

## City of Marlborough Contributory Retirement System

2024 Q1 Update

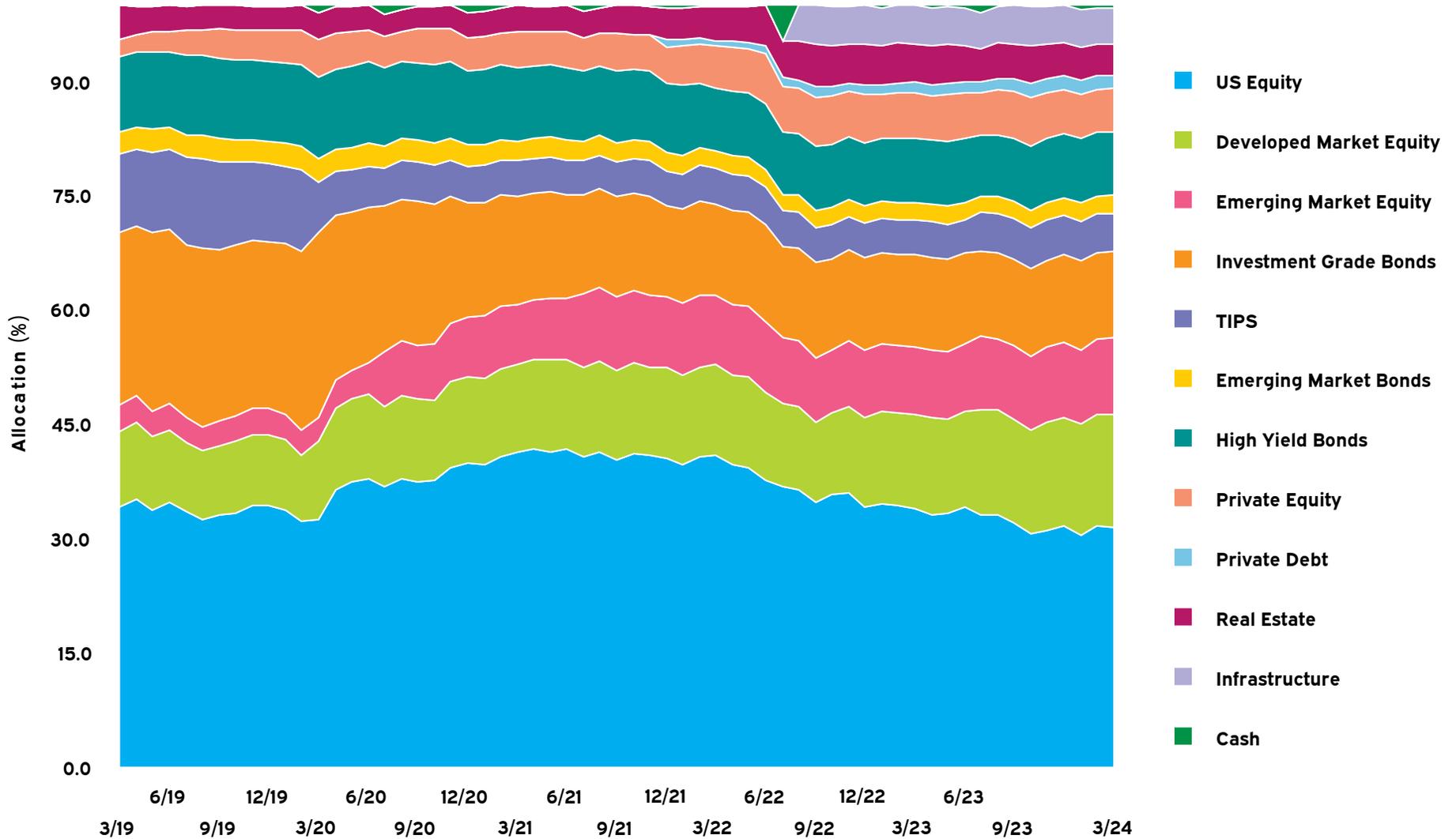
PERAC Report

**Performance Updated  
As of March 31, 2024**

The Endowment Allocation vs. Targets and Policy				
	Current Balance	Current Allocation (%)	Policy (%)	Policy Range (%)
US Equity	\$73,029,406	31.5	20.0	10.0 - 30.0
Developed Market Equity	\$34,478,705	14.9	20.0	8.0 - 28.0
Emerging Market Equity	\$23,275,669	10.0	10.0	5.0 - 15.0
Investment Grade Bonds	\$25,958,781	11.2	5.0	3.0 - 10.0
TIPS	\$11,701,466	5.0	5.0	3.0 - 10.0
Emerging Market Bonds	\$5,517,021	2.4	5.0	2.0 - 8.0
High Yield Bonds	\$19,321,133	8.3	5.0	2.0 - 8.0
Private Equity	\$13,150,994	5.7	15.0	10.0 - 20.0
Private Debt	\$3,998,025	1.7	5.0	0.0 - 10.0
Real Estate	\$9,450,549	4.1	5.0	2.0 - 8.0
Infrastructure	\$11,054,387	4.8	5.0	0.0 - 10.0
Cash	\$899,844	0.4	0.0	0.0 - 5.0
<b>Total</b>	<b>\$231,835,979</b>	<b>100.0</b>	<b>100.0</b>	

Percentages may not sum to 100% due to rounding.

#### Asset Allocation 5 Years Ending March 31, 2024



### Asset Allocation & Performance | As of March 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Since Inception	Inception Date
<b>Total Retirement System</b>	<b>231,835,979</b>	<b>100.0</b>	<b>3.9</b>	<b>12.7</b>	<b>4.5</b>	<b>7.9</b>	<b>6.7</b>	<b>6.8</b>	<b>7.7</b>	<b>Jul-88</b>
<i>55% MSCI World &amp; 45% Barclays Aggregate</i>			<i>4.5</i>	<i>14.1</i>	<i>3.7</i>	<i>7.0</i>	<i>6.0</i>	<i>6.1</i>	<i>6.9</i>	
<i>60% MSCI World /40% Blmbg. Global Aggregate</i>			<i>4.4</i>	<i>14.8</i>	<i>3.2</i>	<i>6.9</i>	<i>5.7</i>	<i>6.0</i>	<i>--</i>	
<b>Domestic Equity Assets</b>	<b>73,029,406</b>	<b>31.5</b>	<b>8.5</b>	<b>25.8</b>	<b>9.5</b>	<b>12.3</b>	<b>10.8</b>	<b>--</b>	<b>9.2</b>	<b>Oct-06</b>
<i>Russell 3000 Index</i>			<i>10.0</i>	<i>29.3</i>	<i>9.8</i>	<i>14.3</i>	<i>12.3</i>	<i>10.1</i>	<i>10.1</i>	
<b>International Developed Markets Equity Assets</b>	<b>34,478,705</b>	<b>14.9</b>	<b>5.6</b>	<b>15.4</b>	<b>5.0</b>	<b>7.5</b>	<b>4.5</b>	<b>--</b>	<b>3.8</b>	<b>Oct-06</b>
<i>MSCI EAFE</i>			<i>5.8</i>	<i>15.3</i>	<i>4.8</i>	<i>7.3</i>	<i>4.8</i>	<i>5.7</i>	<i>4.1</i>	
<b>International Emerging Markets Equity Assets</b>	<b>23,275,669</b>	<b>10.0</b>	<b>4.5</b>	<b>13.2</b>	<b>-1.5</b>	<b>5.5</b>	<b>--</b>	<b>--</b>	<b>5.3</b>	<b>Jan-15</b>
<i>MSCI Emerging Markets</i>			<i>2.4</i>	<i>8.2</i>	<i>-5.1</i>	<i>2.2</i>	<i>2.9</i>	<i>6.5</i>	<i>3.4</i>	
<b>Investment Grade Bonds Assets</b>	<b>25,958,781</b>	<b>11.2</b>	<b>-0.7</b>	<b>1.6</b>	<b>-2.5</b>	<b>0.3</b>	<b>1.5</b>	<b>3.0</b>	<b>5.2</b>	<b>Jul-88</b>
<i>Blmbg. U.S. Aggregate Index</i>			<i>-0.8</i>	<i>1.7</i>	<i>-2.5</i>	<i>0.4</i>	<i>1.5</i>	<i>3.0</i>	<i>5.3</i>	
<b>High Yield Bond Assets</b>	<b>19,321,133</b>	<b>8.3</b>	<b>1.4</b>	<b>9.9</b>	<b>2.4</b>	<b>4.2</b>	<b>4.2</b>	<b>5.8</b>	<b>6.1</b>	<b>Sep-03</b>
<i>Blmbg. U.S. Corp: High Yield Index</i>			<i>1.5</i>	<i>11.2</i>	<i>2.2</i>	<i>4.2</i>	<i>4.4</i>	<i>6.5</i>	<i>6.9</i>	
<b>TIPS Assets</b>	<b>11,701,466</b>	<b>5.0</b>	<b>0.0</b>	<b>0.3</b>	<b>-0.7</b>	<b>2.4</b>	<b>2.1</b>	<b>--</b>	<b>3.3</b>	<b>Oct-05</b>
<i>Blmbg. U.S. TIPS Index</i>			<i>-0.1</i>	<i>0.5</i>	<i>-0.5</i>	<i>2.5</i>	<i>2.2</i>	<i>3.4</i>	<i>3.3</i>	
<b>Emerging Market Debt Assets</b>	<b>5,517,021</b>	<b>2.4</b>	<b>2.7</b>	<b>13.4</b>	<b>-0.8</b>	<b>1.3</b>	<b>--</b>	<b>--</b>	<b>3.1</b>	<b>Jan-15</b>
<i>JPM EMBI Global Diversified</i>			<i>2.0</i>	<i>11.3</i>	<i>-1.4</i>	<i>0.7</i>	<i>3.0</i>	<i>5.6</i>	<i>2.9</i>	
<b>Open-Ended Real Estate</b>	<b>5,673,964</b>	<b>2.4</b>	<b>-3.8</b>	<b>-15.4</b>	<b>2.1</b>	<b>3.2</b>	<b>7.0</b>	<b>6.2</b>	<b>7.3</b>	<b>Oct-95</b>
<i>NCREIF ODCE (VW) (Monthly)</i>			<i>-2.4</i>	<i>-11.3</i>	<i>3.4</i>	<i>3.5</i>	<i>6.8</i>	<i>7.0</i>	<i>8.1</i>	
<b>Total Closed End Real Estate</b>	<b>3,776,585</b>	<b>1.6</b>	<b>-6.2</b>	<b>-16.6</b>	<b>2.6</b>	<b>-10.3</b>	<b>0.5</b>	<b>--</b>	<b>2.0</b>	<b>Jan-13</b>
<b>Private Equity Assets</b>	<b>13,150,994</b>	<b>5.7</b>	<b>1.5</b>	<b>3.3</b>	<b>12.1</b>	<b>17.4</b>	<b>9.9</b>	<b>--</b>	<b>8.2</b>	<b>Oct-06</b>

Asset Allocation & Performance | As of March 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Since Inception	Inception Date
Private Debt Assets	3,998,025	1.7	3.7	13.4	--	--	--	--	12.1	Jan-22
Infrastructure	11,054,387	4.8	-0.9	5.2	--	--	--	--	7.3	Aug-22
Cash	899,844	0.4								

### Asset Allocation & Performance | As of March 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Since Inception	Inception Date
<b>Total Retirement System</b>	<b>231,835,979</b>	<b>100.0</b>	<b>3.9</b>	<b>12.7</b>	<b>4.5</b>	<b>7.9</b>	<b>6.7</b>	<b>6.8</b>	<b>7.7</b>	<b>Jul-88</b>
<i>55% MSCI World &amp; 45% Barclays Aggregate</i>			4.5	14.1	3.7	7.0	6.0	6.1	6.9	
<i>60% MSCI World/40% Bloomberg Global Agg</i>			4.4	14.8	3.2	6.9	5.7	6.0	--	
<i>InvMetrics Public DB \$50mm-\$250mm Net (USD) Median</i>			5.1	14.2	4.3	7.9	6.9	6.5	8.1	
<b>Domestic Equity Assets</b>	<b>73,029,406</b>	<b>31.5</b>	<b>8.5</b>	<b>25.8</b>	<b>9.5</b>	<b>12.3</b>	<b>10.8</b>	<b>--</b>	<b>9.2</b>	<b>Oct-06</b>
<i>Russell 3000 Index</i>			10.0	29.3	9.8	14.3	12.3	10.1	10.1	
RhumbLine S&P 500 Index	22,887,775	9.9	10.5	29.8	11.4	15.0	12.9	10.2	8.0	Mar-99
<i>S&amp;P 500 Index</i>			10.6	29.9	11.5	15.0	13.0	10.2	7.9	
<i>eV US Passive S&amp;P 500 Equity Median</i>			10.5	29.7	11.4	15.0	12.9	10.1	7.9	
Frontier Capital Appreciation	26,502,578	11.4	6.9	23.1	5.2	11.2	9.2	--	11.4	Feb-13
<i>Russell 2500 Growth Index</i>			8.5	21.1	-0.8	9.4	9.6	9.6	11.3	
<i>eV US Small-Mid Cap Growth Equity Median</i>			7.2	16.7	-0.4	10.0	9.8	9.7	11.5	
RhumbLine HEDI	23,639,054	10.2	8.3	24.3	10.8	--	--	--	14.6	Nov-20
<i>Russell 1000 High Effic. Defensive Moderate Index</i>			8.3	24.3	10.8	14.2	13.7	11.3	14.7	
<i>eV US Large Cap Core Equity Median</i>			10.4	27.8	10.2	13.8	11.8	9.9	15.5	
<b>International Developed Markets Equity Assets</b>	<b>34,478,705</b>	<b>14.9</b>	<b>5.6</b>	<b>15.4</b>	<b>5.0</b>	<b>7.5</b>	<b>4.5</b>	<b>--</b>	<b>3.8</b>	<b>Oct-06</b>
<i>MSCI EAFE</i>			5.8	15.3	4.8	7.3	4.8	5.7	4.1	
RhumbLine MSCI EAFE Index	34,478,705	14.9	5.6	15.4	5.0	7.5	--	--	4.9	Aug-14
<i>MSCI EAFE</i>			5.8	15.3	4.8	7.3	4.8	5.7	4.7	
<i>eV EAFE All Cap Equity Median</i>			5.3	14.5	3.7	6.8	4.9	6.1	4.9	
<b>International Emerging Markets Equity Assets</b>	<b>23,275,669</b>	<b>10.0</b>	<b>4.5</b>	<b>13.2</b>	<b>-1.5</b>	<b>5.5</b>	<b>--</b>	<b>--</b>	<b>5.3</b>	<b>Jan-15</b>
<i>MSCI Emerging Markets</i>			2.4	8.2	-5.1	2.2	2.9	6.5	3.4	

### Asset Allocation & Performance | As of March 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Since Inception	Inception Date
DFA Emerging Markets	12,134,458	5.2	2.4	11.9	-0.2	4.9	--	--	4.7	Jan-15
<i>MSCI Emerging Markets</i>			2.4	8.2	-5.1	2.2	2.9	6.5	3.4	
<i>eV Emg Mkts All Cap Equity Median</i>			3.1	9.3	-5.0	3.2	3.7	7.0	4.0	
Driehaus Emerging Market Equity	11,141,211	4.8	7.0	14.6	-2.8	5.7	--	--	5.8	Jan-15
<i>MSCI Emerging Markets</i>			2.4	8.2	-5.1	2.2	2.9	6.5	3.4	
<i>eV Emg Mkts All Cap Equity Median</i>			3.1	9.3	-5.0	3.2	3.7	7.0	4.0	
<b>Investment Grade Bonds Assets</b>	<b>25,958,781</b>	<b>11.2</b>	<b>-0.7</b>	<b>1.6</b>	<b>-2.5</b>	<b>0.3</b>	<b>1.5</b>	<b>3.0</b>	<b>5.2</b>	<b>Jul-88</b>
<i>Blmbg. U.S. Aggregate Index</i>			-0.8	1.7	-2.5	0.4	1.5	3.0	5.3	
SSgA U.S. Aggregate Bond Index	25,958,781	11.2	-0.7	1.6	-2.5	0.3	1.5	3.0	3.6	May-01
<i>Blmbg. U.S. Aggregate Index</i>			-0.8	1.7	-2.5	0.4	1.5	3.0	3.6	
<i>eV US Core Fixed Inc Median</i>			-0.5	2.2	-2.2	0.7	1.8	3.2	3.9	
<b>High Yield Bond Assets</b>	<b>19,321,133</b>	<b>8.3</b>	<b>1.4</b>	<b>9.9</b>	<b>2.4</b>	<b>4.2</b>	<b>4.2</b>	<b>5.8</b>	<b>6.1</b>	<b>Sep-03</b>
<i>Blmbg. U.S. Corp: High Yield Index</i>			1.5	11.2	2.2	4.2	4.4	6.5	6.9	
Shenkman Capital	19,321,133	8.3	1.4	9.9	2.5	4.2	4.2	--	6.0	Apr-06
<i>Blmbg. U.S. Corp: High Yield Index</i>			1.5	11.2	2.2	4.2	4.4	6.5	6.5	
<i>eV US High Yield Fixed Inc Median</i>			1.6	10.4	2.3	4.0	4.1	5.9	5.9	
<b>TIPS Assets</b>	<b>11,701,466</b>	<b>5.0</b>	<b>0.0</b>	<b>0.3</b>	<b>-0.7</b>	<b>2.4</b>	<b>2.1</b>	<b>--</b>	<b>3.3</b>	<b>Oct-05</b>
<i>Blmbg. U.S. TIPS Index</i>			-0.1	0.5	-0.5	2.5	2.2	3.4	3.3	
SSgA TIPS Index-NL	11,701,466	5.0	0.0	0.3	-0.7	2.4	2.1	--	3.3	Oct-05
<i>Blmbg. U.S. TIPS Index</i>			-0.1	0.5	-0.5	2.5	2.2	3.4	3.3	
<i>eV US TIPS / Inflation Fixed Inc Median</i>			0.0	0.6	-0.4	2.6	2.2	3.3	3.3	

### Asset Allocation & Performance | As of March 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Since Inception	Inception Date
<b>Emerging Market Debt Assets</b>	<b>5,517,021</b>	<b>2.4</b>	<b>2.7</b>	<b>13.4</b>	<b>-0.8</b>	<b>1.3</b>	<b>--</b>	<b>--</b>	<b>3.1</b>	<b>Jan-15</b>
<i>JPM EMBI Global Diversified</i>			<i>2.0</i>	<i>11.3</i>	<i>-1.4</i>	<i>0.7</i>	<i>3.0</i>	<i>5.6</i>	<i>2.9</i>	
Payden Emerging Market Bond	5,517,021	2.4	2.7	13.4	-0.8	1.3	--	--	3.1	Jan-15
<i>JPM EMBI Global Diversified</i>			<i>2.0</i>	<i>11.3</i>	<i>-1.4</i>	<i>0.7</i>	<i>3.0</i>	<i>5.6</i>	<i>2.9</i>	
<i>Emerging Markets Bond Median</i>			<i>2.1</i>	<i>10.9</i>	<i>-0.8</i>	<i>1.2</i>	<i>2.3</i>	<i>5.1</i>	<i>2.7</i>	
<b>Open-Ended Real Estate</b>	<b>5,673,964</b>	<b>2.4</b>	<b>-3.8</b>	<b>-15.4</b>	<b>2.1</b>	<b>3.2</b>	<b>7.0</b>	<b>6.2</b>	<b>7.3</b>	<b>Oct-95</b>
<i>NCREIF ODCE (VW) (Monthly)</i>			<i>-2.4</i>	<i>-11.3</i>	<i>3.4</i>	<i>3.5</i>	<i>6.8</i>	<i>7.0</i>	<i>8.1</i>	
Clarion Partners	5,673,964	2.4	-3.8	-15.4	2.1	3.2	7.0	6.2	6.4	Oct-02
<i>NCREIF ODCE (VW) (Monthly)</i>			<i>-2.4</i>	<i>-11.3</i>	<i>3.4</i>	<i>3.5</i>	<i>6.8</i>	<i>7.0</i>	<i>7.1</i>	
<b>Total Closed End Real Estate</b>	<b>3,776,585</b>	<b>1.6</b>	<b>-6.2</b>	<b>-16.6</b>	<b>2.6</b>	<b>-10.3</b>	<b>0.5</b>	<b>--</b>	<b>2.0</b>	<b>Jan-13</b>
Rockwood Capital Real Estate Partners Fund XI, L.P.	3,776,585	1.6	-6.2	-16.6	2.6	--	--	--	0.7	Dec-19
<i>NCREIF Fund Index-ODCE (VW)</i>			<i>-2.4</i>	<i>-11.3</i>	<i>3.4</i>	<i>3.5</i>	<i>6.8</i>	<i>7.0</i>	<i>3.2</i>	
<b>Private Equity Assets</b>	<b>13,150,994</b>	<b>5.7</b>								
North American Strategic Partners 2006	9,272	0.0								
Ironsides Partnership Fund IV	2,462,166	1.1								
Ironsides Direct Investment Fund IV	973,192	0.4								
Ironsides Partnership Fund V, L.P.	2,375,668	1.0								
Ironsides Direct Investment Fund V, L.P.	3,388,721	1.5								
HarbourVest 2019 Global Fund	3,941,975	1.7								
<b>Private Debt Assets</b>	<b>3,998,025</b>	<b>1.7</b>	<b>3.7</b>	<b>13.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>12.1</b>	<b>Jan-22</b>

### Asset Allocation & Performance | As of March 31, 2024

	Market Value \$	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Since Inception	Inception Date
NB Private Debt Fund IV	3,998,025	1.7								
<b>Infrastructure</b>	<b>11,054,387</b>	<b>4.8</b>	<b>-0.9</b>	<b>5.2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>7.3</b>	<b>Aug-22</b>
IFM Global Infrastructure	11,054,387	4.8	-0.9	5.2	--	--	--	--	7.3	Aug-22
<i>CPI +3% (Unadjusted)</i>			<i>2.6</i>	<i>6.6</i>	<i>8.8</i>	<i>7.3</i>	<i>5.9</i>	<i>5.7</i>	<i>6.3</i>	
<b>Cash</b>	<b>899,844</b>	<b>0.4</b>								

### Asset Allocation & Performance | As of March 31, 2024

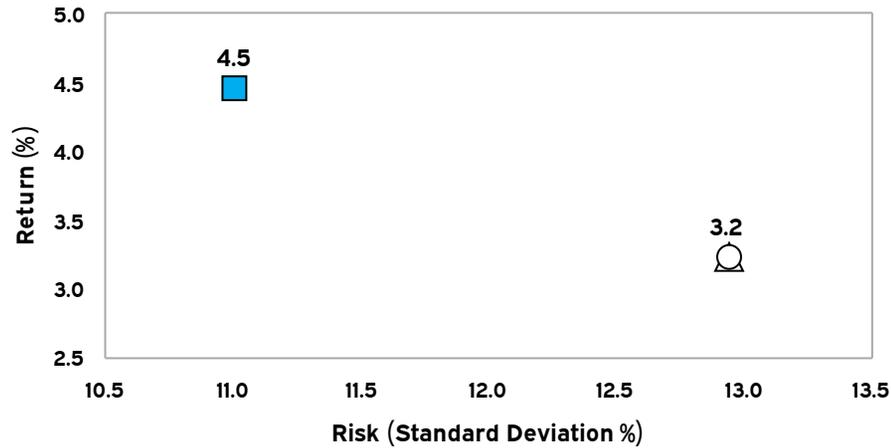
	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)
<b>Total Retirement System</b>	<b>13.6</b>	<b>-12.5</b>	<b>13.8</b>	<b>14.2</b>	<b>17.5</b>	<b>-4.5</b>	<b>13.0</b>	<b>8.7</b>	<b>-0.2</b>	<b>6.3</b>
<i>55% MSCI World &amp; 45% Barclays Aggregate</i>	<i>15.3</i>	<i>-15.6</i>	<i>10.9</i>	<i>12.9</i>	<i>19.1</i>	<i>-4.6</i>	<i>13.6</i>	<i>5.5</i>	<i>0.0</i>	<i>5.5</i>
<i>60% MSCI World/40% Bloomberg Global Agg</i>	<i>16.3</i>	<i>-17.2</i>	<i>10.6</i>	<i>13.9</i>	<i>19.1</i>	<i>-5.5</i>	<i>16.2</i>	<i>5.5</i>	<i>-1.6</i>	<i>3.2</i>
<b>Domestic Equity Assets</b>	<b>24.0</b>	<b>-16.9</b>	<b>24.8</b>	<b>13.4</b>	<b>27.6</b>	<b>-6.9</b>	<b>20.1</b>	<b>14.6</b>	<b>-1.6</b>	<b>13.1</b>
<i>Russell 3000 Index</i>	<i>26.0</i>	<i>-19.2</i>	<i>25.7</i>	<i>20.9</i>	<i>31.0</i>	<i>-5.2</i>	<i>21.1</i>	<i>12.7</i>	<i>0.5</i>	<i>12.6</i>
RhumbLine S&P 500 Index	26.2	-18.1	28.6	18.3	31.4	-4.4	21.8	11.9	1.4	13.6
<i>S&amp;P 500 Index</i>	<i>26.3</i>	<i>-18.1</i>	<i>28.7</i>	<i>18.4</i>	<i>31.5</i>	<i>-4.4</i>	<i>21.8</i>	<i>12.0</i>	<i>1.4</i>	<i>13.7</i>
Frontier Capital Appreciation	23.9	-18.0	18.2	18.1	28.9	-13.9	19.1	20.5	-6.5	12.4
<i>Russell 2500 Growth Index</i>	<i>18.9</i>	<i>-26.2</i>	<i>5.0</i>	<i>40.5</i>	<i>32.7</i>	<i>-7.5</i>	<i>24.5</i>	<i>9.7</i>	<i>-0.2</i>	<i>7.1</i>
RhumbLine HEDI	22.2	-15.2	25.5	--	--	--	--	--	--	--
<i>Russell 1000 High Effic. Defensive Moderate Index</i>	<i>22.1</i>	<i>-15.1</i>	<i>25.5</i>	<i>18.5</i>	<i>32.7</i>	<i>-0.1</i>	<i>23.4</i>	<i>11.4</i>	<i>4.8</i>	<i>15.4</i>
<b>International Developed Markets Equity Assets</b>	<b>18.5</b>	<b>-14.2</b>	<b>11.5</b>	<b>7.9</b>	<b>22.3</b>	<b>-13.5</b>	<b>24.9</b>	<b>1.4</b>	<b>-0.8</b>	<b>-8.7</b>
<i>MSCI EAFE</i>	<i>18.2</i>	<i>-14.5</i>	<i>11.3</i>	<i>7.8</i>	<i>22.0</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	<i>-0.8</i>	<i>-4.9</i>
RhumbLine MSCI EAFE Index	18.5	-14.2	11.5	7.9	22.3	-13.5	24.9	1.4	-0.8	--
<i>MSCI EAFE</i>	<i>18.2</i>	<i>-14.5</i>	<i>11.3</i>	<i>7.8</i>	<i>22.0</i>	<i>-13.8</i>	<i>25.0</i>	<i>1.0</i>	<i>-0.8</i>	<i>-4.9</i>
<b>International Emerging Markets Equity Assets</b>	<b>13.6</b>	<b>-19.3</b>	<b>2.3</b>	<b>21.1</b>	<b>20.7</b>	<b>-15.4</b>	<b>39.7</b>	<b>9.4</b>	<b>-12.7</b>	<b>--</b>
<i>MSCI Emerging Markets</i>	<i>9.8</i>	<i>-20.1</i>	<i>-2.5</i>	<i>18.3</i>	<i>18.4</i>	<i>-14.6</i>	<i>37.3</i>	<i>11.2</i>	<i>-14.9</i>	<i>-2.2</i>
DFA Emerging Markets	15.5	-16.4	5.8	13.9	16.0	-15.2	36.6	12.4	-14.9	--
<i>MSCI Emerging Markets</i>	<i>9.8</i>	<i>-20.1</i>	<i>-2.5</i>	<i>18.3</i>	<i>18.4</i>	<i>-14.6</i>	<i>37.3</i>	<i>11.2</i>	<i>-14.9</i>	<i>-2.2</i>
Driehaus Emerging Market Equity	11.6	-22.4	-1.5	28.0	25.3	-15.6	43.0	6.5	-10.6	--
<i>MSCI Emerging Markets</i>	<i>9.8</i>	<i>-20.1</i>	<i>-2.5</i>	<i>18.3</i>	<i>18.4</i>	<i>-14.6</i>	<i>37.3</i>	<i>11.2</i>	<i>-14.9</i>	<i>-2.2</i>
<b>Investment Grade Bonds Assets</b>	<b>5.6</b>	<b>-13.2</b>	<b>-1.6</b>	<b>7.5</b>	<b>8.7</b>	<b>0.0</b>	<b>3.6</b>	<b>2.6</b>	<b>0.6</b>	<b>6.0</b>
<i>Blmbg. U.S. Aggregate Index</i>	<i>5.5</i>	<i>-13.0</i>	<i>-1.5</i>	<i>7.5</i>	<i>8.7</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>

### Asset Allocation & Performance | As of March 31, 2024

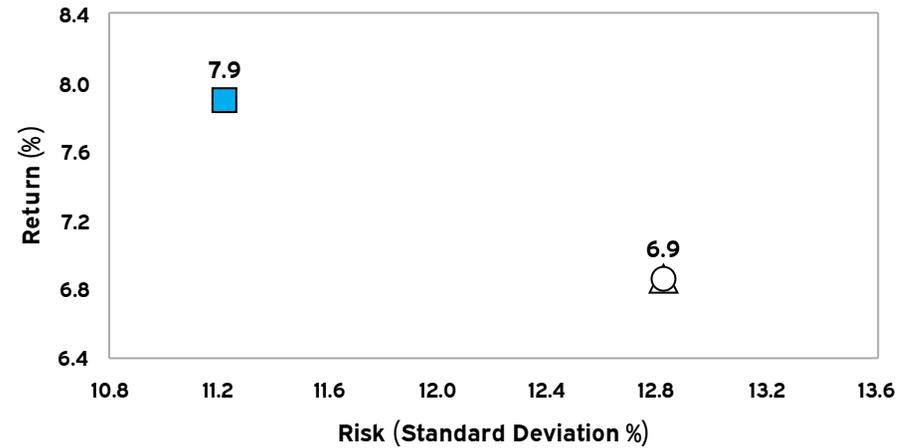
	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)
SSgA U.S. Aggregate Bond Index	5.6	-13.2	-1.6	7.5	8.7	0.0	3.6	2.6	0.6	6.0
<i>Blmbg. U.S. Aggregate Index</i>	<i>5.5</i>	<i>-13.0</i>	<i>-1.5</i>	<i>7.5</i>	<i>8.7</i>	<i>0.0</i>	<i>3.5</i>	<i>2.6</i>	<i>0.5</i>	<i>6.0</i>
<b>High Yield Bond Assets</b>	<b>12.4</b>	<b>-8.9</b>	<b>4.0</b>	<b>6.3</b>	<b>14.0</b>	<b>-1.8</b>	<b>6.5</b>	<b>12.6</b>	<b>-2.3</b>	<b>2.9</b>
<i>Blmbg. U.S. Corp: High Yield Index</i>	<i>13.4</i>	<i>-11.2</i>	<i>5.3</i>	<i>7.1</i>	<i>14.3</i>	<i>-2.1</i>	<i>7.5</i>	<i>17.1</i>	<i>-4.5</i>	<i>2.5</i>
Shenkman Capital	12.4	-8.8	4.0	6.3	14.0	-1.8	6.5	12.6	-2.3	2.9
<i>Blmbg. U.S. Corp: High Yield Index</i>	<i>13.4</i>	<i>-11.2</i>	<i>5.3</i>	<i>7.1</i>	<i>14.3</i>	<i>-2.1</i>	<i>7.5</i>	<i>17.1</i>	<i>-4.5</i>	<i>2.5</i>
<b>TIPS Assets</b>	<b>3.8</b>	<b>-12.1</b>	<b>5.8</b>	<b>10.9</b>	<b>8.4</b>	<b>-1.4</b>	<b>3.0</b>	<b>4.7</b>	<b>-1.4</b>	<b>3.6</b>
<i>Blmbg. U.S. TIPS Index</i>	<i>3.9</i>	<i>-11.8</i>	<i>6.0</i>	<i>11.0</i>	<i>8.4</i>	<i>-1.3</i>	<i>3.0</i>	<i>4.7</i>	<i>-1.4</i>	<i>3.6</i>
SSgA TIPS Index-NL	3.8	-12.1	5.8	10.9	8.4	-1.4	3.0	4.7	-1.4	3.6
<i>Blmbg. U.S. TIPS Index</i>	<i>3.9</i>	<i>-11.8</i>	<i>6.0</i>	<i>11.0</i>	<i>8.4</i>	<i>-1.3</i>	<i>3.0</i>	<i>4.7</i>	<i>-1.4</i>	<i>3.6</i>
<b>Emerging Market Debt Assets</b>	<b>12.4</b>	<b>-17.4</b>	<b>-2.4</b>	<b>6.2</b>	<b>16.5</b>	<b>-7.0</b>	<b>12.0</b>	<b>11.5</b>	<b>-0.8</b>	<b>--</b>
<i>JPM EMBI Global Diversified</i>	<i>11.1</i>	<i>-17.8</i>	<i>-1.8</i>	<i>5.3</i>	<i>15.0</i>	<i>-4.3</i>	<i>10.3</i>	<i>10.2</i>	<i>1.2</i>	<i>7.4</i>
Payden Emerging Market Bond	12.4	-17.4	-2.4	6.2	16.5	-7.0	12.0	11.5	-0.8	--
<i>JPM EMBI Global Diversified</i>	<i>11.1</i>	<i>-17.8</i>	<i>-1.8</i>	<i>5.3</i>	<i>15.0</i>	<i>-4.3</i>	<i>10.3</i>	<i>10.2</i>	<i>1.2</i>	<i>7.4</i>
<b>Open-Ended Real Estate</b>	<b>-16.5</b>	<b>9.6</b>	<b>23.4</b>	<b>2.2</b>	<b>7.3</b>	<b>8.6</b>	<b>7.9</b>	<b>9.1</b>	<b>15.7</b>	<b>13.2</b>
<i>NCREIF ODCE (VW) (Monthly)</i>	<i>-12.0</i>	<i>7.5</i>	<i>22.2</i>	<i>1.2</i>	<i>5.3</i>	<i>8.3</i>	<i>7.6</i>	<i>8.8</i>	<i>15.0</i>	<i>12.5</i>
Clarion Partners	-16.5	9.6	23.4	2.2	7.3	8.6	7.9	9.1	15.7	13.2
<i>NCREIF ODCE (VW) (Monthly)</i>	<i>-12.0</i>	<i>7.5</i>	<i>22.2</i>	<i>1.2</i>	<i>5.3</i>	<i>8.3</i>	<i>7.6</i>	<i>8.8</i>	<i>15.0</i>	<i>12.5</i>
<b>Total Closed End Real Estate</b>	<b>-12.7</b>	<b>10.2</b>	<b>14.3</b>	<b>-5.3</b>	<b>-38.2</b>	<b>-1.8</b>	<b>15.1</b>	<b>9.5</b>	<b>23.8</b>	<b>13.4</b>
Rockwood Capital Real Estate Partners Fund XI, L.P.	-12.7	10.2	14.3	0.0	--	--	--	--	--	--
<i>NCREIF Fund Index-ODCE (VW)</i>	<i>-12.0</i>	<i>7.5</i>	<i>22.2</i>	<i>1.2</i>	<i>5.3</i>	<i>8.3</i>	<i>7.6</i>	<i>8.8</i>	<i>15.0</i>	<i>12.5</i>
<b>Private Equity Assets</b>										
North American Strategic Partners 2006										

### Asset Allocation & Performance | As of March 31, 2024

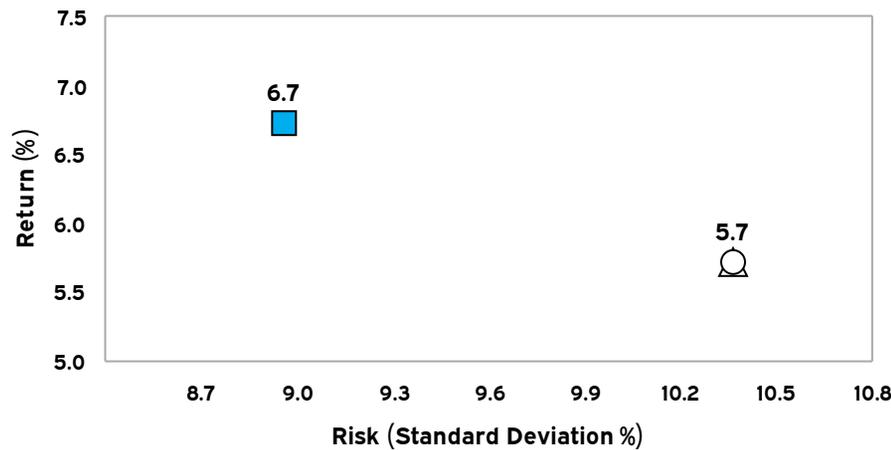
	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)
Ironsides Partnership Fund IV										
Ironsides Direct Investment Fund IV										
Ironsides Partnership Fund V, L.P.										
Ironsides Direct Investment Fund V, L.P.										
HarbourVest 2019 Global Fund										
<b>Private Debt Assets</b>	<b>12.7</b>	<b>10.8</b>	--	--	--	--	--	--	--	--
NB Private Debt Fund IV										
<b>Infrastructure</b>	<b>8.8</b>	--	--	--	--	--	--	--	--	--
IFM Global Infrastructure	8.8	--	--	--	--	--	--	--	--	--
<i>CPI +3% (Unadjusted)</i>	<i>6.4</i>	<i>9.6</i>	<i>10.2</i>	<i>4.4</i>	<i>5.3</i>	<i>5.0</i>	<i>5.2</i>	<i>5.1</i>	<i>3.7</i>	<i>3.8</i>
<b>Cash</b>										



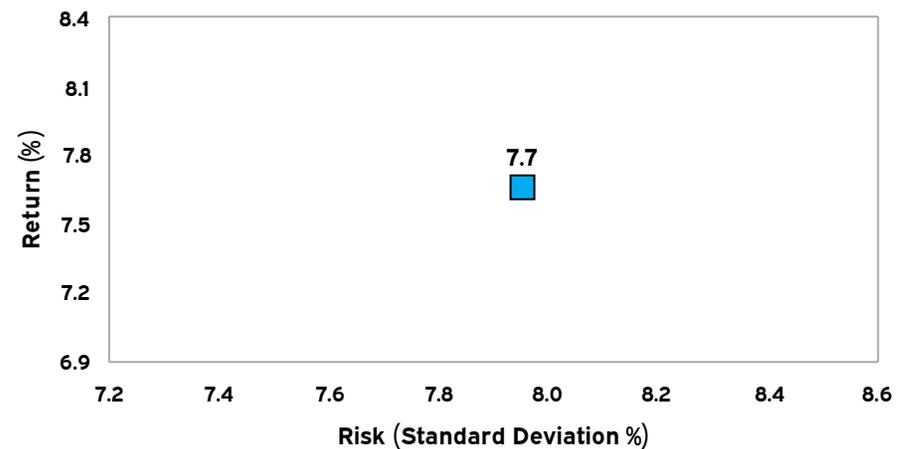
△ 60% MSCI World/40% Bloomberg Global Agg



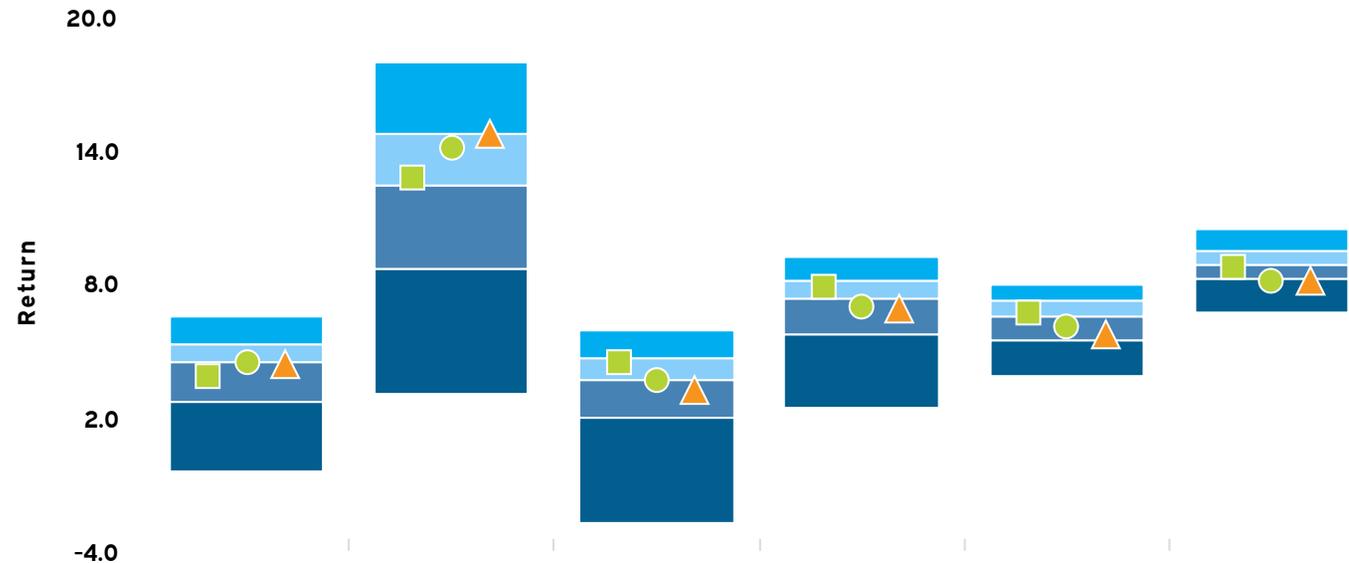
△ 60% MSCI World/40% Bloomberg Global Agg



△ 60% MSCI World/40% Bloomberg Global Agg



△ 60% MSCI World/40% Bloomberg Global Agg



	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	15 Yrs (%)
■ Total Retirement System	3.9 (60)	12.7 (47)	4.5 (31)	7.9 (33)	6.7 (45)	8.7 (57)
● 55% MSCI World & 45% Barclays Aggregate	4.5 (51)	14.1 (32)	3.7 (50)	7.0 (56)	6.0 (65)	8.1 (78)
▲ 60% MSCI World/40% Bloomberg Global Agg	4.4 (51)	14.8 (25)	3.2 (60)	6.9 (59)	5.7 (71)	8.1 (78)
5th Percentile	6.6	17.9	5.9	9.2	8.0	10.5
1st Quartile	5.3	14.7	4.7	8.1	7.2	9.4
Median	4.5	12.5	3.7	7.3	6.6	8.9
3rd Quartile	2.7	8.7	2.0	5.7	5.5	8.2
95th Percentile	-0.4	3.0	-2.7	2.4	3.8	6.7
Population	799	785	752	739	633	481

Peer group is "Taft Hartley DB Plans"  
 Parentheses contain percentile rankings.  
 Calculation based on monthly periodicity.

#### 5-year risk statistics

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Beta
Total Retirement System	7.91	12.23	0.52	2.36	0.38	0.99
55% MSCI World & 45% Barclays Aggregate	6.99	12.10	0.46	0.00	-	1.00
Equity Assets	10.21	20.34	0.49	3.37	-1.08	1.01
Russell 3000 Index	14.34	19.84	0.69	0.00	-	1.00
Domestic Equity Assets	12.33	21.07	0.58	2.79	-0.54	1.05
Russell 3000 Index	14.34	19.84	0.69	0.00	-	1.00
RhumbLine S&P 500 Index	14.98	18.92	0.74	0.05	-1.43	1.00
S&P 500 Index	15.05	18.96	0.74	0.00	-	1.00
Frontier Capital Appreciation	11.16	29.12	0.45	9.22	0.31	1.08
Russell 2500 Growth Index	9.39	25.69	0.40	0.00	-	1.00
RhumbLine HEDI	-	-	-	-	-	-
Russell 1000 High Effic. Defensive Moderate Index	14.18	17.21	0.75	0.00	-	1.00
International Developed Markets Equity Assets	7.50	19.45	0.37	0.19	0.67	0.99
MSCI EAFE	7.33	19.59	0.36	0.00	-	1.00
RhumbLine MSCI EAFE Index	7.50	19.45	0.37	0.19	0.67	0.99
MSCI EAFE	7.33	19.59	0.36	0.00	-	1.00
International Emerging Markets Equity Assets	5.48	20.69	0.27	2.55	1.26	1.00
MSCI Emerging Markets	2.22	20.48	0.11	0.00	-	1.00

RhumbLine HEDI funded on 10/5/2020. Statistics will be reflected after first full five calendar years.

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Beta
DFA Emerging Markets	4.93	21.99	0.24	3.53	0.86	1.06
MSCI Emerging Markets	2.22	20.48	0.11	0.00	-	1.00
Driehaus Emerging Market Equity	5.72	20.04	0.28	5.04	0.65	0.95
MSCI Emerging Markets	2.22	20.48	0.11	0.00	-	1.00
Investment Grade Bonds Assets	0.29	6.29	-0.25	0.14	-0.50	1.00
Blmbg. U.S. Aggregate Index	0.36	6.30	-0.24	0.00	-	1.00
SSgA U.S. Aggregate Bond Index	0.29	6.29	-0.25	0.14	-0.50	1.00
Blmbg. U.S. Aggregate Index	0.36	6.30	-0.24	0.00	-	1.00
High Yield Bond Assets	4.15	9.07	0.28	1.45	-0.12	0.88
Blmbg. U.S. Corp: High Yield Index	4.21	10.31	0.26	0.00	-	1.00
Shenkman Capital	4.17	9.06	0.28	1.47	-0.11	0.88
Blmbg. U.S. Corp: High Yield Index	4.21	10.31	0.26	0.00	-	1.00
TIPS Assets	2.38	5.90	0.09	0.14	-0.77	1.00
Blmbg. U.S. TIPS Index	2.49	5.91	0.11	0.00	-	1.00
SSgA TIPS Index-NL	2.38	5.90	0.09	0.14	-0.77	1.00
Blmbg. U.S. TIPS Index	2.49	5.91	0.11	0.00	-	1.00
Emerging Market Debt Assets	1.26	14.59	0.02	2.31	0.33	1.11
JPM EMBI Global Diversified	0.71	13.00	-0.03	0.00	-	1.00
Payden Emerging Market Bond	1.26	14.59	0.02	2.31	0.33	1.11
JPM EMBI Global Diversified	0.71	13.00	-0.03	0.00	-	1.00

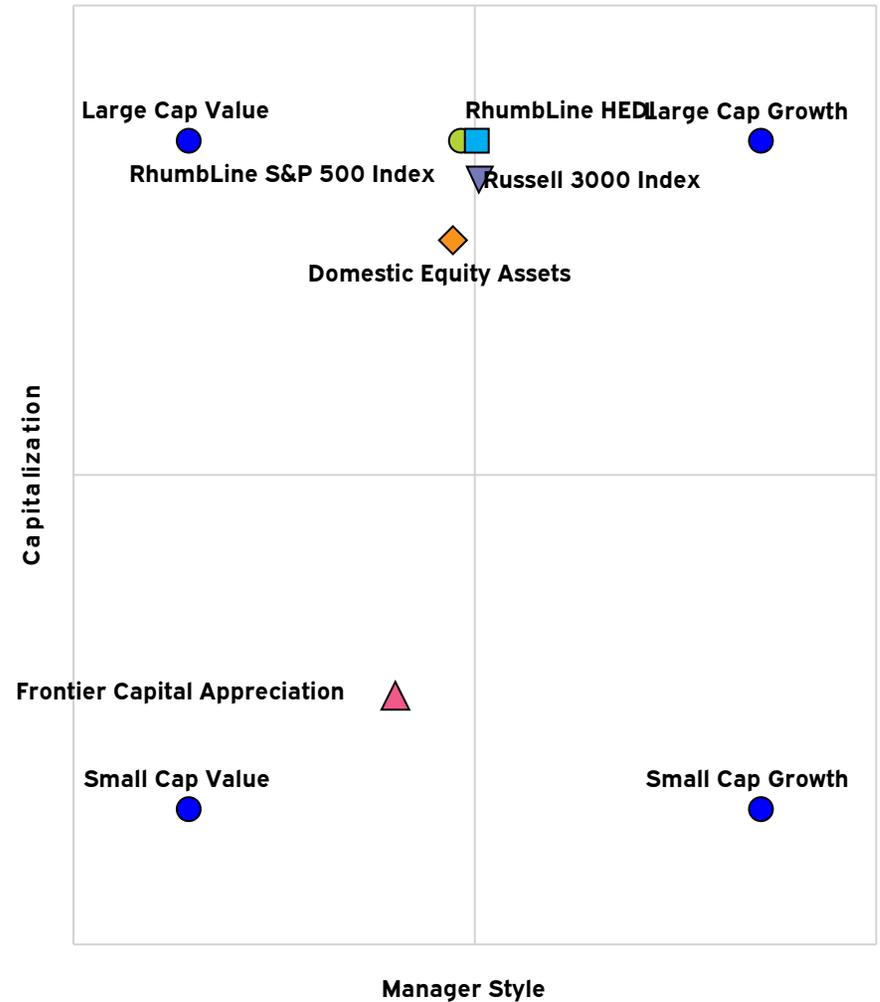
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Beta
Open-Ended Real Estate	3.16	8.58	0.16	2.33	-0.08	1.13
NCREIF ODCE (VW) (Monthly)	3.46	7.38	0.20	0.00	-	1.00
Clarion Partners	3.16	8.58	0.16	2.33	-0.08	1.13
NCREIF ODCE (VW) (Monthly)	3.46	7.38	0.20	0.00	-	1.00
Total Closed End Real Estate	-10.35	21.74	-0.43	21.10	-0.53	0.75
NCREIF ODCE (VW) (Monthly)	3.46	7.38	0.20	0.00	-	1.00
Rockwood Capital Real Estate Partners Fund XI, L.P.	-	-	-	-	-	-
NCREIF Fund Index-ODCE (VW)	3.46	7.38	0.20	0.00	-	1.00
IFM Global Infrastructure	-	-	-	-	-	-
CPI +3% (Unadjusted)	7.32	2.04	2.05	0.00	-	1.00
EB Temporary Investment Fund	11.92	25.51	0.47	25.11	0.47	10.62
ICE BofA 3 Month U.S. T-Bill	2.02	0.99	-	0.00	-	1.00

Rockwood Capital XI and IFM Global Infrastructure statistics will be reflected after first full five calendar years.

## Retirement System Detail

	Total Fund	
	\$	%
Frontier Capital Appreciation	26,502,578	36.29
RhumbLine HEDI	23,639,054	32.37
RhumbLine S&P 500 Index	22,887,775	31.34
<b>Domestic Equity Assets</b>	<b>73,029,406</b>	<b>100.00</b>

### Domestic Equity Style Map 3 Years Ending March 31, 2024

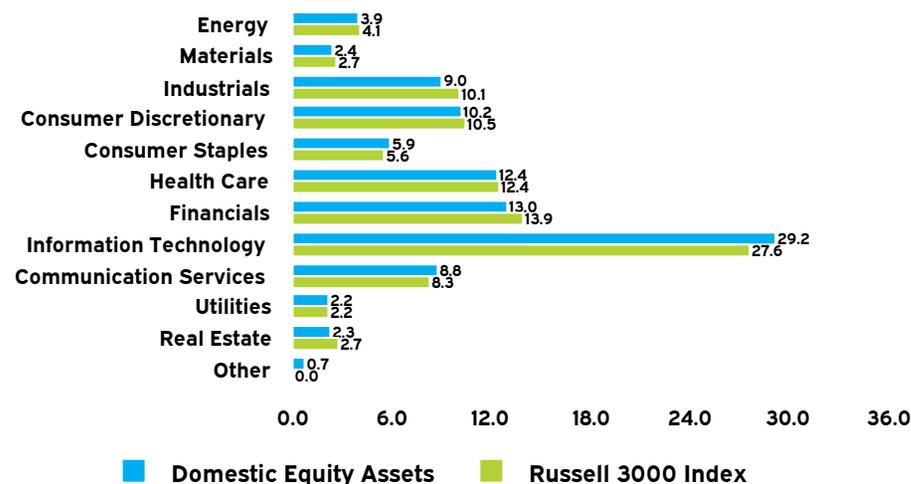


### Domestic Equity | As of March 31, 2024

#### Domestic Equity Characteristics

	Mar-2024	Dec-2023
<b>Wtd. Avg. Mkt. Cap \$M</b>		
Domestic Equity Assets	0.8	0.7
Russell 3000 Index	0.7	0.6
<b>Median Mkt. Cap \$M</b>		
Domestic Equity Assets	-	-
Russell 3000 Index	-	-
<b>Price/Earnings ratio</b>		
Domestic Equity Assets	25.8	24.0
Russell 3000 Index	24.8	22.8
<b>Current Yield</b>		
Domestic Equity Assets	1.4	1.5
Russell 3000 Index	1.4	1.5
<b>5 Yr. EPS Growth Rate</b>		
Domestic Equity Assets	15.3	16.9
Russell 3000 Index	15.1	16.6
<b>Price/Book ratio</b>		
Domestic Equity Assets	4.7	4.4
Russell 3000 Index	4.4	4.1

#### Sector Weights (%)

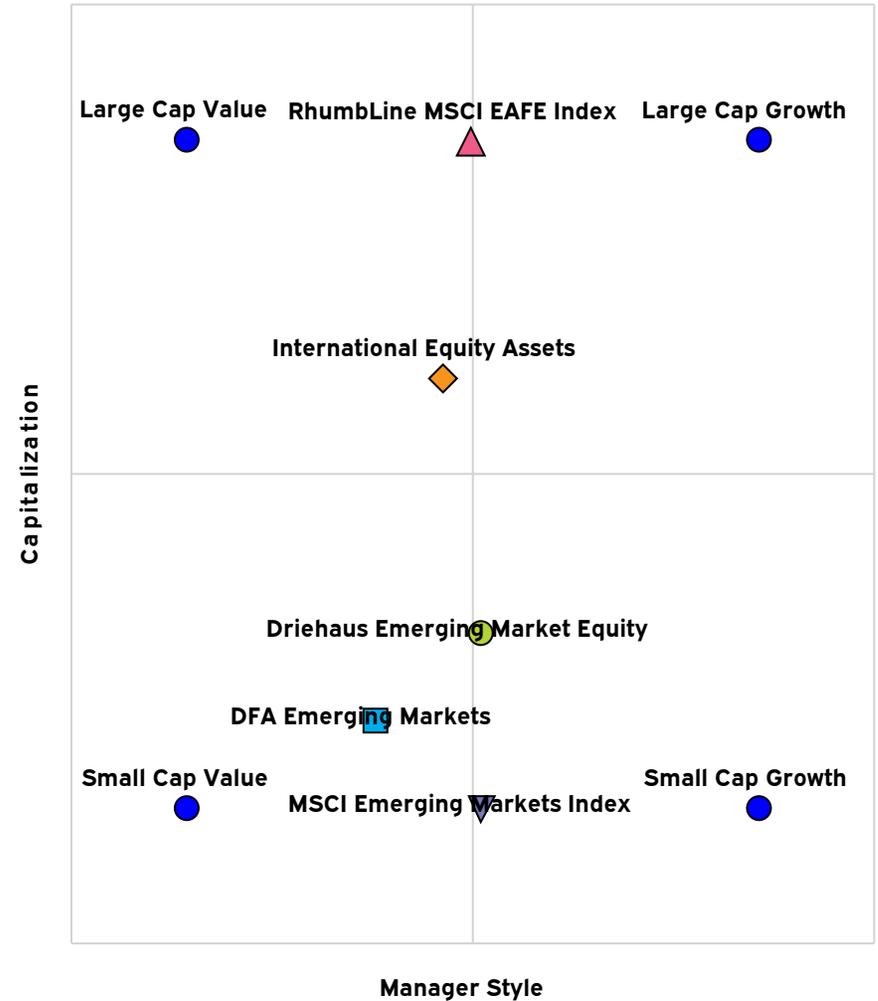


#### Domestic Equity Assets

	Weight %
Microsoft Corp	6.9
Apple Inc	5.5
NVIDIA Corporation	5.0
Amazon.com Inc	3.7
Meta Platforms Inc	2.4
Alphabet Inc Class A	2.0
Berkshire Hathaway Inc	1.7
Alphabet Inc Class C	1.7
Eli Lilly and Co	1.4
Broadcom Inc	1.3

	Total Fund	
	\$	%
DFA Emerging Markets	12,134,458	21.01
Driehaus Emerging Market Equity	11,141,211	19.29
RhumbLine MSCI EAFE Index	34,478,705.32	59.70
<b>International Equity Assets</b>	<b>57,754,374</b>	<b>100.00</b>

### International Equity Assets Style Map 3 Years Ending March 31, 2024



### International Equity | As of March 31, 2024

#### International Equity Characteristics

Mar-2024 Dec-2023

##### Wtd. Avg. Mkt. Cap \$M

International Equity Assets	0.1	0.1
MSCI AC World ex USA IMI	0.1	0.1

##### Median Mkt. Cap \$M

International Equity Assets	-	-
MSCI AC World ex USA IMI	-	-

##### Price/Earnings ratio

International Equity Assets	13.0	11.5
MSCI AC World ex USA IMI	15.4	13.6

##### Current Yield

International Equity Assets	3.0	3.0
MSCI AC World ex USA IMI	3.0	3.1

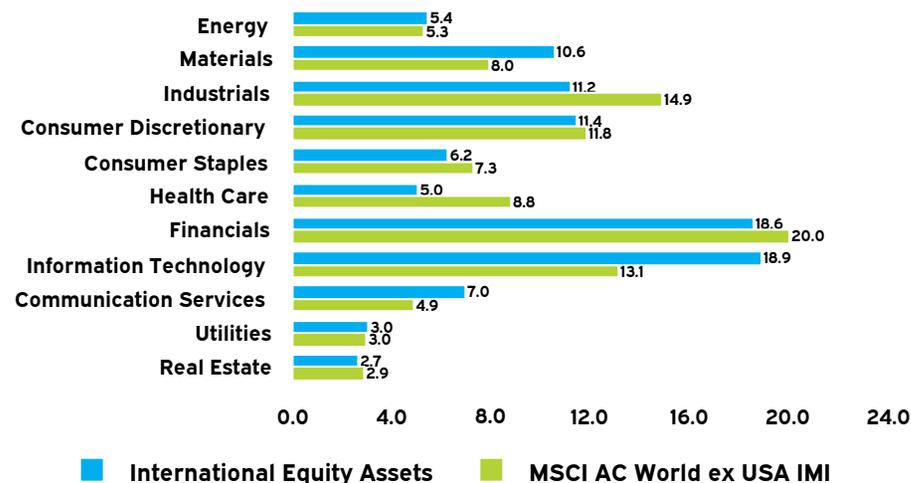
##### 5 Yr. EPS Growth Rate

International Equity Assets	14.2	14.1
MSCI AC World ex USA IMI	9.4	10.3

##### Price/Book ratio

International Equity Assets	2.5	2.4
MSCI AC World ex USA IMI	2.5	2.5

#### Sector Weights (%)



#### International Equity Assets

Weight %

Taiwan Semiconductor Manufacturing	3.7
Tencent Holdings LTD	2.3
Taiwan Semiconductor Manufacturing	1.8
Alibaba Group Holding Ltd	0.9
Reliance Industries Ltd	0.7
SK Hynix Inc	0.6
China Construction Bank Corp	0.6
Petroleo Brasileiro S.A.- Petrobras	0.6
Infosys Ltd	0.5
Icici Bank Ltd	0.5

	International Equity Assets	MSCI AC World ex USA IMI
Canada	0.1	7.5
United States	0.1	0.1
<b>Americas</b>	<b>0.2</b>	<b>7.6</b>
Australia	0.4	4.7
Hong Kong	2.8	1.6
Japan	1.3	16.2
New Zealand	0.0	0.2
Singapore	0.3	1.0
<b>Asia Pacific</b>	<b>4.8</b>	<b>23.7</b>
Austria	0.0	0.2
Belgium	0.1	0.6
Denmark	0.2	2.2
Finland	0.1	0.6
France	0.6	6.5
Germany	0.5	5.2
Ireland	0.5	1.0
Israel	0.0	0.7
Italy	0.1	1.6
Netherlands	0.4	3.6
Norway	0.0	0.5
Portugal	0.0	0.1
Spain	0.2	1.6
Sweden	0.2	2.2
Switzerland	0.5	6.0
United Kingdom	0.8	8.6
<b>EMEA</b>	<b>4.1</b>	<b>41.3</b>

	International Equity Assets	MSCI AC World ex USA IMI
Developed Markets	9.1	72.6

## City of Marlborough Contributory Retirement System

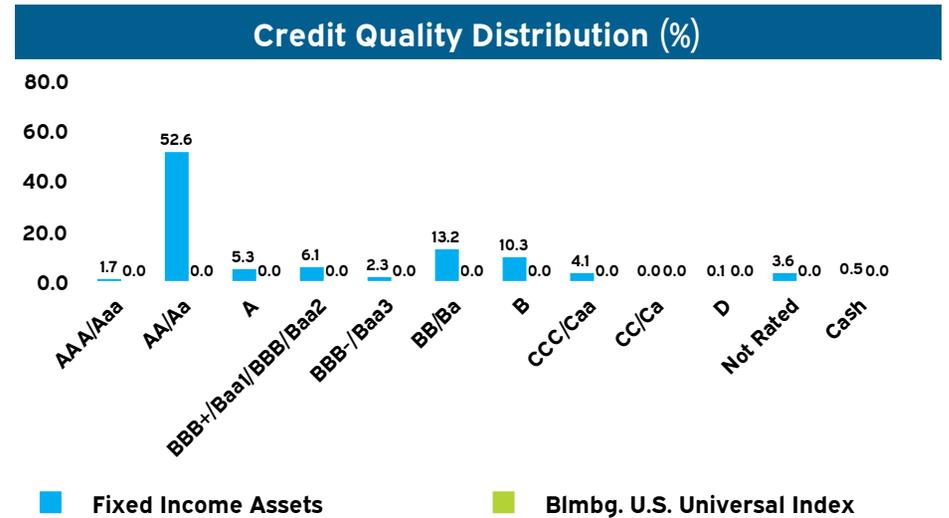
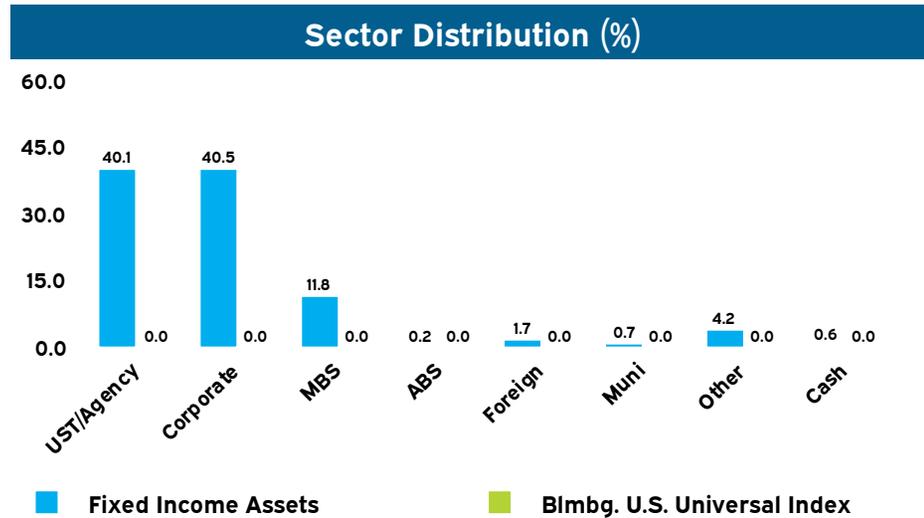
International Equity | As of March 31, 2024

	International Equity Assets	MSCI AC World ex USA IMI
Brazil	5.3	1.4
Chile	0.4	0.1
Colombia	0.1	0.0
Mexico	2.7	0.7
Peru	0.1	0.1
<b>Americas</b>	<b>8.6</b>	<b>2.4</b>
China	17.9	5.5
India	19.0	5.3
Indonesia	1.8	0.5
Korea	9.2	3.6
Malaysia	1.4	0.4
Philippines	0.7	0.2
Taiwan	18.8	5.1
Thailand	1.6	0.5
<b>Asia Pacific</b>	<b>70.3</b>	<b>21.1</b>
Czech Republic	0.1	0.0
Egypt	0.0	0.0
Greece	0.4	0.1
Hungary	0.2	0.1
Kuwait	0.2	0.2
Poland	1.0	0.3
Qatar	0.7	0.2
Saudi Arabia	3.9	1.2
South Africa	2.6	0.7
Turkey	1.2	0.3
United Arab Emirates	1.3	0.3

	International Equity Assets	MSCI AC World ex USA IMI
<b>EMEA</b>	<b>11.7</b>	<b>3.5</b>
<b>Emerging Markets</b>	<b>90.6</b>	<b>27.0</b>
Argentina	0.0	0.0
Panama	0.0	0.0
Malta	0.0	0.0
Mauritius	0.0	0.0
Russia	0.1	0.0
<b>Frontier Markets</b>	<b>0.1</b>	<b>0.0</b>
Other	0.1	0.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

	Total Fund	
	\$	%
Payden Emerging Market Bond	5,517,021	8.83
Shenkman Capital	19,321,133	30.91
SSgA TIPS Index-NL	11,701,466	18.72
SSgA U.S. Aggregate Bond Index	25,958,781	41.54
<b>Fixed Income Assets</b>	<b>62,498,400</b>	<b>100.00</b>

Portfolio Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	6.2	5.1
Average Duration	5.3	6.0
Avg. Quality	BBB	AA
Weighted Average Maturity (Days)	7.4	8.2



## Portfolio Reviews

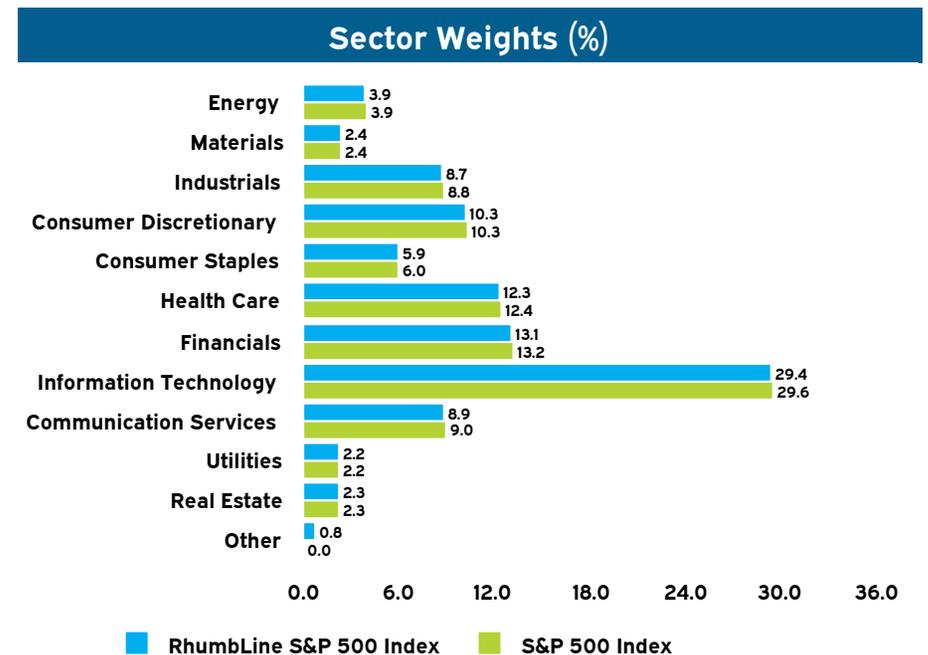
### RhumbLine S&P 500 | As of March 31, 2024

Top Holdings	
Microsoft Corp	7.0
Apple Inc	5.6
NVIDIA Corporation	5.0
Amazon.com Inc	3.7
Meta Platforms Inc	2.4
Alphabet Inc Class A	2.0
Berkshire Hathaway Inc	1.7
Alphabet Inc Class C	1.7
Eli Lilly and Co	1.4
Broadcom Inc	1.3
<b>% of Portfolio</b>	<b>31.8</b>

Account Information	
Account Name	RhumbLine S&P 500 Index
Account Structure	Commingled Fund
Inception Date	02/28/1999
Asset Class	US Equity
Benchmark	S&P 500 Index
Peer Group	eV US Passive S&P 500 Equity

Equity Characteristics vs S&P 500 Index		
	Portfolio	Benchmark
Number of Holdings	504	503
Wtd. Avg. Mkt. Cap \$B	792.4	794.7
Median Mkt. Cap \$B	35.3	35.3
P/E Ratio	25.9	25.9
Yield (%)	1.4	1.4
EPS Growth - 5 Yrs. (%)	15.2	15.2
Price to Book	4.7	4.7

Portfolio Performance Summary							
	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
RhumbLine S&P 500 Index	10.5	29.8	11.4	15.0	12.9	8.0	03/01/1999
S&P 500 Index	10.6	29.9	11.5	15.0	13.0	7.9	



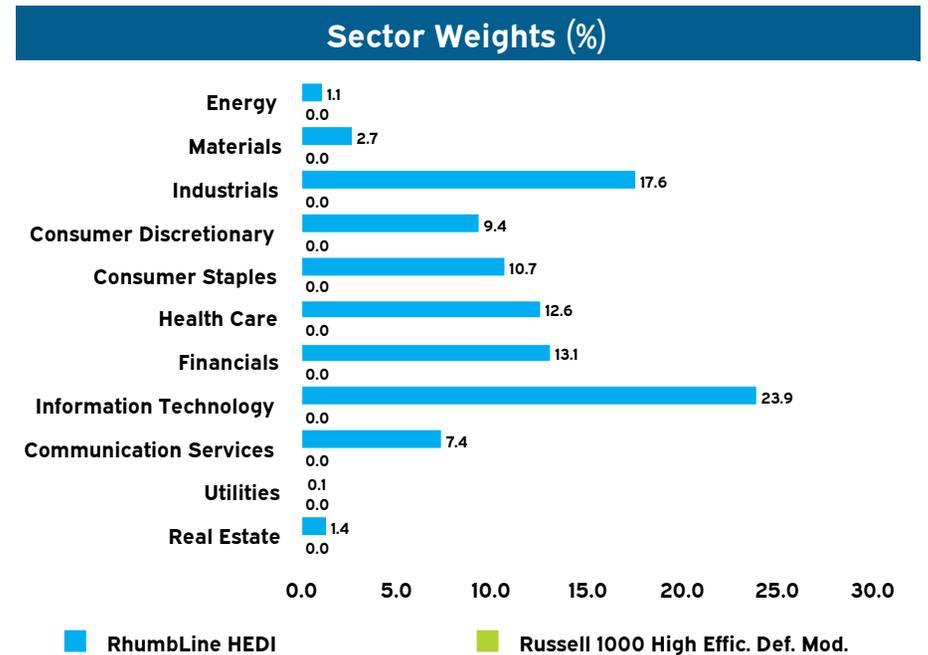
### RhumbLine HEDI | As of March 31, 2024

Top Holdings	
Microsoft Corp	7.0
Apple Inc	5.3
NVIDIA Corporation	3.1
Alphabet Inc Class C	2.1
Amazon.com Inc	2.1
Alphabet Inc Class A	2.0
Meta Platforms Inc	1.5
Visa Inc	1.3
Berkshire Hathaway Inc	1.3
Mastercard Inc	1.3
<b>% of Portfolio</b>	<b>27.0</b>

Account Information	
Account Name	RhumbLine HEDI
Account Structure	Separate Account
Inception Date	10/05/2020
Asset Class	US Equity
Benchmark	Russell 1000 High Effic. Defensive Moderate Index
Peer Group	eV US Large Cap Core Equity

Equity Characteristics vs Russell 1000 High Effic. Def. Mod.		
	Portfolio	Benchmark
Number of Holdings	224	0
Wtd. Avg. Mkt. Cap \$B	677.7	-
Median Mkt. Cap \$B	39.9	-
P/E Ratio	26.8	-
Yield (%)	1.4	-
EPS Growth - 5 Yrs. (%)	13.4	-
Price to Book	5.5	-

Portfolio Performance Summary							
	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
RhumbLine HEDI	8.3	24.3	10.8	-	-	14.6	11/01/2020
Russell 1000 High Effic. Def. Mod.	8.3	24.3	10.8	14.2	13.7	14.7	



Russell 1000 HEDI benchmark characteristic data is unavailable.

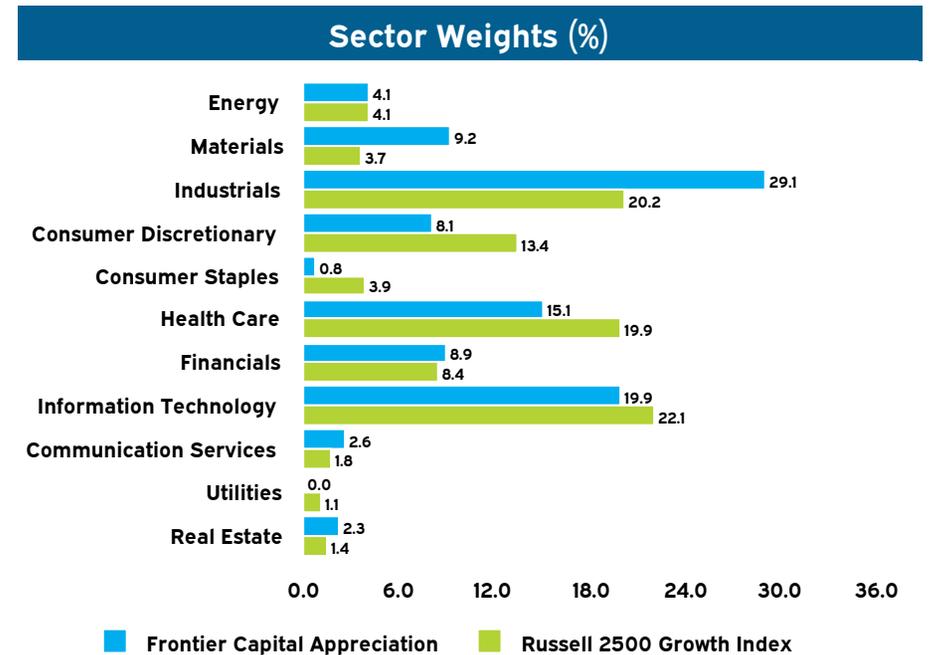
### Frontier Capital Appreciation | As of March 31, 2024

Top Holdings	
ATI Inc	2.1
FTAI Aviation Ltd	2.0
XPO Inc	2.0
MRC Global Inc	2.0
Builders FirstSource Inc	1.9
Jabil Inc	1.9
Eagle Materials Inc	1.8
Trex Co Inc	1.7
MasTec Inc.	1.7
Summit Materials Inc	1.5
<b>% of Portfolio</b>	<b>18.6</b>

Account Information	
Account Name	Frontier Capital Appreciation
Account Structure	Commingled Fund
Inception Date	02/01/2013
Asset Class	US Equity
Benchmark	Russell 2500 Growth Index
Peer Group	eV US Small-Mid Cap Growth Equity

	Equity Characteristics vs Russell 2500 Growth Index	
	Portfolio	Benchmark
Number of Holdings	143	1,256
Wtd. Avg. Mkt. Cap \$B	9.3	8.7
Median Mkt. Cap \$B	6.8	1.7
P/E Ratio	18.7	24.0
Yield (%)	0.6	0.6
EPS Growth - 5 Yrs. (%)	28.6	19.9
Price to Book	3.0	5.1

Portfolio Performance Summary							
	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Frontier Capital Appreciation	6.9	23.1	5.2	11.2	9.2	11.4	02/01/2013
Russell 2500 Growth Index	8.5	21.1	-0.8	9.4	9.6	11.3	



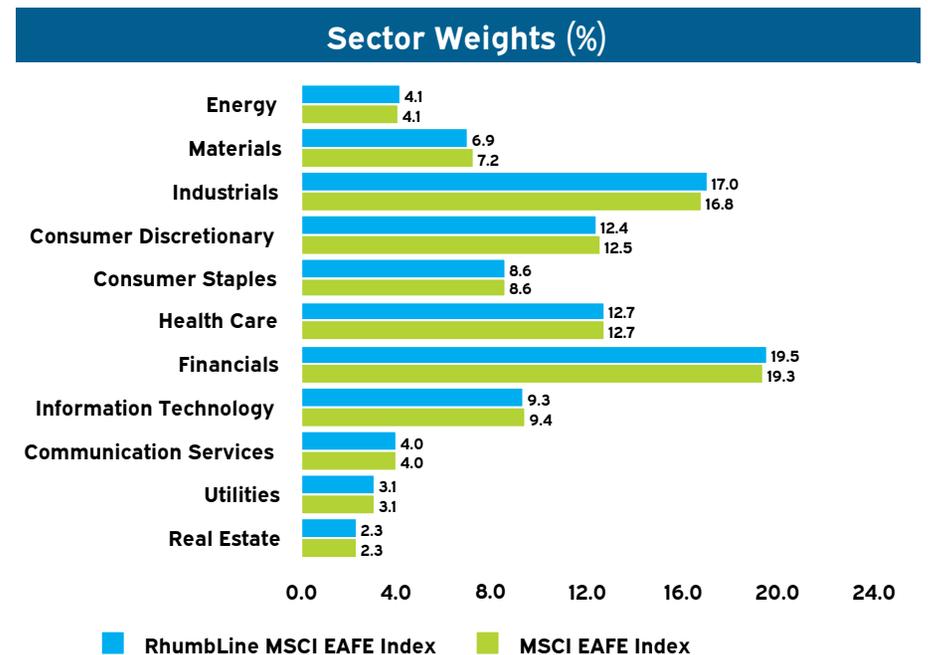
### RhumbLine MSCI EAFE | As of March 31, 2024

Top Holdings	
Novo Nordisk A/S	2.5
ASML Holding NV	2.3
Nestle SA, Cham Und Vevey	1.7
Toyota Motor Corp	1.6
LVMH Moet Hennessy Louis Vuitton SE	1.5
Shell Plc	1.3
Astrazeneca PLC	1.3
SAP SE	1.2
Novartis AG	1.2
Roche Holding AG	1.0
<b>% of Portfolio</b>	<b>15.6</b>

Account Information	
Account Name	RhumbLine MSCI EAFE Index
Account Structure	Commingled Fund
Inception Date	07/21/2014
Asset Class	International Equity
Benchmark	MSCI EAFE (Net)
Peer Group	eV EAFE All Cap Equity

	Equity Characteristics vs MSCI EAFE Index	
	Portfolio	Benchmark
Number of Holdings	770	768
Wtd. Avg. Mkt. Cap \$B	100.3	99.2
Median Mkt. Cap \$B	13.9	13.9
P/E Ratio	15.7	15.6
Yield (%)	3.2	3.1
EPS Growth - 5 Yrs. (%)	8.5	8.5
Price to Book	2.7	2.7

Portfolio Performance Summary							
	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
RhumbLine MSCI EAFE Index	5.6	15.4	5.0	7.5	-	4.9	08/01/2014
MSCI EAFE Index	5.9	15.9	5.3	7.9	5.3	5.2	



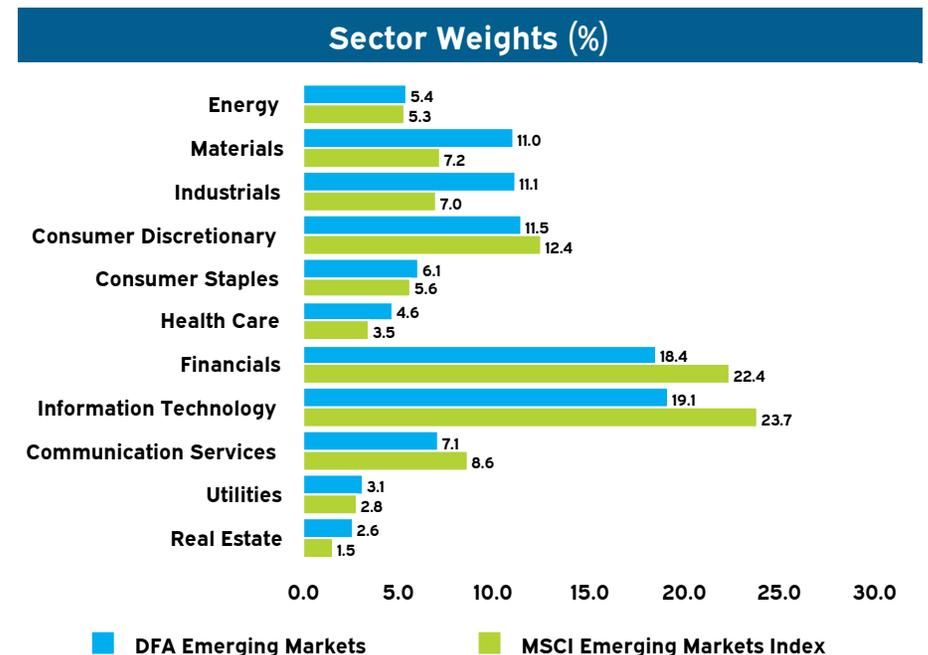
### DFA Emerging Markets | As of March 31, 2024

Top Holdings	
Taiwan Semiconductor Manufacturing	4.1
Tencent Holdings LTD	2.5
Taiwan Semiconductor Manufacturing	1.7
Alibaba Group Holding Ltd	1.0
Reliance Industries Ltd	0.7
China Construction Bank Corp	0.7
Petroleo Brasileiro S.A.- Petrobras	0.6
SK Hynix Inc	0.6
Infosys Ltd	0.6
Petroleo Brasileiro S.A.- Petrobras	0.5
<b>% of Portfolio</b>	<b>13.0</b>

Account Information	
Account Name	DFA Emerging Markets
Account Structure	Mutual Fund
Inception Date	12/01/2014
Asset Class	International Equity
Benchmark	MSCI Emerging Markets (Net)
Peer Group	eV Emg Mkts All Cap Equity

Equity Characteristics vs MSCI Emerging Markets Index		
	Portfolio	Benchmark
Number of Holdings	6,915	1,376
Wtd. Avg. Mkt. Cap \$B	69.7	121.5
Median Mkt. Cap \$B	0.7	7.2
P/E Ratio	12.8	14.8
Yield (%)	3.0	2.9
EPS Growth - 5 Yrs. (%)	14.6	11.8
Price to Book	2.5	2.6

Portfolio Performance Summary							
	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
DFA Emerging Markets	2.4	11.9	-0.2	4.9	-	4.7	01/01/2015
MSCI Emerging Markets Index	2.4	8.6	-4.7	2.6	3.3	3.8	



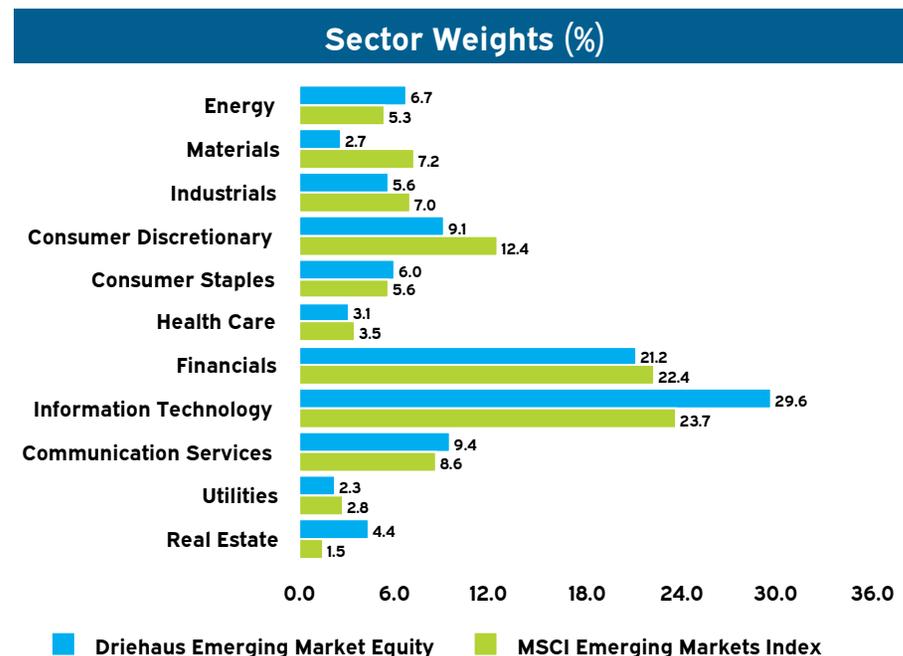
### Driehaus Emerging Market Equity | As of March 31, 2024

Top Holdings	
Taiwan Semiconductor Manufacturing	8.7
Samsung Electronics Co Ltd	6.2
Tencent Holdings LTD	5.4
SK Hynix Inc	2.3
Icici Bank Ltd	1.9
Banco Do Brasil SA	1.9
Grupo Financiero Banorte	1.9
PT Bank Mandiri (Persero) TBK	1.8
Reliance Industries Ltd	1.6
Asia Vital Components Co Ltd	1.3
<b>% of Portfolio</b>	<b>33.0</b>

Account Information	
Account Name	Driehaus Emerging Market Equity
Account Structure	Commingled Fund
Inception Date	12/01/2014
Asset Class	International Equity
Benchmark	MSCI Emerging Markets (Net)
Peer Group	eV Emg Mkts All Cap Equity

Equity Characteristics vs MSCI Emerging Markets Index		
	Portfolio	Benchmark
Number of Holdings	112	1,376
Wtd. Avg. Mkt. Cap \$B	148.7	121.5
Median Mkt. Cap \$B	18.2	7.2
P/E Ratio	15.3	14.8
Yield (%)	2.5	2.9
EPS Growth - 5 Yrs. (%)	16.4	11.8
Price to Book	2.8	2.6

Portfolio Performance Summary							
	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Driehaus Emerging Market Equity	7.0	14.6	-2.8	5.7	-	5.8	01/01/2015
MSCI Emerging Markets Index	2.4	8.6	-4.7	2.6	3.3	3.8	



## City of Marlborough Contributory Retirement System

### SSgA U.S. Aggregate Bond | As of March 31, 2024

#### Account Information

Account Name	SSgA U.S. Aggregate Bond Index
Account Structure	Commingled Fund
Inception Date	04/01/2001
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Aggregate Index
Peer Group	eV US Core Fixed Inc

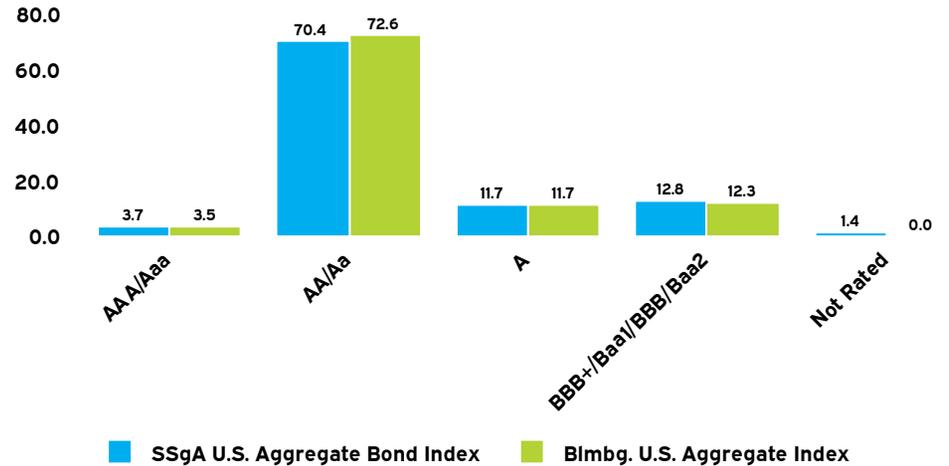
#### Portfolio Performance Summary

	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
SSgA U.S. Aggregate Bond Index	-0.7	1.6	-2.5	0.3	1.5	3.6	05/01/2001
Blmbg. U.S. Aggregate Index	-0.8	1.7	-2.5	0.4	1.5	3.6	

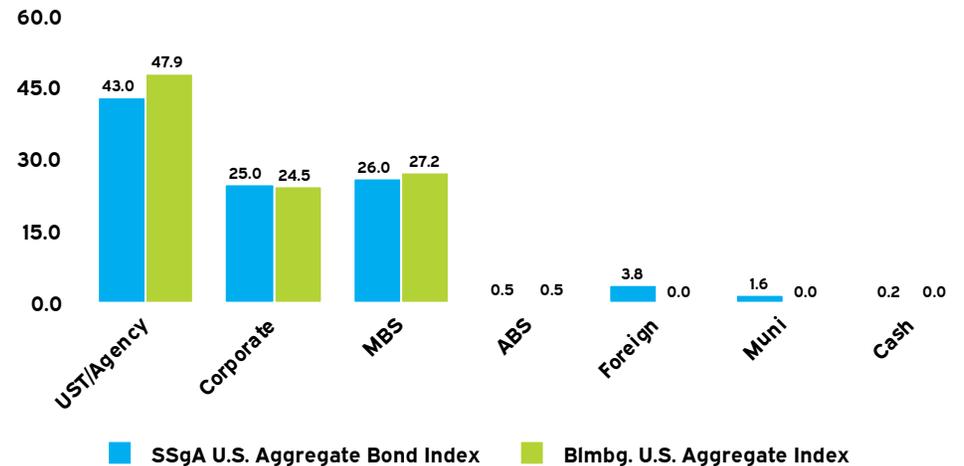
#### Portfolio Fixed Income Characteristics

	Q1-24 Portfolio	Q4-23 Portfolio
Yield To Maturity	4.9	4.5
Average Duration	6.2	6.2
Average Quality	AA	AA
Weighted Average Maturity	8.6	8.6

#### Credit Quality Allocation



#### Sector Allocation



#### Account Information

Account Name	Shenkman Capital
Account Structure	Commingled Fund
Inception Date	04/01/2006
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. Corp: High Yield Index
Peer Group	eV US High Yield Fixed Inc

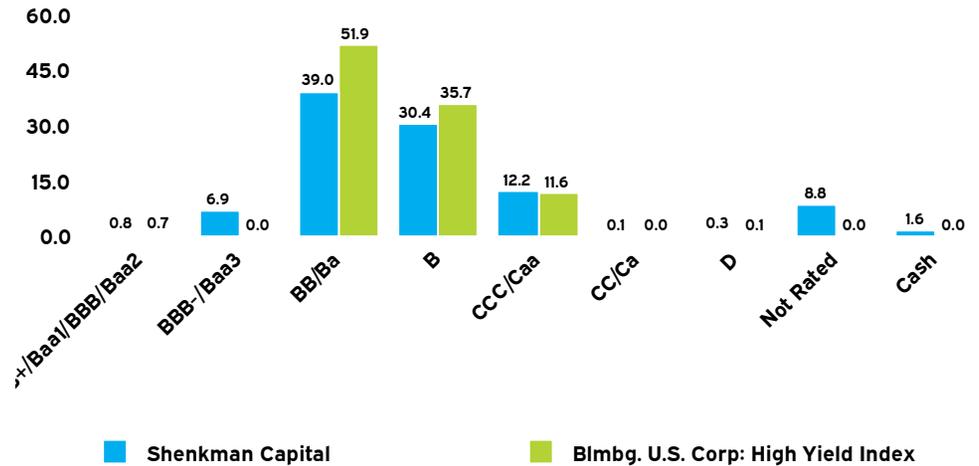
#### Portfolio Performance Summary

	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Shenkman Capital	1.4	9.9	2.5	4.2	4.2	6.0	04/01/2006
Blmbg. U.S. Corp: High Yield Index	1.5	11.2	2.2	4.2	4.4	6.5	

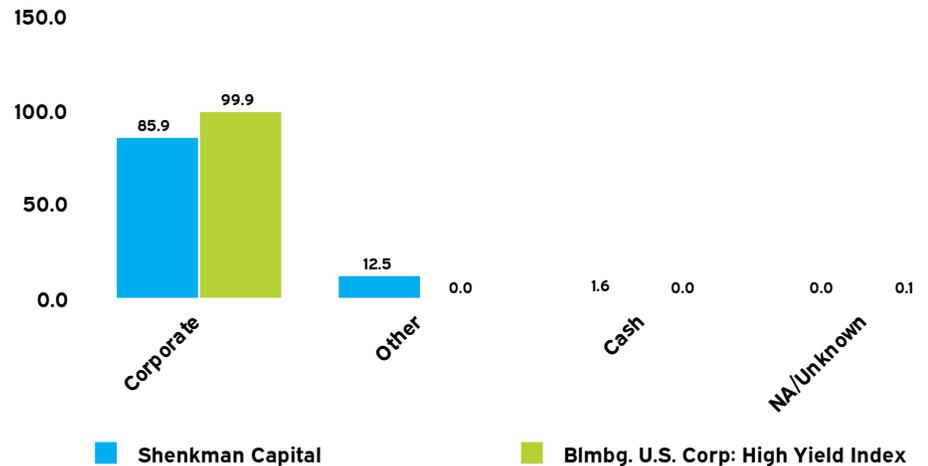
#### Portfolio Fixed Income Characteristics

	Q1-24 Portfolio	Q4-23 Portfolio
Yield To Maturity	7.4	7.5
Average Duration	2.9	2.6
Average Quality	B	B
Weighted Average Maturity	4.7	4.7

#### Credit Quality Allocation



#### Sector Allocation



## City of Marlborough Contributory Retirement System

SSgA TIPS Index-NL | As of March 31, 2024

### Account Information

Account Name	SSgA TIPS Index-NL
Account Structure	Commingled Fund
Inception Date	09/30/2005
Asset Class	US Fixed Income
Benchmark	Blmbg. U.S. TIPS Index
Peer Group	eV US TIPS / Inflation Fixed Inc

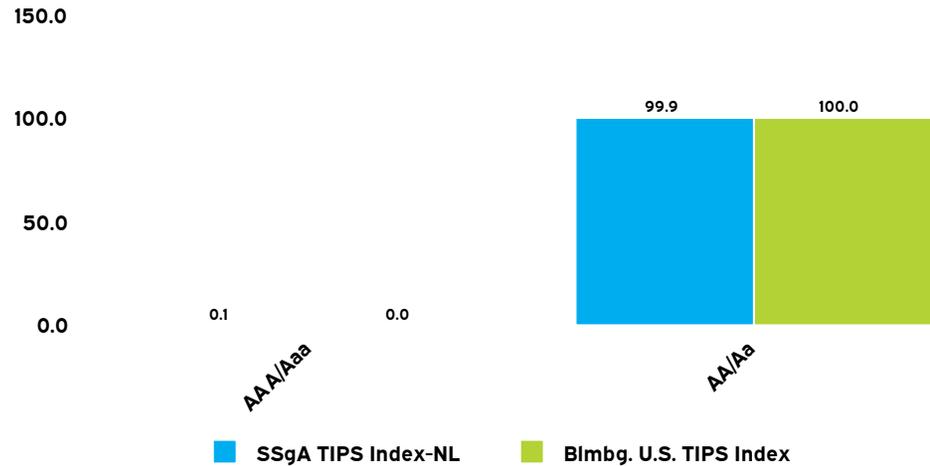
### Portfolio Performance Summary

	Quarter To Date	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
SSgA TIPS Index-NL	0.0	0.3	-0.7	2.4	2.1	3.3	10/01/2005
Blmbg. U.S. TIPS Index	-0.1	0.5	-0.5	2.5	2.2	3.3	

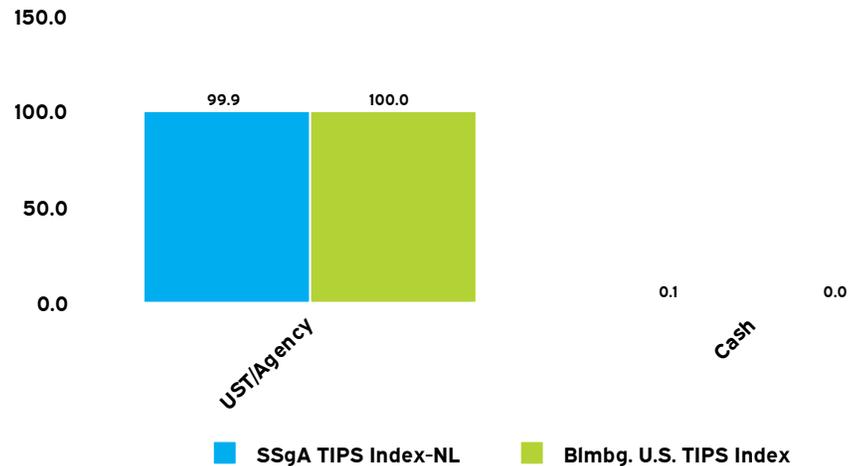
### Portfolio Fixed Income Characteristics

	Q1-24 Portfolio	Q4-23 Portfolio
Yield To Maturity	4.6	4.2
Average Duration	6.8	5.9
Average Quality	AA	AAA
Weighted Average Maturity	7.4	7.1

### Credit Quality Allocation



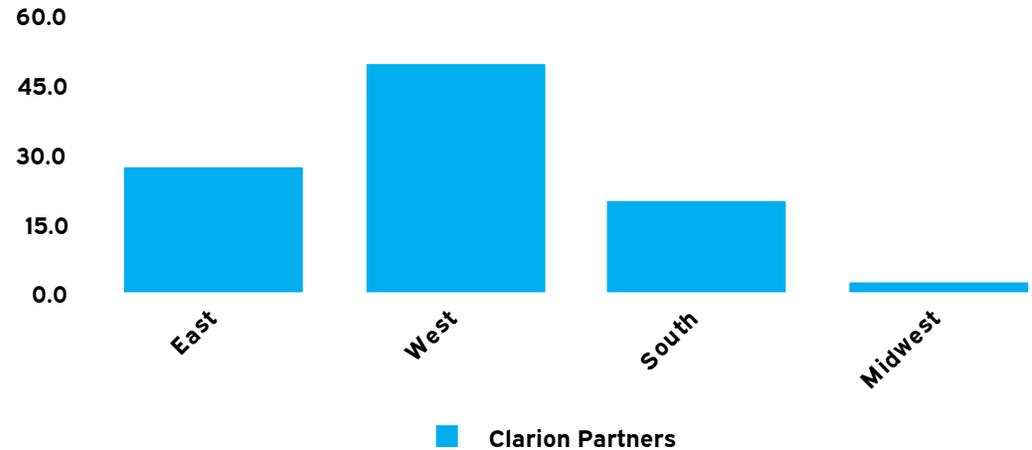
### Sector Allocation



#### Account Information

Account Name	Clarion Partners
Account Structure	Commingled Fund
Inception Date	09/01/2002
Asset Class	US Private Real Estate
Benchmark	NCREIF ODCE (VW) (Gross) (Monthly)

#### Property Location



#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Clarion Partners	-3.8	-15.4	2.1	3.2	7.0	6.4	10/01/2002
NCREIF ODCE (VW) (Gross) (Monthly)	-2.4	-11.3	3.4	3.5	6.8	7.1	

#### Account Information

Account Name	Rockwood Capital Real Estate Partners Fund XI, L.P.
Account Structure	Separate Account
Inception Date	12/01/2019
Asset Class	US Private Real Estate
Benchmark	NCREIF Fund Index-ODCE (VW)

#### Property Location



#### Portfolio Performance Summary

	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Since Inception	Inception Date
Rockwood Capital Real Estate	-6.2	-16.6	2.6	-	-	0.7	12/01/2019
NCREIF Fund Index-ODCE (VW)	-2.4	-11.3	3.4	3.5	6.8	3.2	

#### Property Type



Private Equity Market Investment Overview | As of March 31, 2024

Partnerships	Vintage Year	Capital Commitment \$	Total Contribution \$	Total Distribution \$	Market Value \$	Since Inception
North American Strategic Partners 2006	2006	4,539,998.0	4,411,658.9	-2,094,251.4	9,272.2	-40.4
Ironsides Direct Investment Fund IV	2015	2,500,000.0	2,419,534.3	3,381,607.1	973,192.2	14.3
Ironsides Direct Investment Fund V, L.P.	-	-	2,730,291.8	592,162.0	3,388,720.9	10.2
Ironsides Partnership Fund IV	2015	2,500,000.0	1,544,323.5	1,738,375.8	2,462,165.6	27.9
Ironsides Partnership Fund V, L.P.	2019	2,000,000.0	1,591,789.4	-	2,375,668.2	19.2
HarbourVest 2019 Global Fund	-	-	2,927,632.0	574,232.0	3,941,975.0	19.5

Annual Investment Expense Analysis			
	Market Value	Estimated Expense	Expense Ratio (%)
<b>Equity Assets</b>	<b>130,783,781</b>	<b>41,442</b>	<b>0.31</b>
<b>Domestic Equity Assets</b>	<b>73,029,406</b>	<b>237,211</b>	<b>0.32</b>
RhumbLine S&P 500 Index	22,887,775	16,021	0.07
Frontier Capital Appreciation	26,502,578	209,370	0.79
RhumbLine HEDI	23,639,054	11,820	0.05
<b>International Equity Assets</b>	<b>57,754,374</b>	<b>174,230</b>	<b>0.30</b>
<b>International Developed Markets Equity Assets</b>	<b>34,478,705</b>	<b>26,635</b>	<b>0.08</b>
RhumbLine MSCI EAFE Index	34,478,705	26,635	0.08
<b>International Emerging Markets Equity Assets</b>	<b>23,275,669</b>	<b>147,595</b>	<b>0.63</b>
DFA Emerging Markets	12,134,458	47,324	0.39
Driehaus Emerging Market Equity	11,141,211	100,271	0.90
<b>Fixed Income Assets</b>	<b>62,498,400</b>	<b>141,732</b>	<b>0.23</b>
<b>Investment Grade Bonds Assets</b>	<b>25,958,781</b>	<b>10,384</b>	<b>0.04</b>
SSgA U.S. Aggregate Bond Index	25,958,781	10,384	0.04
<b>High Yield Bond Assets</b>	<b>19,321,133</b>	<b>86,945</b>	<b>0.45</b>
Shenkman Capital	19,321,133	86,945	0.45
<b>TIPS Assets</b>	<b>11,701,466</b>	<b>4,681</b>	<b>0.04</b>
SSgA TIPS Index-NL	11,701,466	4,681	0.04
<b>Emerging Market Debt Assets</b>	<b>5,517,021</b>	<b>39,723</b>	<b>0.72</b>
Payden Emerging Market Bond	5,517,021	39,723	0.72
<b>Real Estate Assets</b>	<b>9,450,549</b>	<b>62,414</b>	<b>0.66</b>
<b>Open-Ended Real Estate</b>	<b>5,673,964</b>	<b>62,414</b>	<b>1.10</b>
Clarion Partners	5,673,964	62,414	1.10

### Fee Schedule | As of March 31, 2024

	Market Value	Estimated Expense	Expense Ratio (%)
<b>Total Closed End Real Estate</b>	<b>3,776,585</b>	-	-
Rockwood Capital Real Estate Partners Fund XI, L.P.	3,776,585	-	-
<b>Private Equity Assets</b>	<b>13,150,994</b>	-	-
North American Strategic Partners 2006	9,272	-	-
Ironsides Partnership Fund IV	2,462,166	-	-
Ironsides Direct Investment Fund IV	973,192	-	-
Ironsides Partnership Fund V, L.P.	2,375,668	-	-
Ironsides Direct Investment Fund V, L.P.	3,388,721	-	-
HarbourVest 2019 Global Fund	3,941,975	-	-
<b>Private Debt Assets</b>	<b>3,998,025</b>	-	-
NB Private Debt Fund IV	3,998,025	-	-
<b>Infrastructure</b>	<b>11,054,387</b>	-	-
IFM Global Infrastructure	11,054,387	-	-
<b>Cash</b>	<b>899,844</b>	-	-
EB Temporary Investment Fund	899,844	-	-

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