115.73	116.51	111.58
01-31-2014	to	02-28-2014	6.81	5.15	5.12	4.31	136.44	121.69	122.48	116.39
02-28-2014	to	03-31-2014	-7.00	-1.01	-1.13	0.69	126.88	120.46	121.10	117.20
03-31-2014	to	04-30-2014	-5.12	0.00	-0.41	0.62	120.39	120.47	120.61	117.92
04-30-2014	to	05-31-2014	2.87	3.12	2.95	2.10	123.85	124.22	124.16	120.40
05-31-2014	to	06-30-2014	2.94	1.95	2.27	1.91	127.49	126.64	126.98	122.70
06-30-2014	to	07-31-2014	0.37	-1.53	-1.89	-1.51	127.96	124.70	124.58	120.85
07-31-2014	to	08-31-2014	5.38	4.58	4.66	3.77	134.85	130.42	130.39	125.40
08-31-2014	to	09-30-2014	-2.44	-1.45	-1.75	-1.55	131.56	128.53	128.11	123.45
09-30-2014	to	10-31-2014	3.03	2.64	2.90	2.32	135.55	131.91	131.82	126.32
10-31-2014	to	11-30-2014	1.56	3.17	2.98	2.45	137.66	136.09	135.74	129.42
11-30-2014	to	12-31-2014	-1.83	-1.04	-0.75	-0.42	135.14	134.67	134.73	128.88
12-31-2014	to	01-31-2015	0.72	-1.53	-1.59	-3.10	136.12	132.61	132.59	124.87
01-31-2015	to	02-28-2015	8.35	6.67	6.71	5.49	147.49	141.45	141.48	131.73
02-28-2015	to	03-31-2015	-1.45	-1.14	-0.92	-1.74	145.36	139.84	140.18	129.44
03-31-2015	to	04-30-2015	-0.32	0.50	0.23	0.85	144.89	140.54	140.51	130.54
04-30-2015	to	05-31-2015	0.28	1.41	1.58	1.05	145.30	142.52	142.73	131.91
05-31-2015	to	06-30-2015	1.24	-1.76	-1.52	-2.10	147.10	140.01	140.56	129.14
06-30-2015	to	07-31-2015	5.21	3.39	3.14	1.97	154.76	144.76	144.98	131.69
07-31-2015	to	08-31-2015	-6.87	-6.07	-6.19	-6.26	144.14	135.97	136.00	123.45
08-31-2015	to	09-30-2015	-2.66	-2.47	-2.78	-2.64	140.30	132.60	132.22	120.18
09-30-2015	to	10-31-2015	9.66	8.61	8.39	8.30	153.86	144.02	143.31	130.16
10-31-2015	to	11-30-2015	-0.14	0.28	0.53	0.05	153.65	144.43	144.07	130.22
11-30-2015	to	12-31-2015	-1.13	-1.47	-1.72	-1.75	151.91	142.31	141.59	127.94
12-31-2015	to	01-31-2016	-8.77	-5.58	-5.97	-5.07	138.59	134.36	133.13	121.45
01-31-2016	to	02-29-2016	-4.20	-0.04	-0.09	-0.41	132.77	134.31	133.01	120.95
02-29-2016	to	03-31-2016	5.42	6.74	6.81	6.60	139.97	143.36	142.07	128.93
03-31-2016	to	04-30-2016	0.51	-0.91	-0.78	0.27	140.68	142.05	140.96	129.28
04-30-2016	to	05-31-2016	2.33	1.94	2.00	1.53	143.95	144.81	143.78	131.26
05-31-2016	to	06-30-2016	-2.94	-0.39	-0.40	0.09	139.72	144.24	143.20	131.38
06-30-2016	to	07-31-2016	7.22	4.72	4.86	3.56	149.81	151.05	150.16	136.05
07-31-2016	to	08-31-2016	-0.44	-0.50	-0.38	-0.12	149.14	150.30	149.59	135.89
Date to Date										
05-02-2013	to	08-31-2016	49.14	50.30	49.59	35.89				
Annualized			12.75	13.01	12.85	9.64				

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PERFORMANCE HISTORY
GROSS OF FEES
North Carolina Retirement System
From 05-02-13 to 08-31-16

Time Period			Percent Return				Cumulative TWR			
			Portfolio	Russell 1000 Growth	Russell 3000 Growth	S&P 500	Basis = 100			
05-02-2013 to 05-02-2013							100.00	100.00	100.00	100.00
05-02-2013	to	05-31-2013	1.82	1.69	2.00	2.08	101.82	101.69	102.00	102.08
05-31-2013	to	06-30-2013	-2.21	-1.88	-1.78	-1.50	99.57	99.78	100.18	100.54
06-30-2013	to	07-31-2013	7.78	5.30	5.48	4.95	107.32	105.07	105.68	105.52
07-31-2013	to	08-31-2013	1.83	-1.71	-1.73	-3.13	109.28	103.27	103.84	102.21
08-31-2013	to	09-30-2013	8.60	4.46	4.66	2.97	118.68	107.87	108.68	105.26
09-30-2013	to	10-31-2013	2.94	4.42	4.21	4.46	122.17	112.64	113.26	109.95
10-31-2013	to	11-30-2013	3.28	2.82	2.92	2.80	126.18	115.82	116.57	113.03
11-30-2013	to	12-31-2013	2.75	2.86	2.79	2.36	129.64	119.13	119.82	115.70
12-31-2013	to	01-31-2014	-1.07	-2.85	-2.76	-3.56	128.26	115.73	116.51	111.58
01-31-2014	to	02-28-2014	6.81	5.15	5.12	4.31	137.00	121.69	122.48	116.39
02-28-2014	to	03-31-2014	-7.00	-1.01	-1.13	0.69	127.41	120.46	121.10	117.20
03-31-2014	to	04-30-2014	-4.97	0.00	-0.41	0.62	121.07	120.47	120.61	117.92
04-30-2014	to	05-31-2014	2.87	3.12	2.95	2.10	124.55	124.22	124.16	120.40
05-31-2014	to	06-30-2014	2.94	1.95	2.27	1.91	128.21	126.64	126.98	122.70
06-30-2014	to	07-31-2014	0.51	-1.53	-1.89	-1.51	128.87	124.70	124.58	120.85
07-31-2014	to	08-31-2014	5.38	4.58	4.66	3.77	135.81	130.42	130.39	125.40
08-31-2014	to	09-30-2014	-2.44	-1.45	-1.75	-1.55	132.49	128.53	128.11	123.45
09-30-2014	to	10-31-2014	3.18	2.64	2.90	2.32	136.71	131.91	131.82	126.32
10-31-2014	to	11-30-2014	1.56	3.17	2.98	2.45	138.84	136.09	135.74	129.42
11-30-2014	to	12-31-2014	-1.83	-1.04	-0.75	-0.42	136.30	134.67	134.73	128.88
12-31-2014	to	01-31-2015	0.87	-1.53	-1.59	-3.10	137.48	132.61	132.59	124.87
01-31-2015	to	02-28-2015	8.35	6.67	6.71	5.49	148.97	141.45	141.48	131.73
02-28-2015	to	03-31-2015	-1.39	-1.14	-0.92	-1.74	146.89	139.84	140.18	129.44
03-31-2015	to	04-30-2015	-0.32	0.50	0.23	0.85	146.42	140.54	140.51	130.54
04-30-2015	to	05-31-2015	0.28	1.41	1.58	1.05	146.83	142.52	142.73	131.91
05-31-2015	to	06-30-2015	1.44	-1.76	-1.52	-2.10	148.95	140.01	140.56	129.14
06-30-2015	to	07-31-2015	5.21	3.39	3.14	1.97	156.71	144.76	144.98	131.69
07-31-2015	to	08-31-2015	-6.87	-6.07	-6.19	-6.26	145.95	135.97	136.00	123.45
08-31-2015	to	09-30-2015	-2.45	-2.47	-2.78	-2.64	142.37	132.60	132.22	120.18
09-30-2015	to	10-31-2015	9.81	8.61	8.39	8.30	156.33	144.02	143.31	130.16
10-31-2015	to	11-30-2015	-0.14	0.28	0.53	0.05	156.12	144.43	144.07	130.22
11-30-2015	to	12-31-2015	-1.07	-1.47	-1.72	-1.75	154.45	142.31	141.59	127.94
12-31-2015	to	01-31-2016	-8.62	-5.58	-5.97	-5.07	141.13	134.36	133.13	121.45
01-31-2016	to	02-29-2016	-4.13	-0.04	-0.09	-0.41	135.30	134.31	133.01	120.95
02-29-2016	to	03-31-2016	5.42	6.74	6.81	6.60	142.63	143.36	142.07	128.93
03-31-2016	to	04-30-2016	0.65	-0.91	-0.78	0.27	143.55	142.05	140.96	129.28
04-30-2016	to	05-31-2016	2.33	1.94	2.00	1.53	146.89	144.81	143.78	131.26
05-31-2016	to	06-30-2016	-2.88	-0.39	-0.40	0.09	142.66	144.24	143.20	131.38
06-30-2016	to	07-31-2016	7.22	4.72	4.86	3.56	152.95	151.05	150.16	136.05
07-31-2016	to	08-31-2016	-0.44	-0.50	-0.38	-0.12	152.27	150.30	149.59	135.89
Date to Date										
05-02-2013	to	08-31-2016	52.27	50.30	49.59	35.89				

The Ithaka Group
TRANSACTION SUMMARY
North Carolina Retirement System
North Carolina Department of State Treasurer
From 08-01-2016 To 08-31-2016

Tran Code	Security	Trade Date	Settle Date	Quantity	Close Meth.	S/D Type	S/D Symbol	Trade Amount	Lot
sl	Under Armour, Inc. Cl C	08-01-2016	08-01-2016	0.5388	f	caus	BNYMMF	20.56	1
in	BNY MELLON MMF	08-02-2016	08-02-2016			caus	BNYMMF	61.82	
dv	Starbucks Corporation	08-02-2016	08-19-2016			caus	divacc	2,718.60	
	Account # change to 674824 from NCUF1615002								
wd	Dividend Accruals	08-09-2016	08-09-2016			caus	BNYMMF	1,605.50	
dv	TJX Companies Inc.	08-09-2016	09-01-2016			caus	divacc	1,626.56	
dv	VISA Inc.	08-17-2016	09-06-2016			caus	divacc	1,914.92	
wd	Dividend Accruals	08-19-2016	08-19-2016			caus	BNYMMF	2,718.60	
by	Ultimate Software Group Inc.	08-23-2016	08-26-2016	415.0000		caus	BNYMMF	85,979.54	2
by	DexCom Inc.	08-23-2016	08-26-2016	3,342.0000		caus	BNYMMF	303,824.90	1
sl	LinkedIn Corp cl A	08-23-2016	08-26-2016	268.0000	f	caus	BNYMMF	51,396.51	1
sl	LinkedIn Corp cl A	08-23-2016	08-26-2016	30.0000	f	caus	BNYMMF	5,753.34	2
sl	LinkedIn Corp cl A	08-23-2016	08-26-2016	725.0000	f	caus	BNYMMF	139,039.06	3
sl	LinkedIn Corp cl A	08-23-2016	08-26-2016	52.0000	f	caus	BNYMMF	9,972.46	4
sl	LinkedIn Corp cl A	08-23-2016	08-26-2016	611.0000	f	caus	BNYMMF	117,176.37	5
dv	Home Depot Inc.	08-30-2016	09-15-2016			caus	divacc	1,947.87	
dp	BNY MELLON MMF	08-31-2016	09-01-2016			caus	BNYMMF	0.31	